Phase II Environmental Site Assessment

MBTA Wonderland Station Parking Lot

400 Ocean Avenue
Revere, Massachusetts

EBI Project No. 12170000149

Prepared for:

Prepared by:

EBI Consulting
environmental | engineering | due diligence

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May 5, 2017

Subject: **Phase II Environmental Site Assessment**
MBTA Wonderland Station Parking Lot
400 Ocean Avenue, Revere, Massachusetts
EBI Project No. 1217000149

Dear

In accordance with the Proposal and Standard Conditions for Engagement approved by yourself on April 4, 2017, EBI Consulting (dba EBI Consulting, hereinafter "EBI") is pleased to submit this Phase II Environmental Site Assessment (ESA) for the above-referenced property (herein referred to as the Subject Property).

This *Report* is addressed to *Lixi Hospitality Revere LLC c/o Lixi Group* and such other persons as may be designated by *Lixi Hospitality Revere LLC c/o Lixi Group* and respective successors and assigns. This Report is for the use and benefit of, and may be relied upon by, *Lixi Hospitality Revere LLC c/o Lixi Group* or any affiliates; initial and subsequent holders from time to time of any debt and/or debt securities secured, directly or indirectly, any participation interest in such debt; any indenture trustee, servicer, or other agent acting on behalf of such holders of such debt and/or debt securities; rating agencies; and the institutional provider(s) from time to time of any liquidity facility or credit support for such financings, and their respective successors and assigns.

The information contained in this report has received appropriate technical review and approval. The conclusions represent professional judgments and are founded upon the findings of the investigations identified in the report and the interpretation of such data based on our experience and expertise according to the existing standard of care. No other warranty or limitation exists, either express or implied.

The conclusions of this Report are based on soil/groundwater analytical data prepared by Con-Test Laboratory, soil screening results obtained utilizing a field screening instrument, and field observations recorded by EBI personnel.

There are no intended or unintended third party beneficiaries to this Report, except as expressly stated herein.

EBI is an independent contractor, not an employee of either the issuer or the borrower, and its compensation was not based on the findings or recommendations made in the Report or on the closing of any business transaction.

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Thank you for the opportunity to prepare this Report, and assist you with this project. Please call us if you have any questions or if we may be of further assistance.

Respectfully submitted,
EBI CONSULTING

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The Environmental Professionals listed above performed this Phase II ESA in general conformance with the ASTM E1903-11 Standard Practice for Phase II ESAs. The listed individuals meet the qualifications for individuals completing or overseeing all appropriate inquiries, and possess sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the existence of environmental conditions on the property. Any work completed on this Phase II ESA by an individual who is not considered an environmental professional was completed under the supervision or responsible charge of the environmental professional.

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APPENDICES

1.0 INTRODUCTION

In accordance with our Proposal and Standard Conditions for Engagement, EBI Consulting (EBI) is pleased to submit our *Phase II Environmental Site Assessment (ESA) Report (Report)* on the property known as Parcel H located at 400 Ocean Avenue in Revere, Massachusetts (the Subject Property). Mr. Daniel Bellucci of EBI Consulting conducted the investigation at the Subject Property on April 18, 20, and 24, 2017.

1.1 BACKGROUND

EBI was requested to conduct a limited subsurface investigation to evaluate soil and groundwater at the site in advance of proposed site redevelopment. The scope of work for the investigation was designed around a Phase II scope of work prepared by "Others" and presented to EBI for review. The Limited Phase II ESA work scope prepared by "Others" included the following:

- Advancement of three (3) soil borings completed as permanent monitoring wells.
- Collection of three (3) groundwater samples for analysis of extractable and volatile petroleum hydrocarbons (EPH/ VPH), volatile organic compounds (VOCs) and 14 MCP Metals-Dissolved.
- Collection of six (6) soil samples for analysis of EPH/ VPH, VOCs, 14 MCP Metals and polychlorinated biphenyls (PCBs).
- Collection of two (2) urban fill soil samples for coal, coal ash or wood ash analysis by polarized light microscopy (PLM) and Scanning Electron Microscopy (SEM) with Energy Dispersive X-Ray Spectroscopy (EDS).
- Preparation of a Limited Phase II ESA report documenting the results of the assessment.

EBI reviewed a Phase II ESA conducted by West & Sampson at the Subject Property in 2010. The findings of the Phase II ESA indicate, "*Parcel H is underlain by varying depths of uncharacterized historic fill material. Concentrations of lead, benzo(a)pyrene, and dibenzo(a,h)anthracene were detected in soil. The concentrations of lead and benzo(a)pyrene were below the MassDEP urban fill background concentration. However, a concentration dibenzo(a,h)anthracene was detected above the urban fill background concentration*."

Additionally the Weston & Sampson Phase II ESA identified the following potential environmental concern:

- According to information provided by the City, Parcel H was once used as a rail car turnaround. Consequently, the potential exists for the presence of contaminants in soil associated with rail car operations such as polychlorinated biphenyls (PCBs) and heavier lubricating oils.

1.2 STATEMENT OF OBJECTIVES

The primary objective of this Phase II ESA is to evaluate subsurface soil and groundwater in advance of proposed redevelopment of the Subject Property. Additionally, soil samples were collected to appropriately characterize shallow urban fill material at the site.

In order to achieve the objectives of this investigation, EBI performed the following tasks:

- Contacted the local utility locating service Dig Safe (Ticket #20171510983) prior to undertaking subsurface explorations on-site.

- Advanced three (3) borings by direct push to depths of 12 feet below ground surface (bgs).

- Collected four foot soil samples continuously, field screened the vapor headspace of the soil samples for total ionizable volatile organic compounds (VOCs) using a photoionization detector (PID), and described the physical characteristics of the soil samples on boring logs.

- Selected two (2) soil samples per boring, prepared, and submitted the samples under chain-of-custody documentation to a Massachusetts-certified independent laboratory for analysis of extractable and volatile petroleum hydrocarbons (EPH/ VPH) by the MassDEP Method, volatile organic compounds (VOCs) by EPA Method 8260, 14 MCP Metals by EPA Method 6010 and polychlorinated biphenyls (PCBs) by EPA Method 8082. Additionally, two (2) soil samples collected from the shallow urban fill layer for laboratory examination for the presence of coal, coal ash or wood ash analysis by polarized light microscopy/scanning electron microscopy (PLM/SEM with EDS) methods.

- Collected groundwater samples from each new permanent monitoring well using a peristaltic pump and dedicated polyethylene tubing, prepared, and submitted the samples to a Massachusetts-certified independent laboratory for analysis of EPH/VPH by the MassDEP Method, VOCs by EPA Method 8260 and MCP 14 Metals by EPA Method 6010.

- Prepared this summary of pertinent information obtained during this investigation including accompanying illustrations and appendices, along with EBI's findings and preliminary conclusions regarding the presence or absence of contamination in soils and groundwater beneath the Subject Property in the areas investigated.

1.3 LIMITATIONS AND ASSUMPTIONS

This *Report* was prepared for the use of *Lixi Hospitality Revere LLC c/o Lixi Group*. It was performed in accordance with ASTM E1903-11, accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information obtained during the subsurface investigation. EBI renders no opinion as to the presence of potential contamination in the areas not investigated. The observations in this *Report* are valid on the date of the investigation. Any additional information that becomes available concerning the Subject Property should be provided to EBI so that our conclusions may be revised and modified, if necessary. This *Report* has been prepared in accordance with the proposal approved by *Lixi Hospitality Revere LLC c/o Lixi Group* and with the limitations and assumptions described below, all of which are integral parts of this *Report*. No other warranty, expressed or implied, is made.

Limitations

1. The observations described in this Report were made under the conditions stated herein. The conclusions presented are based solely upon the services described, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in this Report was carried out in accordance with terms and conditions in our Authorization Letter and Agreement for Environmental Services regarding the Site, which are incorporated herein by references.
2. In preparing this Report, EBI has relied on certain information provided by state and other referenced parties, and on information contained in the files of federal, state and/or local agencies available to EBI at the time of the assessment. Although there may have been some degree of overlap in the information provided by these various sources, EBI did not attempt to independently

verify the accuracy or completeness of all information reviewed or received during the course of these Environmental Services.

3. Observations were made of the Site and of structures on the Site as indicated within the Report. Where access to portions of the Site or to structures on the Site was unavailable or limited, EBI renders no opinion as to the presence of oil or hazardous materials (OHM) in that portion of the Site or structure. In addition, EBI renders no opinion as to the presence of OHM or the presence of indirect evidence relating to OHM where direct observation of the interior walls, floor, or ceiling of a structure on a Site was obstructed by objects or coverings on or over these surfaces. No representations concerning insulating material is expressed or implied.
4. EBI did not perform testing or analyses to determine the presence or concentration of asbestos, radon, or lead at the Site unless specifically stated otherwise in the Report. Similarly, no investigation of dust or air quality was conducted unless specifically stated otherwise in the Report.
5. The purpose of this Report is to assess the physical characteristics of the Site with respect to the presence of OHM in the environment. No specific attempt was made to determine the compliance of present or past owners or operators of the Site with federal, state, or local laws or regulations (environmental or otherwise).
6. Except as noted in the Report, no quantitative laboratory testing was performed as part of the assessment. Where such analyses have been conducted by an outside laboratory, EBI has relied upon the data provided, and has not conducted an independent evaluation of the reliability of this data.
7. Any qualitative or quantitative information regarding the Site, which was not available to EBI at the time of this assessment may result in a modification of the representations made herein.
8. It is acknowledged that EBI judgments shall not be based on scientific or technical test or procedures beyond the scope of the Services or beyond the time and budgetary constraints imposed by Client. It is acknowledged further that EBI conclusions shall not rest on pure science but on such considerations as economic feasibility and available alternatives. Client also acknowledges that, because geologic and soil formations are inherently random, variable, and indeterminate in nature, the Services and opinions provided under this Agreement with respect to such Services, are not guaranteed to be a representation of actual conditions on the Site, which are also subject to change with time as a result of natural or man-made processes, including water permeation. In performing the Services, EBI shall use that degree of care and skill ordinarily exercised by environmental consultants or engineers performing similar services in the same or similar locality. The standard of care shall be determined solely at the time the Services are rendered and not according to standards utilized at a later date. The Services shall be rendered without any other warranty, expressed or implied, including, without limitation, the warranty of merchant ability and the warranty of fitness for a particular purpose.
9. Client and EBI agree that to the fullest extent permitted by law, EBI shall not be liable to Client for any special, indirect or consequential damages whatsoever, whether caused by EBI's negligence, errors, omissions, strict liability, breach of contract, breach of warranty or other cause of causes whatsoever.

Assumptions

1. This Phase II ESA does not address the evaluation of business environmental risks in light of data collected through the Phase II ESA process. Such evaluation is a function of site and transaction-specific variables, and of the user's objectives and risk tolerance. This practice contemplates that the Phase II ESA process was planned and conducted with such variables in mind, and that the user will

evaluate legal, business and environmental risks in light of known data relating to the particular site and transaction, and in consultation with legal and business advisors as well as the Phase II Assessor.

2. The ASTM E1903-11 does not define the threshold levels at which target analytes pose a concern of significance to the user. Users may apply this practice not only in light of applicable regulatory criteria and relevant liability principles, but also to meet self-defined objectives.

3. The scope of work for this Phase II ESA is site-specific and context-specific. The assessment process defined by ASTM E1903-11 is intended to generate sound, objective, and defensible information sufficient to satisfy diverse user objectives.

4. No Phase II ESA can eliminate all uncertainty. Furthermore, any sample, either surface or subsurface, taken for chemical testing may or may not be representative of a larger population. Professional judgment and interpretation are inherent in the process, and even when exercised in accordance with objective scientific principles, uncertainty is inevitable. Additional assessment beyond that which was reasonably undertaken may reduce the uncertainty.

5. Even when Phase II ESA work is executed competently and in accordance with ASTM E1903-11, it must be recognized that certain conditions present especially difficult target analyte detection problems. Such conditions may include, but are not limited to, complex geological settings, unusual or generally poorly understood behavior and fate characteristics of certain substances, complex, discontinuous, random, or spotty distributions of existing target analytes, physical impediments to investigation imposed by the location of utilities and other man-made objects, and the inherent limitations of assessment technologies.

6. The Phase II ESA is intended to develop and present sound, scientifically valid data concerning actual site conditions. It shall not be the role of the Phase II Assessor to provide legal or business advice.

1.4 SPECIAL TERMS AND CONDITIONS

This Phase II ESA (the report) has been prepared to assist a lender to be selected by *Lixi Hospitality Revere LLC c/o Lixi Group* in determining whether to make a loan evidenced by a note secured by the Subject Property. Reliance upon this report does not extend to entities or individuals interested in purchasing the Subject Property. Amendments to EBI's limitations as stated herein that may occur after issuance of the report are considered to be included in this report. EBI's liability to a purchaser wishing to use this report is limited to the cost of the report. Payment for the report is made by, and EBI's contract and report extends to *Lixi Hospitality Revere LLC c/o Lixi Group* only, in accordance with our Standard Conditions for Engagement and, Authorization Letter and Agreement for Environmental Services.

2.0 SUBJECT PROPERTY BACKGROUND

2.1 SUBJECT PROPERTY DESCRIPTION AND FEATURES

Information regarding the Subject Property description, improvements, and operations is summarized below:

PROPERTY DESCRIPTION, IMPROVEMENTS, AND OPERATIONS	
Address	400 Ocean Avenue (Parcel H)
Location	Chester Avenue and Ocean Boulevard
Property Owner	Massachusetts Bay Transportation Authority (MBTA)
Number of Parcels	2
Total Land Area	1.33
Number/Type of Buildings	0
Number of Stories	NA
Date of Construction	NA
Area (SF)	NA
Basement	NA
Operations	Parking Lot
Site Characteristics	Asphalt paved parking surface with a small shed for the parking lot attendant

2.2 PHYSICAL SETTING

Information regarding the physical settings at the Subject Property and immediate vicinity are summarized below:

PHYSICAL SETTING DESCRIPTIONS	
Regional Geology	No bedrock outcroppings were observed at the Subject Property. Information concerning the geology of the Subject Property was obtained from the USGS Map of the Physical Divisions of the United States (1946). The Subject Property is located within the Seaboard Lowland section of the New England physiographic province, which consists of peneplains less than 500 feet above sea level, which have been post-maturely eroded and glaciated.
Depth to Bedrock	Bedrock was not encountered to a maximum depth of exploration of 12 feet bgs.
Surficial Features	Surface drainage on the Subject Property flows into catch basins in the parking lot and along Chester Avenue and Ocean Boulevard. The catch basins are associated with the MWRA stormwater system.
Surficial Soils	According to the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) website (http://websoilsurvey.nrcs.usda.gov/app/), the dominant soil composition in the vicinity of the Subject Property is classified as Urban Land –wet substratum. Near-surface geology in heavily developed areas such as the Subject Property and vicinity is considered "urban land" and is characterized by a non-homogeneous distribution of soil and fill types. Excavation and backfilling for building foundations, utility conduits, subway systems and other construction results in a varied subsurface profile. In this setting, estimation of local subsurface parameters such as permeability, moisture content, and organic fraction is not feasible without site-specific testing data.

PHYSICAL SETTING DESCRIPTIONS	
Soil Stratigraphy Encountered during the Investigation	Shallow urban fill material was observed beneath the asphalt surface and extending to depths up to 7-feet bgs. The urban fill soils were more predominant along the western portion of the site. An organic native peat layer was observed along the western portion of the site at depths ranging from 5 to 10-feet bgs. Native medium to coarse sands were observed beneath the peat and urban fill layers and extended to the termination depth of each borehole.
Estimated Direction of Groundwater Flow	Local groundwater gradient is expected to follow surface topography; therefore, groundwater flow near the Subject Property is expected to flow to the east. Groundwater depths and flow gradients are best evaluated by a subsurface investigation involving the installation of at least three groundwater-monitoring wells, survey of well elevations, and precise measurements of hydraulic head. Calculation of groundwater flow directions conducted by Weston & Sampson during a 2010 Phase II ESA indicated groundwater flow at the site is to the northeast.
Depth to Groundwater (encountered during the investigation)	Shallow groundwater was encountered in the equilibrated groundwater monitoring wells at depths of 3.25 to 5.89 feet bgs. Please note that groundwater depths are presumed to be tidally influenced based upon the Subject Property's proximity to the Atlantic Ocean.

2.3 SITE HISTORY AND LAND USE

According to the Phase I ESA prepared by EBI Consulting dated May 5, 2017, the site history and land use is summarized in the following table:

Period	Site History And Land Use
At least 1891-1906	Residential dwellings
1906-1938	Residential dwellings and Casino Skating Rink
1938-1954	Residential dwellings and "Shelter." Northern portion of site described as, "Storage of Street Cars."
1954-1965	Residential dwellings and "Shelter." Northern portion of site described as, "MBTA Bus Yard."
1965 to Present	MBTA parking lot

2.4 ADJACENT PROPERTY LAND USE

Property use in the vicinity of the Subject Property is primarily characterized by residential and commercial development.

ADJOINING PROPERTIES	
North	The Subject Property is bound to the north by a pedestrian footbridge for the MBTA Wonderland Station, beyond which a MBTA commuter parking lot is located.
South	The Subject Property is bound to the south by a residential apartment building known as Water's Edge Luxury Apartment Complex located at 394 Ocean Avenue.
East	The Subject Property is bound to the east by Ocean Avenue and public land associated with Revere Beach.
West	The Subject Property is bound to the west by the MBTA Wonderland station.

2.5 SUMMARY OF PREVIOUS ENVIRONMENTAL ASSESSMENTS

EBI was requested to conduct a Phase II ESA to evaluate environmental concerns at the Subject Property, included the presence of urban fill identified in by Weston & Sampson in 2010.

Findings of Previous Environmental Assessments	
Phase II ESA; Weston & Sampson (August 2010)	The following conditions were encountered at the Site during the Phase II ESA field investigation: 1. Lead concentrations detected in four soil samples collected at the Site exceeded the RCS-1 criterion of 300 mg/kg, but were all below the DEP urban fill background concentration of 600 mg/kg. 2. Benzo(a)pyrene and dibenzo(a,h)anthracene concentrations detected in boring SB-9 (1 to 3 feet) exceeded the RCS-1 criteria of 2.0 mg/kg and 0.7 mg/kg, respectively. Benzo(a)pyrene was detected at a concentration (5 mg/kg) below the urban fill background concentration of 7.0 mg/kg. However, the concentration of dibenzo(a,h)anthracene (1.8 mg/kg) exceeded the urban fill background concentration of 1.0 mg/kg. 3. Arsenic and selenium were the only compounds detected in groundwater above the laboratory RLs. However, the concentrations detected at the Site were below the RCGW-2 criteria. Weston & Sampson recommended reporting the concentration of dibenzo(a,h)anthracene to MassDEP.

3.0 RATIONALE AND WORK PERFORMED

3.1 RATIONALE

3.1.1 Conceptual Model

The Conceptual Model is a representation of hypothesized current site conditions, which describes the physical setting characteristics of a site and the likely distribution of target contaminants (in soil, air, ground water, surface water and/or sediments) that might have resulted from a known or likely release and the risk they pose to human and/or ecological receptors. This Conceptual Model takes into consideration the potential distributions of contaminants with respect to the properties, behaviors and fate and transport characteristics of the contaminant in a setting such as that being assessed. The sampling plan was designed to provide for the collection of potentially contaminated environmental media, if they occur, at locations and depths where the highest concentrations are likely to occur.

Site Environmental Concerns		Site Physical Characteristics		Onsite Environmental Receptors	
RECs	**COC's**	**Primary Release Media**	**Fate & Transport**	**Potential Exposure Route(s)**	**Potential Human Exposure**
Historic urban fill and use of site for rail car storage	VOCs, EPH, VPH, MCP 14 Metals, PCBS	Soil Groundwater	Soil Groundwater	Ingestion Dermal (direct Contact)	Site workers Construction workers Etc.

COC = contaminants of concern

Assumptions:
1. Assumes the Subject Property retains existing use (Commercial)
2. Construction Worker exposure is limited due to short exposure duration

3.1.2 Rationale for Soil Boring Placement

The rationale for the placement of the soil borings was based on the 1) the *Likely Release Area(s)* that target analytes were first introduced into environmental media as a result of a release; and 2) the likely vertical and horizontal migration of the release.

3.1.3 Chemical Testing Plan

The chemical testing plan was designed to detect the target analytes that are present in, or have been released or potentially have been released to, environmental media at the site, and which are of interest in the context of the particular Phase II ESA and its objectives, the presence of which will be sought and concentrations of which will be quantified through chemical testing.

3.1.4 Deviations from the Work Plan

There were no deviations to the work plan.

3.2 EXPLORATION, SAMPLING, AND TEST SCREENING METHODS

3.2.1 Ground Penetrating Radar Survey

EBI contracted Ground Penetrating Radar Systems, Inc. to conduct a GPR survey to pre-clear boring locations of unmarked utilities and identify anomalies proximal to the well locations. The GPR survey was conducted at the Subject Property on April 18, 2017. GPR is a geophysical technique, which uses electromagnetic waves for shallow subsurface reconnaissance and exploration. An electromagnetic impulse in the form of ultra high-frequency radio waves is emitted into the ground by the transmitting antenna, and the resulting reflection of transfer of waves from contamination plumes, boundary layers, or buried objects is detected by a receiving antenna. The presence of buried objects or significant changes in conductivity of the layers will cause the electromagnetic wave to be reflected. These images provide direct information concerning subsurface conditions. EBI notes that due to surface conditions and subsurface content, the GPR signal penetration was estimated at a maximum depth of 3-4 feet bgs in the majority of the survey area. This penetration was reduced in areas of concrete cover. In addition, due to the dielectric properties of the subsurface, plastic polymer and fiberglass utilities may not have been detected. All field services were conducted in compliance with the industry standard of care guidelines found in ASCE 38-02 (Level B).

3.2.2 Pre-Drilling Activities

EBI requested Dig Safe and the City of Revere Department of Public Works to mark-out the location of Subject Property utilities on April 12, 2017. Clearance for drilling at the Subject Property was granted for after 15:38 on April 17, 2017.

Personal health and safety precautions were followed in accordance with applicable federal and state law or local equivalents and any requirements imposed by the owner, occupant, or field personnel. EBI prepared a site-specific health and safety plan (HASP) and conducted a health and safety meeting with the onsite personnel prior to the drilling activities. No additional pre-drilling activities were performed as part of this investigation.

3.2.3 Soil Borings

A total of three (3) borings were advanced at the Subject Property. All of the soil borings were advanced using a truk mounted direct push drill rig operated by Harvey Associates of Hingham, Massachusetts. Four-foot soil samples were collected continuously during the advancement of the borings. EBI recorded soil sampling information and the physical characteristics of each soil sample onto boring logs presented in Appendix B.

TABLE 3.2.3
SUMMARY OF SOIL BORING DETAILS

Boring ID#	Location	Termination Depth/Reason (feet bgs)	Depth to Groundwater (feet)	Sample ID #/ Depths	Target Analytes/ EPA Method
EB-01/ MW-1	Eastern parking lot area	12 (termination per SOW)	3.25'	Soil: EB-01 (1'-2') EB-01 (10'-12') Groundwater: MW-1	VOCs/8260 EPH/VPH MassDEP MCP 14 metals/6010 PCBs/8082 (Soil only)
				Soil: EB-01 (3"-2')	PLM / SEM w/ EDS
EB-02/ MW-2	Northwestern parking lot area	12 (termination per	4.96'	Soil: EB-02 (2'-5') EB-02 (10'-12')	VOCs/8260 EPH/VPH MassDEP

Boring ID#	Location	Termination Depth/Reason (feet bgs)	Depth to Groundwater (feet)	Sample ID #/ Depths	Target Analytes/ EPA Method
		SOW)		Groundwater: MW-2	MCP 14 metals/6010 PCBs/8082 (Soil only)
EB-03/ MW-3	Southwestern parking lot area	12 (termination per SOW)	5.89'	Soil: EB-03 (2'-7')	EPH MassDEP MCP 14 metals/6010 PCBs/8082 (Soil only)
				Soil: EB-03 (4-7')	PLM / SEM w/ EDS
				Soil: EB-03 (4'-6')	VOCs/8260 VPH MassDEP
				Soil: EB-03 (10'-12')	VOCs/8260 EPH/VPH MassDEP MCP 14 metals/6010 PCBs/8082 (Soil only)
				Groundwater: MW-3	VOCs/8260 EPH/VPH MassDEP MCP 14 metals/6010

Notes: VOCs -Volatile organic compounds via EPA Method 8260C
EPH – Extractable Petroleum Hydrocarbons by the MassDEP Method
VPH – Volatile Petroleum Hydrocarbons by the MassDEP Method
MCP 14 Metals – Massachusetts Contingency Plan 14 Metals by EPA Method 6010C-D
PCBs – Polychlorinated biphenyls by EPA Method 8082A
PLM – Polarized Light Microscopy
SEM– Scanning Electron Microscopy
EDS - Energy Dispersive X-Ray Spectroscopy

Boring/ monitoring well locations are illustrated on Figure 3, Boring Location Map.

3.2.4 Field Screening

The vapor headspace of each soil sample was field-screened using a photoionization detector (PID). The PID provides a reading of total ionizable VOCs. The PID was calibrated with an isobutylene standard, to measure total VOCs as isobutylene equivalents. The PID has a practical sensitivity of approximately one part per million by volume (ppmV). PID readings should not be considered as exact measurements, but as relative readings of VOCs between locations. The soil samples were placed in a ziplock bag approximately three-quarters full with the soil to be analyzed, which was sealed for approximately 10 minutes in a warm (>60° F) location for equilibration. The headspace analysis was conducted by inserting the probe of the PID through an opening in the zip-lock bag and into the space above the soil sample.

No visual or olfactory evidence of contamination or elevated PID readings above background were observed in any of the soil samples collected. The PID results are noted in the Boring Logs provided in Appendix B.

3.2.5 Soil Sampling and Analysis

Selected "grab" soil samples were collected in laboratory-provided sample containers. Each sample was labeled/logged onto a chain-of-custody form, and placed in a cooler with ice for preservation in accordance with current Federal EPA SW-846 (3rd ed.). The samples were submitted to an independent qualified laboratory (Con-Test) for analyses. The samples were analyzed for the target analytes noted in Table 3.2.3.

Samples submitted for VOC analysis were also preserved methanol and sodium bisulfate in accordance with EPA Method 5035. Samples submitted for VPH analysis were also preserved methanol in accordance with the MassDEP method.

In order to ensure that no cross-contamination between samples occurred, all non-dedicated sampling equipment was decontaminated after the collection of each sample. Sampling equipment was scrubbed with a brush to remove loose material and then washed thoroughly with a laboratory grade detergent and water to remove all particulate matter and surface film. After washing, each piece and brush was rinsed with clean distilled water. Dedicated sampling equipment such as sampling liners and latex gloves were properly disposed of after the handling of each sample was complete. Samples were then collected using clean disposable gloves and laboratory-provided glassware appropriate for the specified analysis.

3.2.6 Monitoring Well Installation

Each boring was completed as a permanent 1-inch PVC monitoring well. Each well was constructed of 10-feet of 1-inch schedule 40 0.020-slot well screen completed to several inches below grade with solid 1-inch schedule 40 PVC riser pipe. Each well was finished with a flush-mount steel road box and the wells were capped with J-Plugs. Well construction details are summarized on the following table:

TABLE 3.2.6
SUMMARY OF WELL CONSTRUCTION DETAILS

WELL ID #	DEPTH TO WATER TOC (FEET)	WELL DEPTH TOC (FEET)	WELL DIAMETER (INCHES)	SCREENED INTERVAL (FT BGS)
MW-1	3.25	11.65	1	1.65-11.65
MW-2	4.96	11.72	1	1.72-11.72
MW-3	5.89	12.14	1	2.14-12.14

Notes: bgs = below ground surface
TOC = Top of Casing

3.2.7 Groundwater Sampling and Analysis

Groundwater samples were collected from each permanent monitoring well using a peristaltic pump and dedicated polyethylene tubing. Prior to the collection of groundwater samples, each well was purged of three to five boring volumes of groundwater and the pH, specific conductance, temperature, dissolved oxygen (DO), and oxidation reduction potential (ORP) of the groundwater was recorded every 3-minutes. Well purging continued until a minimum of three well volumes was purged and measurements of field parameters varied by less than 10% between consecutive readings. EBI recorded the field data collected during groundwater sampling onto Groundwater Quality Parameter Data Sheets that are presented in Appendix C.

The groundwater samples were collected in clean laboratory-provided containers. Samples collected for VOC, VPH and EPH analysis were preserved with hydrochloric acid to a pH less than 2. Samples collected for soluble metals analysis were field filtered using a 0.45-micron filter and preserved with nitric acid. Each sample was labeled/logged onto a chain-of-custody form, and placed in a cooler with ice for preservation in accordance with current Federal EPA SW-846 (3rd ed.). After collection, the samples were submitted to an independent qualified laboratory (Con-Test) for analyses. The samples were analyzed for the target analytes noted in Table 3.2.3.

4.0 PRESENTATION OF EVALUATION AND RESULTS

4.1 IDENTIFICATION OF MCP REGULATORY SOIL AND GROUNDWATER STANDARDS

The Subject Property is located within 500-feet of a residential property. The Subject Property is not located within a MassDEP approved Zone II, Interim Wellhead Protection Area (IWPA), Zone A of a Class A surface water body, or a Potential Drinking Water Source Area. No private drinking water wells are located within 500 feet of the Site. Therefore, the applicable Massachusetts Contingency Plan (MCP) soil Reporting Category is RCS-1 and the groundwater Reporting Category is RCGW-2. The MCP Phase 1 Priority Resource Map is included as Figure 4.

4.2 SOIL ANALYSIS RESULTS

The samples were analyzed for the target analytes noted in Table 3.2.3. A table presenting only the contaminants detected above laboratory detection limits is included in Appendix C.

The analytical results indicate concentrations of EPH and metals above laboratory detection limits in the soil samples collected. In particular, concentrations of benzo(a)pyrene, benzo(b)fluoranthene and dibenz(a,h)anthracene and lead were detected above MCP Reporting Category RCS-1 soil standards in samples collected from the shallow urban fill soil layers of EB-02 and EB-03. PLM/ SEM urban fill testing was conducted on the urban soil layer (4'-7') identified in boring EB-03. PLM/ SEM with EDS testing indicated the presence of heavy coal and trace coal ash in this sample interval. Soil collected from EB-02 was not submitted of PLM/ SEM with EDS testing, however, as noted in the boring logs, brown and black soils were observed above the presumed native peat soil layer and are considered fill material. Soil collected from EB-01 at a depth of 3" - 2' and submitted for PLM/ SEM with EDS testing indicated the presence of trace coal ash, moderate wood ash and light asphalt.

The concentrations of EPH and lead were compared to MassDEP's published *Background Level of Polynuclear Aromatic Hydrocarbons (PAHs) and Metals in Soil* standards for soil containing coal ash or wood ash associated with fill material. None of the concentrations of PAHs detected in soil above the Reporting Category RCS-1 standard exceeded the published background levels for soil containing coal ash or wood ash associated with fill material. The concentration of lead (730 mg/kg) detected in fill soil from EB-03 was above the published background level for soil containing coal ash or wood ash associated with fill material (600 mg/kg). However, based upon the field observations, historic documentation of onsite urban fill material at the Subject Property and the results of PLM/ SEM with EDS urban fill analysis, the concentrations of PAHs and lead above MCP RCS-1 standards are attributable to coal and coal combustion byproducts, and are exempt from reporting under the MCP.

No concentrations of VPH, PCBs or VOCs were detected above laboratory detection limits in the soil samples collected.

Laboratory soil analytical results and complete laboratory data sheets and chain-of-custody documentation are presented in Appendix D.

4.3 GROUNDWATER ANALYSIS RESULTS

The samples were analyzed for the target analytes noted in Table 3.2.3. A table presenting only the contaminants detected above laboratory detection limits is included in Appendix C.

The analytical results indicate concentrations of metals above laboratory detection limits in the groundwater samples collected. The concentrations of metals in groundwater were compared to applicable MCP Reporting Category RCGW-2 standards. None of the concentrations of metals exceeded MCP Reporting Category RCGW-2 standards.

No concentrations of VOCs, VPH or EPH were detected in the groundwater samples collected from the Subject Property.

Laboratory groundwater analytical results and complete laboratory data sheets and chain-of-custody documentation are presented in Appendix D.

5.0 FINDINGS & CONCLUSIONS

We have performed a Phase II ESA at the property at (address) in general conformance with the scope and limitations of ASTM E1903-11 and for the following objectives:

- The primary objective of this Phase II ESA is to evaluate potential impact to the Subject Property from the environmental conditions identified in the Phase I ESA prepared by EBI Consulting (May 5, 2017) process for the purpose of providing sufficient information regarding the nature and extent of contamination to assist in making informed business decisions about the property; and where applicable, providing the level of knowledge necessary to satisfy the innocent purchaser defense under CERCLA.

Validation of the Conceptual Model

It is EBI's opinion that the findings and results of this Phase II ESA investigation are consistent with and support the assumptions of the Conceptual Model presented in Section 3.1.1. Sufficient investigation has been demonstrated to support sound conclusions regarding the presence of the target analytes.

Findings

The results of EBI's Phase II ESA revealed:

- On April 18, 20 and 24, EBI conducted a Phase II ESA to assess subsurface conditions throughout the Subject Property. A total of three (3) soil borings were advanced at the Subject Property and completed as permanent groundwater monitoring wells. All of the soil borings were advanced using a Geoprobe direct push rig. Two (2) soil samples per boring were analyzed for VOCs, EPH, VPH, MCP 14 Metals and PCBs. Two (2) soil samples were collected from shallow fill soils and analyzed for coal and coal ash/ combustion byproducts by PLM and SEM with EDS laboratory methods. Groundwater samples were collected from each of the three newly installed wells using low-flow sampling techniques and were analyzed for VOCs, VPH, EPH and MCP 14 metals.

- Concentrations of EPH and lead were detected in soil above MCP Reporting Category RCS-1 standards. The concentrations of PAHs detected in shallow fill soils did not exceed MassDEP's published *Background Level of PAHs and Metals in Soil* standards for soil containing coal ash or wood ash associated with fill material. One concentration of lead (730 mg/kg) exceeded the published background level (600 mg/kg). The results of PLM/SEM with EDS analysis indicated the presence of coal, coal ash, wood ash and asphalt in shallow urban fill soil at the site. Field observations also indicated the presence of urban fill in shallow soil. Based upon the documented presence of urban fill materials, including coal and coal ash, the concentrations of PAHs and lead in soil are considered exempt from reporting under the MCP.

- Low concentrations of metals were detected in groundwater. None of the concentrations of metals in groundwater exceeded applicable MCP Reporting Category RCGW-2 standards. No concentrations of VOC, VPH or EPH were detected in the groundwater samples collected from the Subject Property.

Conclusions

- Concentrations of PAHs and lead are present in shallow fill soil at the Subject Property. The concentrations do not require regulatory reporting, however, if future site activities include soil excavation and/or removal, a Soil Management Plan should be developed to outline appropriate handling and disposal procedures for shallow fill at the site.

6.0 RECOMMENDATIONS

Based on the findings and conclusions of this Phase II ESA, EBI recommends development of a Soil Management Plan prior to onsite excavation or soil removal.

APPENDIX A
FIGURES

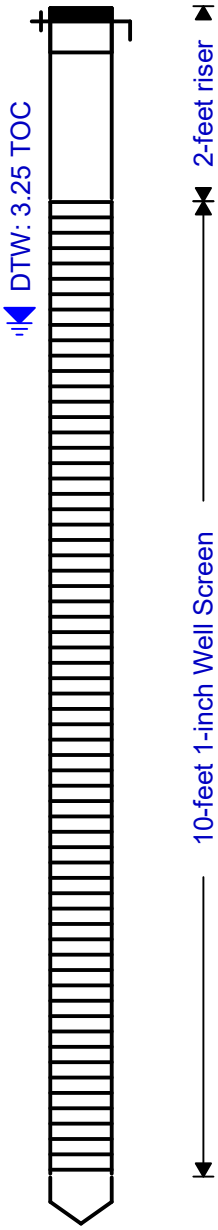
APPENDIX B
BORING AND WELL COMPLETION LOGS

EBI Consulting
21 B St.
Burlington, MA 01803

Log of Borehole: EB-01 / MW-1

Project No.: 1217000149
Project: 1217000149 - Ocean Blvd., Revere MA
Elevation: 0
Total Depth: 12
Project Manager: Daniel Bellucci

SUBSURFACE PROFILE				SAMPLE				
Depth (ft)	Symbol	Description	Depth/Elev.	Number	Type	Recovery	PID (ppm)	Well Completion Details
		Ground Surface	0.0					
0		3-inches of asphalt	0.0					
1		Fine SAND and gravel; dark brown; moist						
2			-2.0	S-1	Core	2.5/4	0.1	
3		Fine to medium SAND; tan; moist	0.6					
4			-4.0					
5		Medium to coarse SAND; greyish tan; wet	1.2					
6				S-2	Core	2/4	0	
7		Coarse SAND and gravel; grey; wet	-7.0 2.1					
8			-8.0					
9		Medium SAND; grey; wet	2.4					
10		Boring terminated at 12-feet bgs		S-3	Core	3/4	0	
11								
12								



Drilled By: Harvey Associates
Drill Method: Direct Push
Drill Date: 4/20/2017

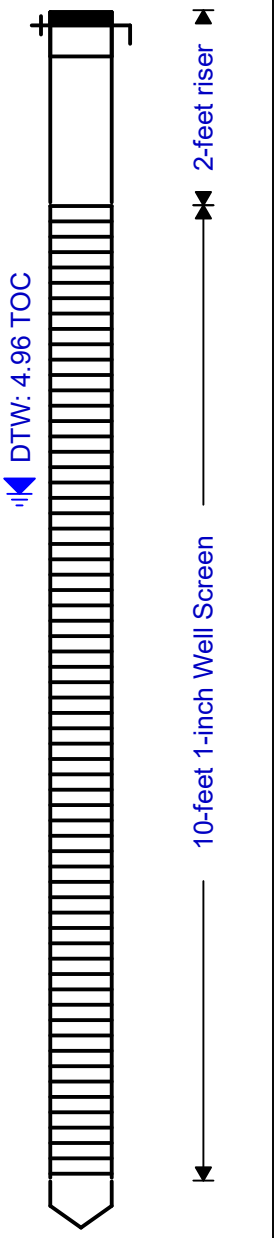
Hole Size: 2.25-inch
Datum:
Sheet: 1 of 4

EBI Consulting
21 B St.
Burlington, MA 01803

Log of Borehole: EB-02 / MW-2

Project No.: 1217000149
Project: 1217000149 - Ocean Blvd., Revere MA
Elevation: 0
Total Depth: 12
Project Manager: Daniel Bellucci

SUBSURFACE PROFILE				SAMPLE				
Depth (ft)	Symbol	Description	Depth/Elev.	Number	Type	Recovery	PID (ppm)	Well Completion Details
		Ground Surface	0.0					
0		4-inches of asphalt	0.0					
1		Coarse SAND and gravel; brownish tan; dry		S-1	Core	3/4	0.1	
2								
3			-3.0					
		Fine SAND and SILT with marine shells; black; moist	0.9					
4			-4.0					
		Fine SAND and SILT with marine shells; black; moist	1.2					
			-4.5					
			1.4					
5		Medium SAND and gravel; blackish grey; moist	-5.0					
			1.5					
6		Organic estuarian peat with root fibers and organic odor; black; moist	-6.0	S-2	Core	2.5/4	0.1	
			1.8					
7		Medium to coarse SAND; grey; wet						
8			-8.0					
		Coarse SAND; greyish brown; wet	2.4					
9								
10				S-3	Core	4/4	0	
			-10.5					
		Fine to medium SAND; grey; wet	3.2					
11		Boring terminated at 12-feet bgs						
12								



Drilled By: Harvey Associates
Drill Method: Direct Push
Drill Date: 4/20/2017

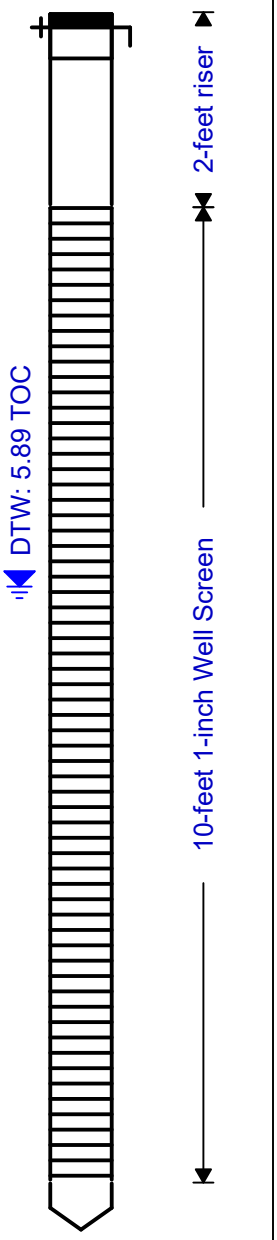
Hole Size: 2.25-inch
Datum:
Sheet: 1 of 4

EBI Consulting
21 B St.
Burlington, MA 01803

Log of Borehole: EB-03 / MW-3

Project No.: 1217000149
Project: 1217000149 - Ocean Blvd., Revere MA
Elevation: 0
Total Depth: 12
Project Manager: Daniel Bellucci

SUBSURFACE PROFILE				SAMPLE				
Depth (ft)	Symbol	Description	Depth/Elev.	Number	Type	Recovery	PID (ppm)	Well Completion Details
		Ground Surface	0.0					
0		**4-inches of asphalt**	0.0					
1		**Urban fill - Coarse SAND, trace brick and roots; dark brown; moist**		S-1	Core	1.5/4	0	
2								
3								
4			-4.0					
		Urban fill - Fine SAND with some gravel, coal ash, marine shells and glass fragments; black; wet	1.2					
5								
6			-6.0	S-2	Core	2/4	0.1	
		Urban fill - Fine sand with some gravel, marine shells and white ashy material; greyish white; wet	1.8					
7			-7.0					
		Organic peat layer with root fibers and organic odor; brownish black; wet	2.1					
8			-8.0					
		Organic peat layer with root fibers and organic odor; brownish black; wet	2.4					
9								
10			-10.0	S-3	Core	4/4	0	
		Coarse SAND and gravel; grey; wet	3.0					
11								
		Boring terminated at 12-feet bgs						
12								



Drilled By: Harvey Associates
Drill Method: Direct Push
Drill Date: 4/20/2017

Hole Size: 2.25-inch
Datum:
Sheet: 1 of 4

APPENDIX C
DATA SUMMARY TABLES

Parcel H - 400 Ocean Avenue, Revere, Massachusetts

EBI Job No. 1217000149

Groundwater Table

Parameter	Reportable Concentrations (RCs)	SAMPLING LOCATION		
	RCGW-2	MW-1	MW-2	MW-3
Sampling Date		4/24/2017	4/24/2017	4/24/2017
Depth to Water (Feet bgs TOC)		3.25	4.96	5.89
EPH MassDEP Method (µg/L)				
Total EPH	~	ND	ND	ND
VPH MassDEP Method (µg/L)				
Total VPH	~	ND	ND	ND
MCP 14 Metals EPA 8020A-B (µg/L)				
ANTIMONY	8000	ND (1.0)	7.5	ND (1.0)
ARSENIC	900	6.4	0.84	5.3
BARIUM	50000	460	25	38
CHROMIUM	300	4.0	1.1	1.0
LEAD	10	1.6	ND (1.0)	ND (5.0)
SELENIUM	100	ND (5.0)	ND (5.0)	7.2
VANADIUM	4000	10	ND (5.0)	ND (5.0)
ZINC	900	25	ND (10)	13
VOCs EPA 8260C (µg/L)				
Total VOCs	~	ND	ND	ND

NOTES:

1. MassDEP - Massachusetts Department of Environmental Protection
2. MCP - Massachusetts Contingency Plan
3. RCGW-2 - MCP Reporting Category RCGW-2
4. µg/L - micrograms per liter
5. EPH - Extractable Petroleum Hydrocarbons by the MassDEP Method
   VPH - Volatile Petroleum Hydrocarbons by the MassDEP Method
   MCP 14 Metals - Massachusetts Contingency Plan 14 Metals 6010A-B plus mercury by EPA Method 7471B
   VOCs - Volatile Organic Compounds by EPA Method 8260C
6. ND - Analyte Not Detected
7. See laboratory reports for additional information and reporting limits for detected compounds.
8. Only those analytes detected above the laboratory detection limits were included in the table.

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Parcel H - 400 Ocean Avenue, Revere, Massachusetts

EBI Job No. 1217000149

Soil Table

Parameter	Reportable Concentrations (RCs)	MADEP Identified Background Levels in Soil	SAMPLING LOCATION						
	RCS-1	Soil Containing Coal Ash or Wood Ash	EB-01 (10-12)	EB-01 (1-2)	EB-02 (10-12)	EB-02 (2-5)	EB-03 (10-12)	EB-03 (2-7)	EB-03 (4-6)
Sampling Date			4/20/2017	4/20/2017	4/20/2017	4/20/2017	4/20/2017	4/20/2017	4/20/2017
Sample Depth			10-12 Feet	1-2 Feet	10-12 Feet	2-5 Feet	10-12 Feet	2-7 Feet	4-6 Feet
EPH MassDEP Method mg/Kg)									
C19-C36 ALIPHATICS	3000		ND (11)	ND (11)	ND (12)	32	ND (11)	37	NT
C11-C22 AROMATICS	1000		ND (11)	ND (11)	ND (12)	180	ND (11)	120	NT
ACENAPHTHENE	4		ND (0.11)	ND (0.11)	ND (0.12)	0.12	ND (0.11)	0.24	NT
ACENAPHTHYLENE	1		ND (0.11)	ND (0.11)	ND (0.12)	0.25	ND (0.11)	0.36	NT
ANTHRACENE	1000		ND (0.11)	ND (0.11)	ND (0.12)	1.1	ND (0.11)	1.6	NT
BENZO(A)ANTHRACENE	7		ND (0.11)	ND (0.11)	ND (0.12)	6.2	ND (0.11)	4.0	NT
BENZO(A)PYRENE	2	7	ND (0.11)	ND (0.11)	ND (0.12)	**5.4**	ND (0.11)	**4.4**	NT
BENZO(B)FLUORANTHENE	7	8	ND (0.11)	ND (0.11)	ND (0.12)	**7.4**	ND (0.11)	5.3	NT
BENZO(G,H,I)PERYLENE	1000		ND (0.11)	0.45	ND (0.12)	2.0	ND (0.11)	2.3	NT
BENZO(K)FLUORANTHENE	70		ND (0.11)	ND (0.11)	ND (0.12)	2.7	ND (0.11)	1.9	NT
CHRYSENE	70		ND (0.11)	ND (0.11)	ND (0.12)	6.3	ND (0.11)	4.1	NT
DIBENZ(A,H)ANTHRACENE	0.7	1	ND (0.11)	ND (0.11)	ND (0.12)	**0.85**	ND (0.11)	0.60	NT
FLUORANTHENE	1000		ND (0.11)	ND (0.11)	ND (0.12)	13	ND (0.11)	11	NT
FLUORENE	1000		ND (0.11)	ND (0.11)	ND (0.12)	0.29	ND (0.11)	0.68	NT
INDENO(1,2,3-CD)PYRENE	7		ND (0.11)	ND (0.11)	ND (0.12)	2.6	ND (0.11)	2.4	NT
NAPHTHALENE	4		ND (0.11)	ND (0.11)	ND (0.12)	0.14	ND (0.11)	0.23	NT
PHENANTHRENE	10		ND (0.11)	ND (0.11)	ND (0.12)	5.3	ND (0.11)	7.0	NT
PYRENE	1000		ND (0.11)	ND (0.11)	ND (0.12)	13	ND (0.11)	10	NT
VPH MassDEP Method mg/Kg)									
Total VPH	~		ND	ND	ND	ND	ND	NT	ND
MCP 14 Metals 6010C-D (mg/Kg)									
ANTIMONY	20		ND (2.7)	ND (2.6)	ND (2.7)	ND (2.8)	ND (2.7)	3.9	NT
ARSENIC	20		ND (2.7)	ND (2.6)	ND (2.7)	5.2	ND (2.7)	8.0	NT
BARIUM	1000		3.6	6.8	3.5	36	4.3	270	NT
BERYLLIUM	90		ND (0.27)	ND (0.26)	ND (0.27)	ND (0.28)	ND (0.27)	0.42	NT
CADMIUM	70		ND (0.27)	ND (0.26)	ND (0.27)	0.52	ND (0.27)	1.2	NT
CHROMIUM	100		4.6	4.3	4.6	12	4.9	21	NT
LEAD	200	600	1.6	17	1.1	130	1.5	**730**	NT

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EBI Job No. 1217000149

Soil Table

Parameter	Reportable Concentrations (RCs)	MADEP Identified Background Levels in Soil	SAMPLING LOCATION						
	RCS-1	Soil Containing Coal Ash or Wood Ash	EB-01 (10-12)	EB-01 (1-2)	EB-02 (10-12)	EB-02 (2-5)	EB-03 (10-12)	EB-03 (2-7)	EB-03 (4-6)
Sampling Date			4/20/2017	4/20/2017	4/20/2017	4/20/2017	4/20/2017	4/20/2017	4/20/2017
Sample Depth			10-12 Feet	1-2 Feet	10-12 Feet	2-5 Feet	10-12 Feet	2-7 Feet	4-6 Feet
NICKEL	600		3.4	2.9	3.3	8.5	4.0	16	NT
SILVER	100		ND (0.54)	ND (0.52)	ND (0.54)	ND (0.56)	ND (0.53)	2.0	NT
VANADIUM	400		6.3	6.3	6.2	16	7.0	21	NT
ZINC	1000		18	25	10	230	11	580	NT
SW-846 7471B (mg/Kg)									
MERCURY	20		ND (0.029)	0.043	ND (0.029)	0.19	ND (0.028)	1.2	NT
PCBs EPA Method 8082A (mg/Kg)									
Total PCBs	~		ND (0.11)	ND (0.11)	ND (0.12)	ND (0.11)	ND (0.11)	ND (0.14)	NT
VOCs EPA 8260C (mg/Kg)									
Total VOCs	~		ND	ND	ND	ND	ND	NT	ND
PLM/SEM w/ EDS (mg/Kg)				**EB-01 (3"-2')**				**EB-03 (4'-7')**	
Urban Fill			NT	Coal (trace), Wood Ash (moderate), Asphalt (light)	NT	NT	NT	Coal (heavy), Coal Ash (trace)	ND

NOTES:

1. MassDEP - Massachusetts Department of Environmental Protection
2. MCP - Massachusetts Contingency Plan
3. mg/kg - milligrams per kilogram
4. RCS-1 - MCP Reporting Category RCS-2
5. EPH - Extractable Petroleum Hydrocarbons by the MassDEP Method
   VPH - Volatile Petroleum Hydrocarbons by the MassDEP Method
   MCP 14 Metals - Massachusetts Contingency Plan 14 Metals 6010C-D
   PCBs - Polychlorinated Biphenyls by EPA Method 8082A
   VOCs - Volatile Organic Compounds by EPA Method 8260C
   PLM - Polarize Light Microscopy
   SEM w/ EDS - Scanning Electrion Microscopy with Energy Dispersive X-Ray Spectroscopy
6. **BOLD -** Concentration exceeds RCS-1 standard
   SHADED BOLD - Concentration exceeds RCS-1 standard and bacground urban fill level
7. ND - Analyte Not Detected
8. NT - Not Tested
9. See laboratory reports for additional information and reporting limits for detected compounds.
10. Only those analytes detected above the laboratory detection limits were included in the table.

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WELL PURGING-FIELD WATER QUALITY MEASUREMENTS FORM

				(top)		(bottom)
Project:	Parcel H - 400 Ocean Avenue	**Screening Depth:**	1.65	to	11.65	
Location:	Revere, Massachusetts	**Pump Intake at (ft. below MP):**	7-feet bgs			
Field Personnel:	Daniel Bellucci	**Purging Device:**	Geotech Persitaltic Pump			
Well Number:	**MW-1**	**Tubing Material:**	Dedicated polethylene tubing			
Date:	4/24/2017	**Water Quality Monitoring Device:**	YSI			

Date	Time	Water Depth Below MP ft	Temp. ± 3% °C	Spec Cond ± 3% µs/cm	pH ± 0.1 S.U.	ORP/ Eh ± 10% 114.7	Dissolved Oxygen ± 10% mg/L	**Comments:**
4/24/17	10:47	3.28	11.60	3804	7.07	-145.3	2.58	Static Water Level: 3.25 feet bgs
	10:50	3.27	11.78	3706	6.98	-125.0	2.67	
	10:53	3.27	11.83	3911	6.92	-115.7	3.04	
	10:56	3.27	11.83	3999	6.90	-112.3	3.17	
	10:59	3.27	11.80	4030	6.88	-110.3	3.23	
	11:02	3.27	11.81	4067	6.86	-108.9	3.32	
	11:05	3.27	11.83	4084	6.85	-107.6	3.37	
	11:09	3.27	11.80	4051	6.84	-105.6	3.52	
	11:12	3.27	11.80	4067	6.83	-104.7	3.54	
	11:15	3.27	11.83	4066	6.82	-103.7	3.55	
	11:18	3.27	11.85	4102	6.81	-103.0	3.56	
	11:21	3.27	11.90	4125	6.81	-102.0	3.57	Sample for VOCs, EPH, VPH and MCP 14 Metals
								Purge approximately 4 gallons

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WELL PURGING-FIELD WATER QUALITY MEASUREMENTS FORM

			(top)		(bottom)
Project:	Parcel H - 400 Ocean Avenue	**Screening Depth:**	1.72	to	11.72
Location:	Revere, Massachusetts	**Pump Intake at (ft. below MP):**	8.5-feet bgs		
Field Personnel:	Daniel Bellucci	**Purging Device:**	Geotech Persitaltic Pump		
Well Number:	**MW-2**	**Tubing Material:**	Dedicated polethylene tubing		
Date:	4/24/2017	**Water Quality Monitoring Device:**	YSI		

Date	Time	Water Depth Below MP ft	Temp. ± 3% °C	Spec Cond ± 3% µs/cm	pH ± 0.1 S.U.	ORP/ Eh ± 10% 114.7	Dissolved Oxygen ± 10% mg/L	**Comments:**
4/24/17	9:53	5.02	10.27	2236	7.09	-40.5	2.58	Static Water Level: 4.96 feet bgs
	9:56	5.03	10.32	2267	6.94	-33.6	1.25	
	9:59	5.03	10.25	2250	6.81	-30.1	0.84	
	10:02	5.03	10.27	2240	6.76	-29.2	0.73	
	10:05	5.03	10.17	2196	6.72	-27.5	0.65	
	10:08	5.03	10.21	2192	6.70	-27.1	0.57	
	10:11	5.03	10.16	2192	6.69	-27.3	0.55	
	10:14	5.03	10.17	2171	6.68	-26.7	0.53	
	10:17	5.03	10.14	2162	6.67	-26.8	0.49	
	10:20	5.03	10.14	2143	6.67	-24.4	0.47	
	10:23	5.03	10.17	2160	6.66	-26.6	0.47	Sample for VOCs, EPH, VPH and MCP 14 Metals
								Purge approximately 3 gallons

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WELL PURGING-FIELD WATER QUALITY MEASUREMENTS FORM

Project:	Parcel H - 400 Ocean Avenue	**Screening Depth:**	(top) 2.14	to	(bottom) 12.14
Location:	Revere, Massachusetts	**Pump Intake at (ft. below MP):**	9-feet bgs		
Field Personnel:	Daniel Bellucci	**Purging Device:**	Geotech Persitaltic Pump		
Well Number:	**MW-3**	**Tubing Material:**	Dedicated polethylene tubing		
Date:	4/24/2017	**Water Quality Monitoring Device:**	YSI		

Date		Time	Water Depth Below MP ft	Temp. ± 3% °C	Spec Cond ± 3% µs/cm	pH ± 0.1 7.1	ORP/ Eh ± 10% 114.7	Dissolved Oxygen ± 10% mg/L	**Comments:**
4/24/17		8:41	5.99	11.04	2419	7.14	-174.8	1.59	Static Water Level: 5.89 feet bgs
		8:44	5.99	11.08	2417	7.14	-176.8	1.57	
		8:47	5.99	11.10	2411	7.15	-176.5	1.48	
		8:50	6.00	11.09	2390	7.14	-173.8	1.46	
		8:53	6.00	11.09	2348	7.14	-174.8	1.39	
		8:56	6.00	11.12	2320	7.14	-174.2	1.29	
		8:59	6.00	11.22	2294	7.14	-174.1	1,29	
		9:02	6.00	11.23	2263	7.14	-173.5	1.27	
		9:05	6.00	11.18	2220	7.13	-172.0	1.20	
		9:08	6.00	11.18	2194	7.12	-170.9	1.18	
		9:11	6.00	11.18	2182	7.12	-168.2	1.14	
		9:14	6.00	11.13	2148	7.12	-168.5	1.10	
		9:17	6.00	11.15	2124	7.12	-166.7	1.06	
		9:20	6.00	11.21	2113	7.12	-165.7	1.04	Sample for VOCs, EPH, VPH and MCP 14 Metals
									Purge approximately 4 gallons

APPENDIX D
LABORATORY ANALYTICAL RESULTS

EBI Consulting

MicroVision Labs Coal Ash Report, Job # 10671
EBI Consulting Project # 1217000149

Scope of Work:

This report covers the methods and findings of the Coal/Coal Ash analysis that MicroVision Laboratories, Inc. conducted on two (2) soil samples submitted for testing from the 1217000149 project. The purpose of this analysis was to detect and document any coal, coal ash or wood ash that may be present in the submitted soil samples by use of a combination of microscopy techniques including SEM/EDS, PLM, and macroscopic inspection.

Methods:

The samples were dried and examined by eye and under the stereomicroscope for any suspect dark components to the soil. Dark suspect particles were separated from the soil samples and prepared for examination by Polarized Light Microscopy (PLM) and Scanning Electron Microscopy with Energy Dispersive X-Ray Spectroscopy (SEM/EDS).

For the PLM examination, the suspect particle types detected in the samples were ground in a mortar and pestle, mounted on glass slides in immersion oil (n=1.515) and covered with glass cover slips. The sample particles were then examined at various magnifications and digital images were taken.

For the SEM examination, the suspect particle types were mounted on aluminum analysis stubs with double sided adhesive tape, coated with evaporated graphite and examined under the SEM by EDS to obtain elemental data in the form of EDS spectra. Digital images were taken of the sample particles at various magnifications with the SEM.

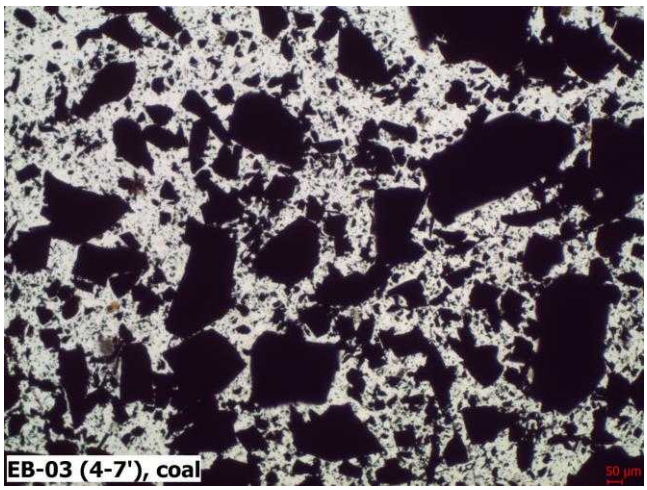
Findings:

The following pages display the data for each particle type detected in the samples for this project. Each page contains a PLM image, SEM image, and EDS spectrum for the particle types detected for these samples as well as particle type descriptions and observations.

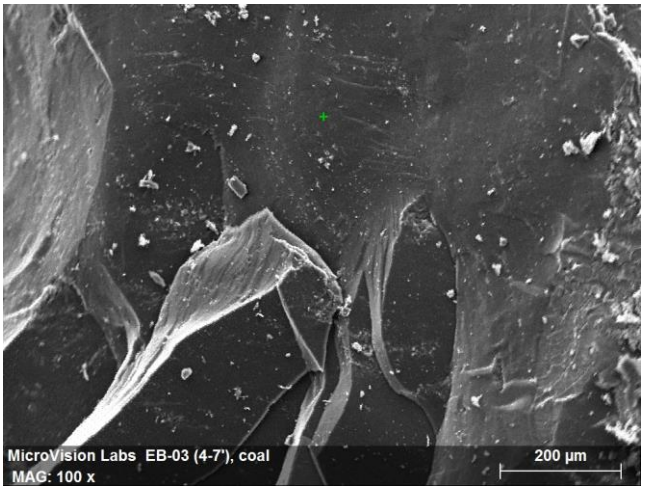
Sample: EB-03 (4-7')

Number of Suspect Particle Types: Two (2)

Coal: This particle type consisted of more than fifty (50+) shiny, black grains approximately 1mm-19mm in diameter. The PLM examination indicated this particle type to be consistent with coal. The PLM and SEM images of this particle type show the angular edges and typical conchoidal fractures found in coal.

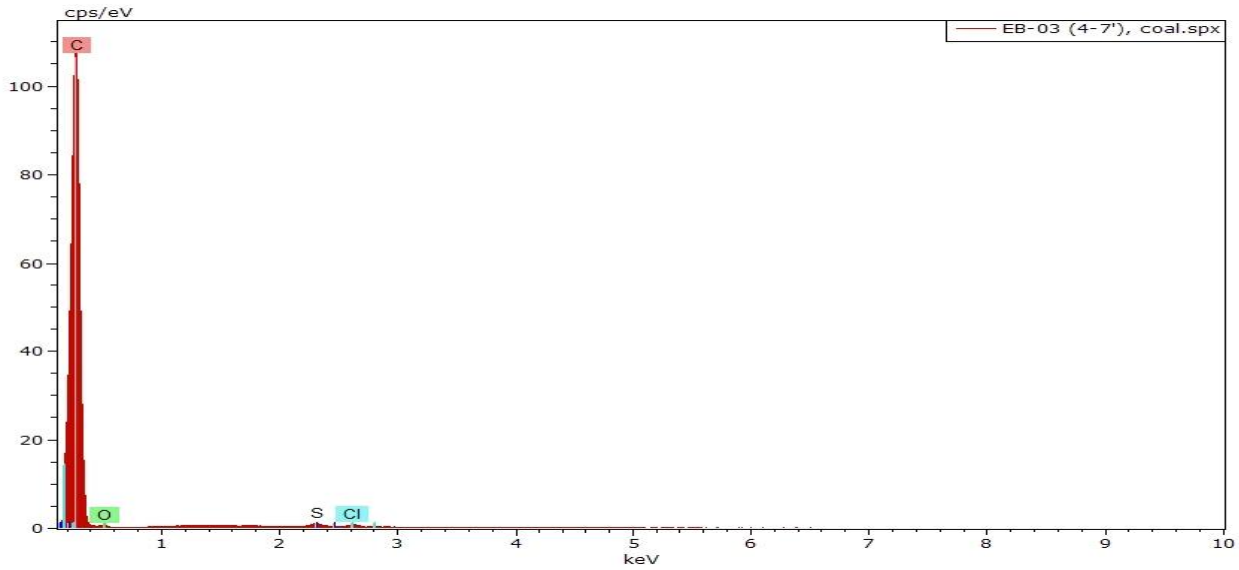


PLM Image



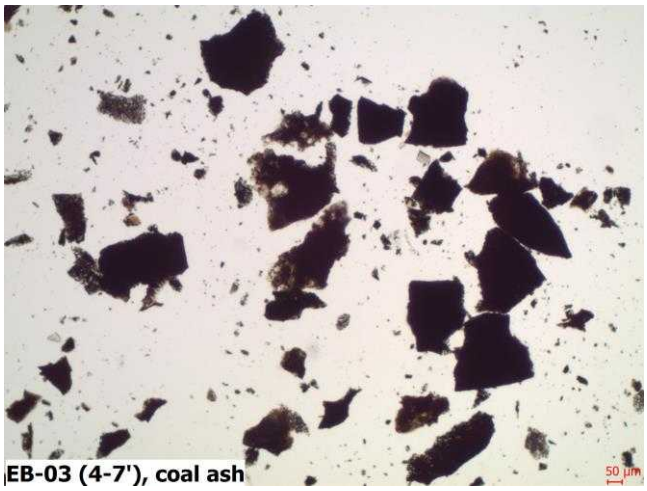
SEM Image

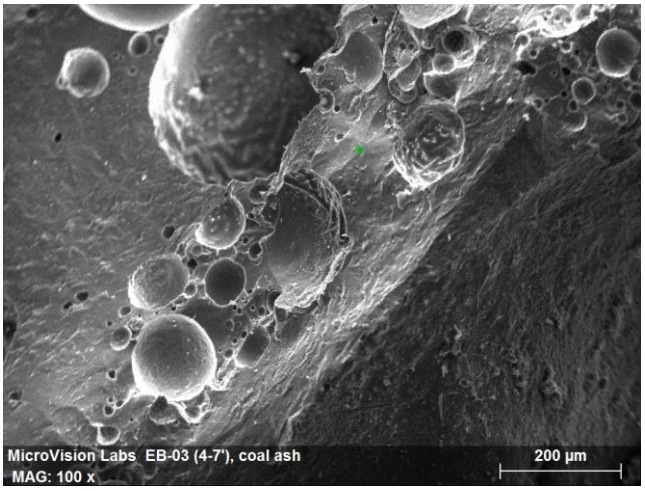
The EDS spectrum, shown below, confirms that this particle type is coal. The analysis for this particle shows concentrations of carbon, oxygen, sulfur, and chlorine.



MicroVision Laboratories, Inc. 187 Billerica Road, Chelmsford, MA 01824
Phone: (978) 250-9909 Fax: (978) 250-9901 Email: Sales@MicroVisionLabs.com
www.MicroVisionLabs.com

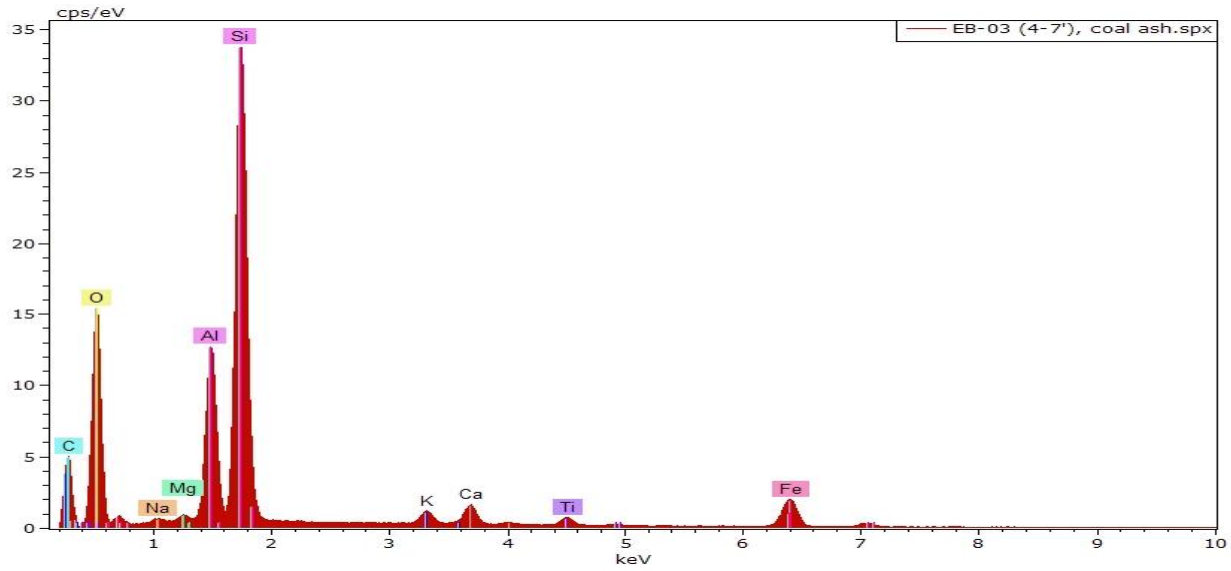
Coal Ash: This particle type consisted of three (3) dark, porous grains approximately 1-4mm in diameter. The PLM examination indicated this particle type to be consistent with coal ash. The PLM and SEM images show the spherical gas voids that formed during combustion.





PLM Image **SEM Image**

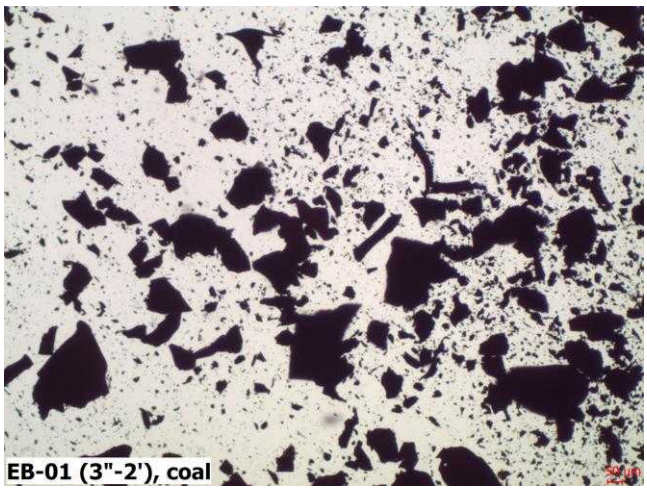
The EDS spectrum, shown below, indicates this particle type is coal ash. The analysis for this particle shows concentrations of carbon, oxygen, sodium, magnesium, aluminum, silicon, potassium, calcium, titanium, and iron.



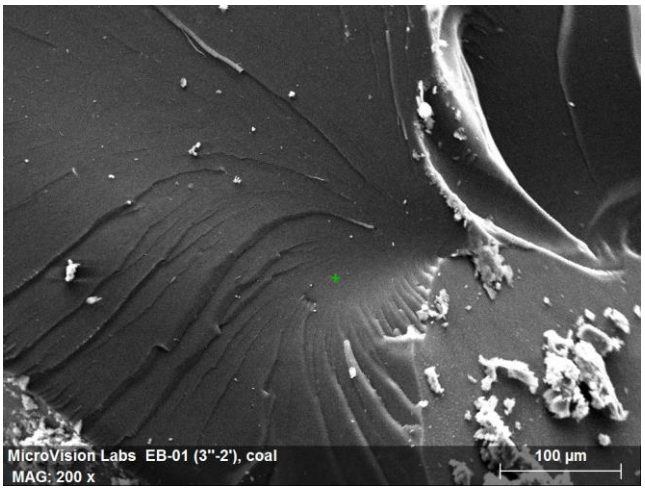
Sample: EB-01 (3”-2’)

Number of Suspect Particle Types: Three (3)

Coal: This particle type consisted of three (3) shiny, black grains approximately 3-4mm in diameter. The PLM examination indicated this particle type to be consistent with coal. The PLM and SEM images of this particle type show the angular edges and typical conchoidal fractures found in coal.

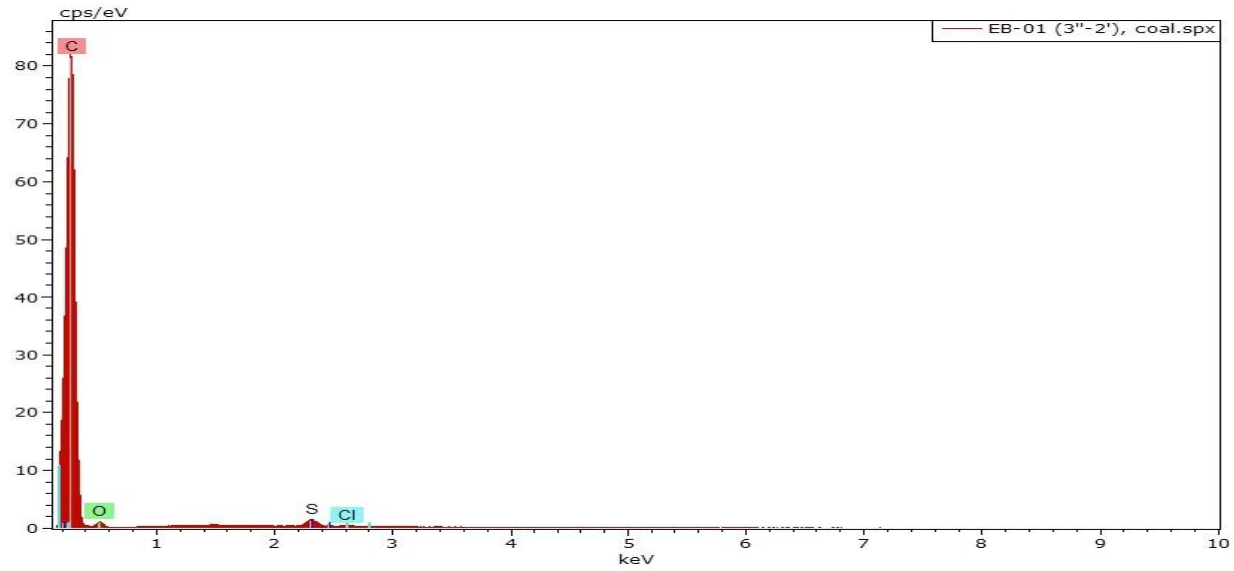


PLM Image



SEM Image

The EDS spectrum, shown below, confirms that this particle type is coal. The analysis for this particle shows concentrations of carbon, oxygen, sulfur, and chlorine.



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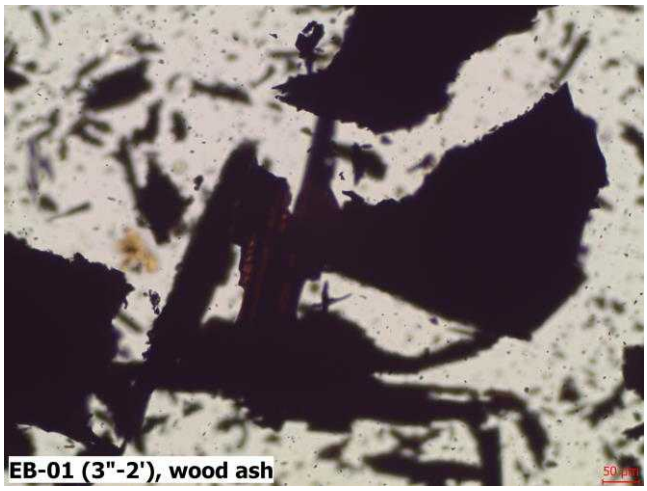
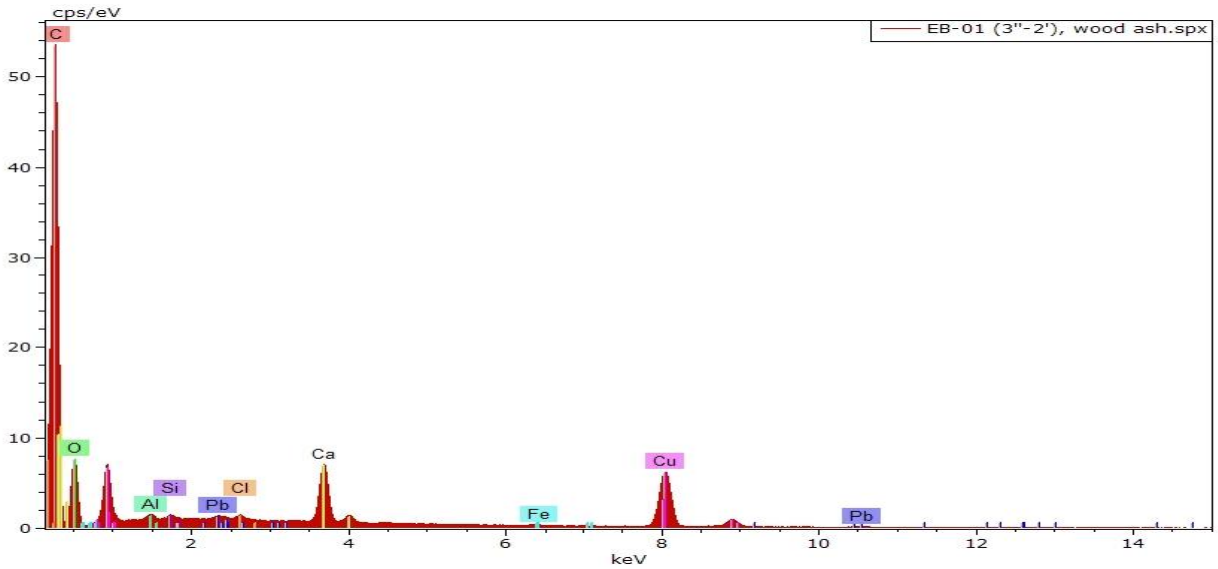
Phone: (978) 250-9909 Fax: (978) 250-9901 Email: Sales@MicroVisionLabs.com
www.MicroVisionLabs.com

Wood Ash: This particle type consisted of thirty (30) friable, black grains approximately 1-6mm in length. The PLM examination indicated this particle type to be consistent with wood ash. The PLM and SEM photos show the cellular structure typical of wood still present in these grains.

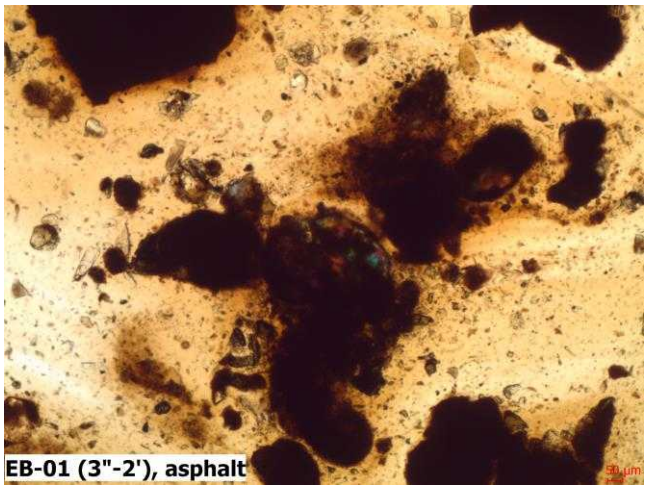


PLM Image **SEM Image**

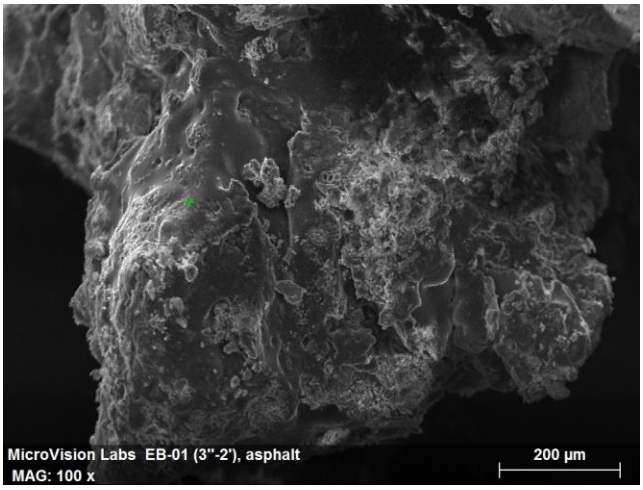
The EDS spectrum, shown below, indicates this particle type is wood ash. The analysis for this particle shows concentrations of carbon, oxygen, aluminum, silicon, chlorine, calcium, iron, copper, and lead.



Asphalt: This particle type consisted of five (5) ductile, black grains approximately 1mm-13mm in diameter. These grains had mineral matter embedded in and stuck to them. During the PLM examination, these particles slowly dissolved in the mounting oil which is a typical characteristic of asphalt. The PLM image shows the dissolving asphalt particles, and the SEM image illustrates the morphology of asphalt with the embedded mineral grains.

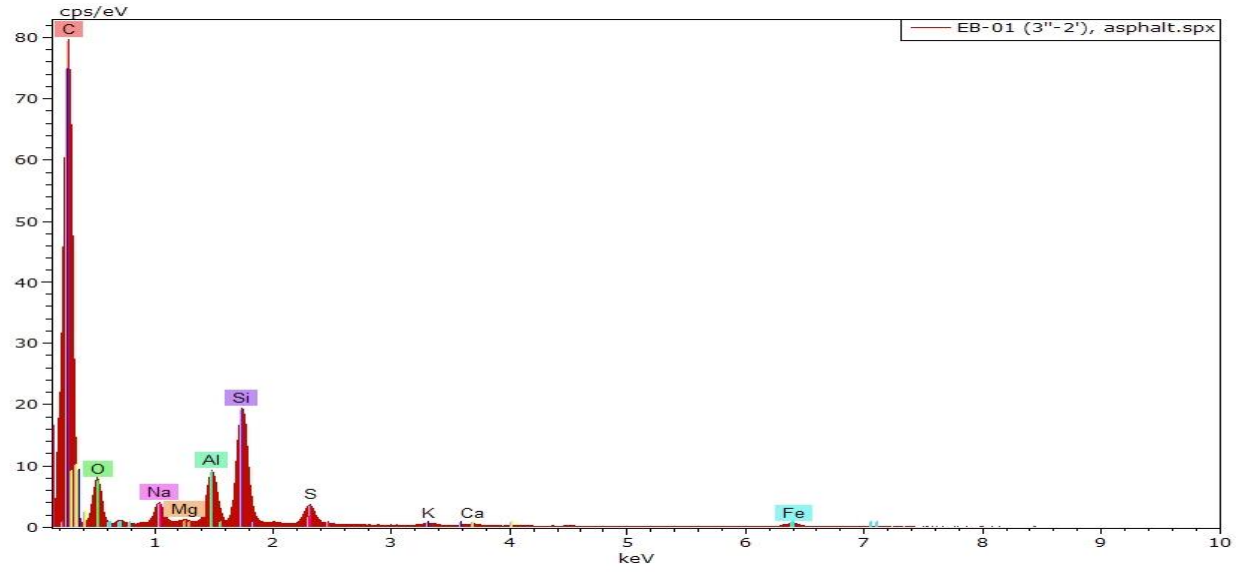


PLM Image



SEM Image

The EDS spectrum, shown below, indicates this particle type is asphalt. The analysis for this particle shows concentrations of carbon, oxygen, sodium, magnesium, aluminum, silicon, sulfur, potassium, calcium, and iron.



Results Summary Table:

Sample Name	Material Detected
EB-03 (4-7')	**Coal (heavy), Coal Ash (trace)**
EB-01 (3''-2')	**Coal (trace), Wood Ash (moderate), Asphalt (light)**

The concentrations of the particle types detected in this sample are listed in parenthesis in the table above and are based on the number of particles found and the relative difficultly in finding them. The concentration information is listed for informational purposes only and has no bearing on exemption status.

Please let us know if you have any questions about this analysis or if there is anything else we can do for you.

Sincerely,

Tyler Wozmak
Analytical Microscopist

MiCROVISION LABORATORIES, INC.

Chain Of Custody

MicroVision Labs Job#: 10671

Client Information

Client: EBI Consulting
Billing Address: 21 B St
Burlington, MA 01803
Phone: (845) 803-4347
Fax:
Email: DBELLUCCI@EBICONSULTING.com

Project Information

Project Name:
Project Location: 400 Ocean Ave, Revere, MA
Project Number: 1217000149
Project Manager:
PO#: [illegible]

Sample ID	Collected Date	Sampler's Initials	Coal Ash Test	Lead Paint	SEM/EDS	PLM/Light Microscopy	Soot ID	Dust ID	Unknow Mat'l ID	FTIR	Polished Cross Section	Particle Size Analysis	Wildfire	Other
1) EB-03 (4-7')	04/20/17	DB	X		X	X								
2) EB-01 (3"-2')	04/20/17	DB	X		X	X								
3)														
4)														
5)														
6)														
7)														
8)														
9)														
10)														
11)														
12)														

Relinquished By:	Date/Time	Received By:	Date/Time	Turn Around Time and Notes:
[illegible]	04/20/17 14:45	[illegible]	04/20/17	5-10day

Hazardous Contaminants: YES / NO If Yes, please list:

Analytical Report Requested: YES / NO

Daniel Bellucci

MicroVision Laboratories, Inc.
187 Billerica Road, Chelmsford, MA 01824
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microvisionlabs.com

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May 1, 2017

Dan Bellucci
EBI Consultants
21 B Street
Burlington, MA 01803

Project Location: 400 Ocean Ave., Revere, MA
Client Job Number:
Project Number: 1217000149
Laboratory Work Order Number: 17D1050

Enclosed are results of analyses for samples received by the laboratory on April 24, 2017. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

Table of Contents

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

EBI Consultants
21 B Street
Burlington, MA 01803
ATTN: Dan Bellucci

REPORT DATE: 5/1/2017

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1217000149

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 17D1050

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

PROJECT LOCATION: 400 Ocean Ave., Revere, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-3	17D1050-01	Ground Water		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SW-846 6020A-B	
				SW-846 7470A	
				SW-846 8260C	
MW-2	17D1050-02	Ground Water		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SW-846 6020A-B	
				SW-846 7470A	
				SW-846 8260C	
MW-1	17D1050-03	Ground Water		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SW-846 6020A-B	
				SW-846 7470A	
				SW-846 8260C	

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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 MA VPH, only hydrocarbon ranges were requested and reported.

MADEP-VPH-04-1.1

Qualifications:

RL-14

Elevated reporting limit due to foaming sample matrix. MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

17D1050-03[MW-1]

SW-846 6020A-B

Qualifications:

RL-04

Elevated reporting limit due to sample matrix interference. Requested reporting limit not met.

Analyte & Samples(s) Qualified:

Lead
17D1050-01[MW-3]

Thallium
17D1050-01[MW-3]

SW-846 8260C

Qualifications:

RL-07

Elevated reporting limit based on lowest point in calibration.
MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

Bromomethane
17D1050-01[MW-3], 17D1050-02[MW-2]

Carbon Disulfide
17D1050-01[MW-3], 17D1050-02[MW-2]

Methylene Chloride
17D1050-01[MW-3], 17D1050-02[MW-2]

Naphthalene
17D1050-01[MW-3], 17D1050-02[MW-2]

RL-14

Elevated reporting limit due to foaming sample matrix. MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

17D1050-03[MW-1]

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
17D1050-01[MW-3], 17D1050-02[MW-2], 17D1050-03[MW-1], B175613-BLK1, B175613-BS1, B175613-BSD1

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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.

MADEP-VPH-04-1.1

No significant modifications were made to the method. All VPH samples were received preserved properly at pH <2 in the proper containers as specified on the chain-of-custody form unless specified in this narrative.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

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.

Lisa A. Worthington
Project Manager

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-3 | Sampled: 4/24/2017 09:20

Sample ID: 17D1050-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Bromoform	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	4/28/17	4/28/17 22:56	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-3 | Sampled: 4/24/2017 09:20

Sample ID: 17D1050-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	4/28/17	4/28/17 22:56	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Naphthalene	ND	5.0	µg/L	1	RL-07	SW-846 8260C	4/28/17	4/28/17 22:56	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 22:56	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	96.0	70-130		4/28/17 22:56
Toluene-d8	98.1	70-130		4/28/17 22:56
4-Bromofluorobenzene	102	70-130		4/28/17 22:56

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-3 | Sampled: 4/24/2017 09:20

Sample ID: 17D1050-01

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	98	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
C19-C36 Aliphatics	ND	98	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Unadjusted C11-C22 Aromatics	ND	98	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
C11-C22 Aromatics	ND	98	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Acenaphthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Benzo(a)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Benzo(a)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Benzo(b)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Benzo(k)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Chrysene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Dibenz(a,h)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Fluorene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
2-Methylnaphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Naphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Phenanthrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG
Pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:16	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	73.4	40-140		4/28/17 10:16
o-Terphenyl (OTP)	88.0	40-140		4/28/17 10:16
2-Bromonaphthalene	86.9	40-140		4/28/17 10:16
2-Fluorobiphenyl	84.8	40-140		4/28/17 10:16

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-3 | Sampled: 4/24/2017 09:20

Sample ID: 17D1050-01

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:26	EEH
C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:26	EEH
Unadjusted C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:26	EEH
C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:26	EEH
C9-C10 Aromatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:26	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
2,5-Dibromotoluene (FID)	102	70-130		4/26/17	18:26
2,5-Dibromotoluene (PID)	99.2	70-130		4/26/17	18:26

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

Project Location: 400 Ocean Ave., Revere, MA
Sample Description:
Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-3
Sampled: 4/24/2017 09:20

Sample ID: 17D1050-01

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Arsenic	5.3	0.40	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Barium	38	10	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Beryllium	ND	0.40	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Chromium	1.0	1.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Lead	ND	5.0	µg/L	5	RL-04	SW-846 6020A-B	4/26/17	4/27/17 8:45	WSD
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	4/26/17	4/26/17 14:18	TJK
Nickel	ND	5.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Selenium	7.2	5.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Silver	ND	0.50	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Thallium	ND	1.0	µg/L	5	RL-04	SW-846 6020A-B	4/26/17	4/27/17 8:45	WSD
Vanadium	ND	5.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH
Zinc	13	10	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:10	MJH

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-2 | Sampled: 4/24/2017 10:25

Sample ID: 17D1050-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Bromoform	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	4/28/17	4/28/17 23:22	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-2 | Sampled: 4/24/2017 10:25

Sample ID: 17D1050-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	4/28/17	4/28/17 23:22	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Naphthalene	ND	5.0	µg/L	1	RL-07	SW-846 8260C	4/28/17	4/28/17 23:22	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	4/28/17	4/28/17 23:22	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	94.3	70-130		4/28/17 23:22
Toluene-d8	101	70-130		4/28/17 23:22
4-Bromofluorobenzene	102	70-130		4/28/17 23:22

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-2 | Sampled: 4/24/2017 10:25

Sample ID: 17D1050-02

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	98	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
C19-C36 Aliphatics	ND	98	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Unadjusted C11-C22 Aromatics	ND	98	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
C11-C22 Aromatics	ND	98	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Acenaphthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Benzo(a)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Benzo(a)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Benzo(b)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Benzo(k)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Chrysene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Dibenz(a,h)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Fluorene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
2-Methylnaphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Naphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Phenanthrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG
Pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:35	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	73.3	40-140		4/28/17 10:35
o-Terphenyl (OTP)	88.3	40-140		4/28/17 10:35
2-Bromonaphthalene	103	40-140		4/28/17 10:35
2-Fluorobiphenyl	97.0	40-140		4/28/17 10:35

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-2 | Sampled: 4/24/2017 10:25

Sample ID: 17D1050-02

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:56	EEH
C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:56	EEH
Unadjusted C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:56	EEH
C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:56	EEH
C9-C10 Aromatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	4/26/17	4/26/17 18:56	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	98.0	70-130		4/26/17 18:56
2,5-Dibromotoluene (PID)	97.3	70-130		4/26/17 18:56

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

Project Location: 400 Ocean Ave., Revere, MA
Sample Description:
Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-2
Sampled: 4/24/2017 10:25

Sample ID: 17D1050-02

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	7.5	1.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Arsenic	0.84	0.40	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Barium	25	10	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Beryllium	ND	0.40	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Cadmium	ND	0.50	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Chromium	1.1	1.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Lead	ND	1.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	4/26/17	4/26/17 14:20	TJK
Nickel	ND	5.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Selenium	ND	5.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Silver	ND	0.50	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Thallium	ND	0.20	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Vanadium	ND	5.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD
Zinc	ND	10	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:13	WSD

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-1 | Sampled: 4/24/2017 11:25

Sample ID: 17D1050-03

Sample Matrix: Ground Water

Sample Flags: RL-14

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	20	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
tert-Amyl Methyl Ether (TAME)	ND	1.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Benzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Bromobenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Bromochloromethane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Bromodichloromethane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Bromoform	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Bromomethane	ND	10	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
2-Butanone (MEK)	ND	20	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
n-Butylbenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
sec-Butylbenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
tert-Butylbenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	1.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Carbon Disulfide	ND	10	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Carbon Tetrachloride	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Chlorobenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Chlorodibromomethane	ND	1.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Chloroethane	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Chloroform	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Chloromethane	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
2-Chlorotoluene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
4-Chlorotoluene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Dibromomethane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,2-Dichlorobenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,3-Dichlorobenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,4-Dichlorobenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Dichlorodifluoromethane (Freon 12)	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,1-Dichloroethane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,2-Dichloroethane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,1-Dichloroethylene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
cis-1,2-Dichloroethylene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
trans-1,2-Dichloroethylene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,2-Dichloropropane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,3-Dichloropropane	ND	1.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
2,2-Dichloropropane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,1-Dichloropropene	ND	1.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
cis-1,3-Dichloropropene	ND	0.80	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
trans-1,3-Dichloropropene	ND	0.80	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Diethyl Ether	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Diisopropyl Ether (DIPE)	ND	1.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,4-Dioxane	ND	100	µg/L	2	V-16	SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Ethylbenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-1 | Sampled: 4/24/2017 11:25

Sample ID: 17D1050-03

Sample Matrix: Ground Water

Sample Flags: RL-14

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	1.2	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
2-Hexanone (MBK)	ND	20	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Isopropylbenzene (Cumene)	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
p-Isopropyltoluene (p-Cymene)	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Methyl tert-Butyl Ether (MTBE)	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Methylene Chloride	ND	10	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
4-Methyl-2-pentanone (MIBK)	ND	20	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Naphthalene	ND	10	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
n-Propylbenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Styrene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,1,1,2-Tetrachloroethane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Tetrachloroethylene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Tetrahydrofuran	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Toluene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,2,3-Trichlorobenzene	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,2,4-Trichlorobenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,1,1-Trichloroethane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,1,2-Trichloroethane	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Trichloroethylene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Trichlorofluoromethane (Freon 11)	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,2,3-Trichloropropane	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,2,4-Trimethylbenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
1,3,5-Trimethylbenzene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
Vinyl Chloride	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
m+p Xylene	ND	4.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH
o-Xylene	ND	2.0	µg/L	2		SW-846 8260C	4/28/17	4/29/17 2:30	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	95.3	70-130		4/29/17 2:30
Toluene-d8	98.6	70-130		4/29/17 2:30
4-Bromofluorobenzene	102	70-130		4/29/17 2:30

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-1 | Sampled: 4/24/2017 11:25

Sample ID: 17D1050-03

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	99	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
C19-C36 Aliphatics	ND	99	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Unadjusted C11-C22 Aromatics	ND	99	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
C11-C22 Aromatics	ND	99	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Acenaphthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Benzo(a)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Benzo(a)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Benzo(b)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Benzo(k)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Chrysene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Dibenz(a,h)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Fluorene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
2-Methylnaphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Naphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Phenanthrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG
Pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	4/27/17	4/28/17 10:54	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	66.9	40-140		4/28/17 10:54
o-Terphenyl (OTP)	90.1	40-140		4/28/17 10:54
2-Bromonaphthalene	101	40-140		4/28/17 10:54
2-Fluorobiphenyl	95.6	40-140		4/28/17 10:54

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

Project Location: 400 Ocean Ave., Revere, MA | Sample Description: | Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-1 | Sampled: 4/24/2017 11:25

Sample ID: 17D1050-03

Sample Matrix: Ground Water

Sample Flags: RL-14

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	200	µg/L	2		MADEP-VPH-04-1.1	4/26/17	4/27/17 2:45	EEH
C5-C8 Aliphatics	ND	200	µg/L	2		MADEP-VPH-04-1.1	4/26/17	4/27/17 2:45	EEH
Unadjusted C9-C12 Aliphatics	ND	200	µg/L	2		MADEP-VPH-04-1.1	4/26/17	4/27/17 2:45	EEH
C9-C12 Aliphatics	ND	200	µg/L	2		MADEP-VPH-04-1.1	4/26/17	4/27/17 2:45	EEH
C9-C10 Aromatics	ND	200	µg/L	2		MADEP-VPH-04-1.1	4/26/17	4/27/17 2:45	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
2,5-Dibromotoluene (FID)	103	70-130			4/27/17 2:45
2,5-Dibromotoluene (PID)	100	70-130			4/27/17 2:45

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Project Location: 400 Ocean Ave., Revere, MA
Sample Description:
Work Order: 17D1050

Date Received: 4/24/2017

Field Sample #: MW-1
Sampled: 4/24/2017 11:25

Sample ID: 17D1050-03

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Arsenic	6.4	0.40	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Barium	460	10	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Beryllium	ND	0.40	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Cadmium	ND	0.50	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Chromium	4.0	1.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Lead	1.6	1.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	4/26/17	4/26/17 14:21	TJK
Nickel	ND	5.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Selenium	ND	5.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Silver	ND	0.50	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Thallium	ND	0.20	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Vanadium	10	5.0	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD
Zinc	25	10	µg/L	1		SW-846 6020A-B	4/26/17	4/27/17 7:16	WSD

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Sample Extraction Data

Prep Method: SW-846 3510C-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17D1050-01 [MW-3]	B175480	970	1.90	04/27/17
17D1050-02 [MW-2]	B175480	970	1.90	04/27/17
17D1050-03 [MW-1]	B175480	960	1.90	04/27/17

Prep Method: MA VPH-MADEP-VPH-04-1.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17D1050-01 [MW-3]	B175367	5	5.00	04/26/17
17D1050-02 [MW-2]	B175367	5	5.00	04/26/17
17D1050-03 [MW-1]	B175367	2.5	5.00	04/26/17

Prep Method: SW-846 3005A Dissolved-SW-846 6020A-B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17D1050-01 [MW-3]	B175401	50.0	50.0	04/26/17
17D1050-02 [MW-2]	B175401	50.0	50.0	04/26/17
17D1050-03 [MW-1]	B175401	50.0	50.0	04/26/17

Prep Method: SW-846 7470A Prep-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17D1050-01 [MW-3]	B175377	6.00	6.00	04/26/17
17D1050-02 [MW-2]	B175377	6.00	6.00	04/26/17
17D1050-03 [MW-1]	B175377	6.00	6.00	04/26/17

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17D1050-01 [MW-3]	B175613	5	5.00	04/28/17
17D1050-02 [MW-2]	B175613	5	5.00	04/28/17
17D1050-03 [MW-1]	B175613	2.5	5.00	04/28/17

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175613 - SW-846 5030B										
Blank (B175613-BLK1)				Prepared & Analyzed: 04/28/17						
Acetone	ND	10	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	1.0	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	10	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	0.50	µg/L							
cis-1,3-Dichloropropene	ND	0.40	µg/L							
trans-1,3-Dichloropropene	ND	0.40	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							V-16
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B175613 - SW-846 5030B											
Blank (B175613-BLK1)				Prepared & Analyzed: 04/28/17							
n-Propylbenzene	ND	1.0	µg/L								
Styrene	ND	1.0	µg/L								
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L								
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L								
Tetrachloroethylene	ND	1.0	µg/L								
Tetrahydrofuran	ND	2.0	µg/L								
Toluene	ND	1.0	µg/L								
1,2,3-Trichlorobenzene	ND	2.0	µg/L								
1,2,4-Trichlorobenzene	ND	1.0	µg/L								
1,1,1-Trichloroethane	ND	1.0	µg/L								
1,1,2-Trichloroethane	ND	1.0	µg/L								
Trichloroethylene	ND	1.0	µg/L								
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L								
1,2,3-Trichloropropane	ND	2.0	µg/L								
1,2,4-Trimethylbenzene	ND	1.0	µg/L								
1,3,5-Trimethylbenzene	ND	1.0	µg/L								
Vinyl Chloride	ND	2.0	µg/L								
m+p Xylene	ND	2.0	µg/L								
o-Xylene	ND	1.0	µg/L								
Surrogate: 1,2-Dichloroethane-d4	*24.0*		µg/L	25.0		96.1	70-130				
Surrogate: Toluene-d8	*24.9*		µg/L	25.0		99.5	70-130				
Surrogate: 4-Bromofluorobenzene	*25.4*		µg/L	25.0		102	70-130				
LCS (B175613-BS1)				Prepared & Analyzed: 04/28/17							
Acetone	98.0	10	µg/L	100		98.0	40-160				†
tert-Amyl Methyl Ether (TAME)	9.56	0.50	µg/L	10.0		95.6	70-130				
Benzene	9.16	1.0	µg/L	10.0		91.6	70-130				
Bromobenzene	9.91	1.0	µg/L	10.0		99.1	70-130				
Bromochloromethane	9.40	1.0	µg/L	10.0		94.0	70-130				
Bromodichloromethane	9.17	1.0	µg/L	10.0		91.7	70-130				
Bromoform	10.3	1.0	µg/L	10.0		103	70-130				
Bromomethane	4.53	2.0	µg/L	10.0		45.3	40-160			L-14	†
2-Butanone (MEK)	87.8	10	µg/L	100		87.8	40-160				†
n-Butylbenzene	10.4	1.0	µg/L	10.0		104	70-130				
sec-Butylbenzene	9.80	1.0	µg/L	10.0		98.0	70-130				
tert-Butylbenzene	9.68	1.0	µg/L	10.0		96.8	70-130				
tert-Butyl Ethyl Ether (TBEE)	9.71	0.50	µg/L	10.0		97.1	70-130				
Carbon Disulfide	13.0	5.0	µg/L	10.0		130	70-130				
Carbon Tetrachloride	9.90	1.0	µg/L	10.0		99.0	70-130				
Chlorobenzene	9.84	1.0	µg/L	10.0		98.4	70-130				
Chlorodibromomethane	9.74	0.50	µg/L	10.0		97.4	70-130				
Chloroethane	8.62	2.0	µg/L	10.0		86.2	70-130				
Chloroform	9.57	2.0	µg/L	10.0		95.7	70-130				
Chloromethane	4.99	2.0	µg/L	10.0		49.9	40-160			L-14	†
2-Chlorotoluene	8.68	1.0	µg/L	10.0		86.8	70-130				
4-Chlorotoluene	9.81	1.0	µg/L	10.0		98.1	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	10.4	2.0	µg/L	10.0		104	70-130				
1,2-Dibromoethane (EDB)	9.79	0.50	µg/L	10.0		97.9	70-130				
Dibromomethane	9.87	1.0	µg/L	10.0		98.7	70-130				
1,2-Dichlorobenzene	9.66	1.0	µg/L	10.0		96.6	70-130				
1,3-Dichlorobenzene	9.63	1.0	µg/L	10.0		96.3	70-130				
1,4-Dichlorobenzene	9.05	1.0	µg/L	10.0		90.5	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B175613 - SW-846 5030B											
LCS (B175613-BS1)				Prepared & Analyzed: 04/28/17							
Dichlorodifluoromethane (Freon 12)	5.06	2.0	µg/L	10.0		50.6	40-160			L-14	†
1,1-Dichloroethane	9.91	1.0	µg/L	10.0		99.1	70-130				
1,2-Dichloroethane	8.88	1.0	µg/L	10.0		88.8	70-130				
1,1-Dichloroethylene	8.76	1.0	µg/L	10.0		87.6	70-130				
cis-1,2-Dichloroethylene	9.09	1.0	µg/L	10.0		90.9	70-130				
trans-1,2-Dichloroethylene	9.08	1.0	µg/L	10.0		90.8	70-130				
1,2-Dichloropropane	8.77	1.0	µg/L	10.0		87.7	70-130				
1,3-Dichloropropane	8.88	0.50	µg/L	10.0		88.8	70-130				
2,2-Dichloropropane	9.51	1.0	µg/L	10.0		95.1	70-130				
1,1-Dichloropropene	9.11	0.50	µg/L	10.0		91.1	70-130				
cis-1,3-Dichloropropene	8.89	0.40	µg/L	10.0		88.9	70-130				
trans-1,3-Dichloropropene	10.2	0.40	µg/L	10.0		102	70-130				
Diethyl Ether	8.90	2.0	µg/L	10.0		89.0	70-130				
Diisopropyl Ether (DIPE)	8.87	0.50	µg/L	10.0		88.7	70-130				
1,4-Dioxane	125	50	µg/L	100		125	40-160			V-16	†
Ethylbenzene	10.0	1.0	µg/L	10.0		100	70-130				
Hexachlorobutadiene	11.4	0.60	µg/L	10.0		114	70-130				
2-Hexanone (MBK)	91.6	10	µg/L	100		91.6	40-160				†
Isopropylbenzene (Cumene)	10.6	1.0	µg/L	10.0		106	70-130				
p-Isopropyltoluene (p-Cymene)	9.72	1.0	µg/L	10.0		97.2	70-130				
Methyl tert-Butyl Ether (MTBE)	9.78	1.0	µg/L	10.0		97.8	70-130				
Methylene Chloride	9.49	5.0	µg/L	10.0		94.9	70-130				
4-Methyl-2-pentanone (MIBK)	92.5	10	µg/L	100		92.5	40-160				†
Naphthalene	9.61	2.0	µg/L	10.0		96.1	70-130				
n-Propylbenzene	10.4	1.0	µg/L	10.0		104	70-130				
Styrene	9.91	1.0	µg/L	10.0		99.1	70-130				
1,1,1,2-Tetrachloroethane	10.0	1.0	µg/L	10.0		100	70-130				
1,1,2,2-Tetrachloroethane	10.2	0.50	µg/L	10.0		102	70-130				
Tetrachloroethylene	10.2	1.0	µg/L	10.0		102	70-130				
Tetrahydrofuran	9.52	2.0	µg/L	10.0		95.2	70-130				
Toluene	9.62	1.0	µg/L	10.0		96.2	70-130				
1,2,3-Trichlorobenzene	10.6	2.0	µg/L	10.0		106	70-130				
1,2,4-Trichlorobenzene	9.86	1.0	µg/L	10.0		98.6	70-130				
1,1,1-Trichloroethane	9.84	1.0	µg/L	10.0		98.4	70-130				
1,1,2-Trichloroethane	9.68	1.0	µg/L	10.0		96.8	70-130				
Trichloroethylene	9.96	1.0	µg/L	10.0		99.6	70-130				
Trichlorofluoromethane (Freon 11)	8.15	2.0	µg/L	10.0		81.5	70-130				
1,2,3-Trichloropropane	9.82	2.0	µg/L	10.0		98.2	70-130				
1,2,4-Trimethylbenzene	9.15	1.0	µg/L	10.0		91.5	70-130				
1,3,5-Trimethylbenzene	10.1	1.0	µg/L	10.0		101	70-130				
Vinyl Chloride	7.69	2.0	µg/L	10.0		76.9	70-130				
m+p Xylene	19.7	2.0	µg/L	20.0		98.3	70-130				
o-Xylene	10.0	1.0	µg/L	10.0		100	70-130				
Surrogate: 1,2-Dichloroethane-d4	*24.4*		µg/L	25.0		97.4	70-130				
Surrogate: Toluene-d8	*25.1*		µg/L	25.0		100	70-130				
Surrogate: 4-Bromofluorobenzene	*26.2*		µg/L	25.0		105	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B175613 - SW-846 5030B											
LCS Dup (B175613-BSD1)				Prepared & Analyzed: 04/28/17							
Acetone	94.9	10	µg/L	100		94.9	40-160	3.27	20		†
tert-Amyl Methyl Ether (TAME)	9.40	0.50	µg/L	10.0		94.0	70-130	1.69	20		
Benzene	9.09	1.0	µg/L	10.0		90.9	70-130	0.767	20		
Bromobenzene	9.28	1.0	µg/L	10.0		92.8	70-130	6.57	20		
Bromochloromethane	9.17	1.0	µg/L	10.0		91.7	70-130	2.48	20		
Bromodichloromethane	9.23	1.0	µg/L	10.0		92.3	70-130	0.652	20		
Bromoform	9.16	1.0	µg/L	10.0		91.6	70-130	11.4	20		
Bromomethane	5.42	2.0	µg/L	10.0		54.2	40-160	17.9	20	L-14	†
2-Butanone (MEK)	84.6	10	µg/L	100		84.6	40-160	3.71	20		†
n-Butylbenzene	10.1	1.0	µg/L	10.0		101	70-130	2.34	20		
sec-Butylbenzene	9.56	1.0	µg/L	10.0		95.6	70-130	2.48	20		
tert-Butylbenzene	9.31	1.0	µg/L	10.0		93.1	70-130	3.90	20		
tert-Butyl Ethyl Ether (TBEE)	9.52	0.50	µg/L	10.0		95.2	70-130	1.98	20		
Carbon Disulfide	12.6	5.0	µg/L	10.0		126	70-130	3.44	20		
Carbon Tetrachloride	9.98	1.0	µg/L	10.0		99.8	70-130	0.805	20		
Chlorobenzene	9.30	1.0	µg/L	10.0		93.0	70-130	5.64	20		
Chlorodibromomethane	9.68	0.50	µg/L	10.0		96.8	70-130	0.618	20		
Chloroethane	8.28	2.0	µg/L	10.0		82.8	70-130	4.02	20		
Chloroform	9.44	2.0	µg/L	10.0		94.4	70-130	1.37	20		
Chloromethane	5.15	2.0	µg/L	10.0		51.5	40-160	3.16	20	L-14	†
2-Chlorotoluene	8.19	1.0	µg/L	10.0		81.9	70-130	5.81	20		
4-Chlorotoluene	9.13	1.0	µg/L	10.0		91.3	70-130	7.18	20		
1,2-Dibromo-3-chloropropane (DBCP)	10.5	2.0	µg/L	10.0		105	70-130	1.44	20		
1,2-Dibromoethane (EDB)	9.42	0.50	µg/L	10.0		94.2	70-130	3.85	20		
Dibromomethane	9.54	1.0	µg/L	10.0		95.4	70-130	3.40	20		
1,2-Dichlorobenzene	9.50	1.0	µg/L	10.0		95.0	70-130	1.67	20		
1,3-Dichlorobenzene	9.41	1.0	µg/L	10.0		94.1	70-130	2.31	20		
1,4-Dichlorobenzene	8.70	1.0	µg/L	10.0		87.0	70-130	3.94	20		
Dichlorodifluoromethane (Freon 12)	4.82	2.0	µg/L	10.0		48.2	40-160	4.86	20	L-14	†
1,1-Dichloroethane	9.76	1.0	µg/L	10.0		97.6	70-130	1.53	20		
1,2-Dichloroethane	8.71	1.0	µg/L	10.0		87.1	70-130	1.93	20		
1,1-Dichloroethylene	8.52	1.0	µg/L	10.0		85.2	70-130	2.78	20		
cis-1,2-Dichloroethylene	9.12	1.0	µg/L	10.0		91.2	70-130	0.329	20		
trans-1,2-Dichloroethylene	8.96	1.0	µg/L	10.0		89.6	70-130	1.33	20		
1,2-Dichloropropane	8.61	1.0	µg/L	10.0		86.1	70-130	1.84	20		
1,3-Dichloropropane	8.51	0.50	µg/L	10.0		85.1	70-130	4.26	20		
2,2-Dichloropropane	9.37	1.0	µg/L	10.0		93.7	70-130	1.48	20		
1,1-Dichloropropene	9.10	0.50	µg/L	10.0		91.0	70-130	0.110	20		
cis-1,3-Dichloropropene	8.63	0.40	µg/L	10.0		86.3	70-130	2.97	20		
trans-1,3-Dichloropropene	10.1	0.40	µg/L	10.0		101	70-130	1.08	20		
Diethyl Ether	8.87	2.0	µg/L	10.0		88.7	70-130	0.338	20		
Diisopropyl Ether (DIPE)	8.66	0.50	µg/L	10.0		86.6	70-130	2.40	20		
1,4-Dioxane	112	50	µg/L	100		112	40-160	11.4	20	V-16	†
Ethylbenzene	9.41	1.0	µg/L	10.0		94.1	70-130	6.08	20		
Hexachlorobutadiene	10.9	0.60	µg/L	10.0		109	70-130	4.74	20		
2-Hexanone (MBK)	88.1	10	µg/L	100		88.1	40-160	3.87	20		†
Isopropylbenzene (Cumene)	9.91	1.0	µg/L	10.0		99.1	70-130	6.45	20		
p-Isopropyltoluene (p-Cymene)	9.43	1.0	µg/L	10.0		94.3	70-130	3.03	20		
Methyl tert-Butyl Ether (MTBE)	9.55	1.0	µg/L	10.0		95.5	70-130	2.38	20		
Methylene Chloride	9.35	5.0	µg/L	10.0		93.5	70-130	1.49	20		
4-Methyl-2-pentanone (MIBK)	88.2	10	µg/L	100		88.2	40-160	4.69	20		†
Naphthalene	9.37	2.0	µg/L	10.0		93.7	70-130	2.53	20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175613 - SW-846 5030B										
LCS Dup (B175613-BSD1)				Prepared & Analyzed: 04/28/17						
n-Propylbenzene	9.68	1.0	µg/L	10.0		96.8	70-130	7.08	20	
Styrene	9.24	1.0	µg/L	10.0		92.4	70-130	7.00	20	
1,1,1,2-Tetrachloroethane	9.44	1.0	µg/L	10.0		94.4	70-130	6.16	20	
1,1,2,2-Tetrachloroethane	9.57	0.50	µg/L	10.0		95.7	70-130	6.76	20	
Tetrachloroethylene	10.1	1.0	µg/L	10.0		101	70-130	1.08	20	
Tetrahydrofuran	9.37	2.0	µg/L	10.0		93.7	70-130	1.59	20	
Toluene	9.24	1.0	µg/L	10.0		92.4	70-130	4.03	20	
1,2,3-Trichlorobenzene	10.6	2.0	µg/L	10.0		106	70-130	0.378	20	
1,2,4-Trichlorobenzene	9.46	1.0	µg/L	10.0		94.6	70-130	4.14	20	
1,1,1-Trichloroethane	9.55	1.0	µg/L	10.0		95.5	70-130	2.99	20	
1,1,2-Trichloroethane	9.19	1.0	µg/L	10.0		91.9	70-130	5.19	20	
Trichloroethylene	9.64	1.0	µg/L	10.0		96.4	70-130	3.27	20	
Trichlorofluoromethane (Freon 11)	8.22	2.0	µg/L	10.0		82.2	70-130	0.855	20	
1,2,3-Trichloropropane	9.07	2.0	µg/L	10.0		90.7	70-130	7.94	20	
1,2,4-Trimethylbenzene	8.94	1.0	µg/L	10.0		89.4	70-130	2.32	20	
1,3,5-Trimethylbenzene	9.48	1.0	µg/L	10.0		94.8	70-130	6.23	20	
Vinyl Chloride	7.69	2.0	µg/L	10.0		76.9	70-130	0.00	20	
m+p Xylene	18.6	2.0	µg/L	20.0		92.8	70-130	5.70	20	
o-Xylene	9.32	1.0	µg/L	10.0		93.2	70-130	7.24	20	
Surrogate: 1,2-Dichloroethane-d4	*24.3*		µg/L	25.0		97.1	70-130			
Surrogate: Toluene-d8	*24.6*		µg/L	25.0		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	*25.3*		µg/L	25.0		101	70-130			

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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 B175480 - SW-846 3510C										
Blank (B175480-BLK1)				Prepared: 04/27/17 Analyzed: 04/28/17						
C9-C18 Aliphatics	ND	100	µg/L							
C19-C36 Aliphatics	ND	100	µg/L							
Unadjusted C11-C22 Aromatics	ND	100	µg/L							
C11-C22 Aromatics	ND	100	µg/L							
Acenaphthene	ND	2.0	µg/L							
Acenaphthylene	ND	2.0	µg/L							
Anthracene	ND	2.0	µg/L							
Benzo(a)anthracene	ND	2.0	µg/L							
Benzo(a)pyrene	ND	2.0	µg/L							
Benzo(b)fluoranthene	ND	2.0	µg/L							
Benzo(g,h,i)perylene	ND	2.0	µg/L							
Benzo(k)fluoranthene	ND	2.0	µg/L							
Chrysene	ND	2.0	µg/L							
Dibenz(a,h)anthracene	ND	2.0	µg/L							
Fluoranthene	ND	2.0	µg/L							
Fluorene	ND	2.0	µg/L							
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L							
2-Methylnaphthalene	ND	2.0	µg/L							
Naphthalene	ND	2.0	µg/L							
Phenanthrene	ND	2.0	µg/L							
Pyrene	ND	2.0	µg/L							
n-Decane	ND	2.0	µg/L							
n-Docosane	ND	2.0	µg/L							
n-Dodecane	ND	2.0	µg/L							
n-Eicosane	ND	2.0	µg/L							
n-Hexacosane	ND	2.0	µg/L							
n-Hexadecane	ND	2.0	µg/L							
n-Hexatriacontane	ND	2.0	µg/L							
n-Nonadecane	ND	2.0	µg/L							
n-Nonane	ND	2.0	µg/L							
n-Octacosane	ND	2.0	µg/L							
n-Octadecane	ND	2.0	µg/L							
n-Tetracosane	ND	2.0	µg/L							
n-Tetradecane	ND	2.0	µg/L							
n-Triacontane	ND	2.0	µg/L							
Naphthalene-aliphatic fraction	ND	2.0	µg/L							
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L							
Surrogate: Chlorooctadecane (COD)	*69.4*		µg/L	100		69.4	40-140			
Surrogate: o-Terphenyl (OTP)	*93.4*		µg/L	100		93.4	40-140			
Surrogate: 2-Bromonaphthalene	*90.6*		µg/L	100		90.6	40-140			
Surrogate: 2-Fluorobiphenyl	*91.2*		µg/L	100		91.2	40-140			
LCS (B175480-BS1)				Prepared: 04/27/17 Analyzed: 04/28/17						
C9-C18 Aliphatics	485	100	µg/L	600		80.8	0-200			
C19-C36 Aliphatics	829	100	µg/L	800		104	0-200			
Acenaphthene	90.7	2.0	µg/L	100		90.7	40-140			
Acenaphthylene	87.4	2.0	µg/L	100		87.4	40-140			
Anthracene	97.8	2.0	µg/L	100		97.8	40-140			
Benzo(a)anthracene	106	2.0	µg/L	100		106	40-140			
Benzo(a)pyrene	102	2.0	µg/L	100		102	40-140			
Benzo(b)fluoranthene	106	2.0	µg/L	100		106	40-140			
Benzo(g,h,i)perylene	104	2.0	µg/L	100		104	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 B175480 - SW-846 3510C										
LCS (B175480-BS1)				Prepared: 04/27/17 Analyzed: 04/28/17						
Benzo(k)fluoranthene	97.7	2.0	µg/L	100		97.7	40-140			
Chrysene	101	2.0	µg/L	100		101	40-140			
Dibenz(a,h)anthracene	107	2.0	µg/L	100		107	40-140			
Fluoranthene	104	2.0	µg/L	100		104	40-140			
Fluorene	95.3	2.0	µg/L	100		95.3	40-140			
Indeno(1,2,3-cd)pyrene	108	2.0	µg/L	100		108	40-140			
2-Methylnaphthalene	85.2	2.0	µg/L	100		85.2	40-140			
Naphthalene	72.9	2.0	µg/L	100		72.9	40-140			
Phenanthrene	101	2.0	µg/L	100		101	40-140			
Pyrene	106	2.0	µg/L	100		106	40-140			
n-Decane	54.4	2.0	µg/L	100		54.4	40-140			
n-Docosane	83.7	2.0	µg/L	100		83.7	40-140			
n-Dodecane	63.3	2.0	µg/L	100		63.3	40-140			
n-Eicosane	84.2	2.0	µg/L	100		84.2	40-140			
n-Hexacosane	86.1	2.0	µg/L	100		86.1	40-140			
n-Hexadecane	80.1	2.0	µg/L	100		80.1	40-140			
n-Hexatriacontane	98.3	2.0	µg/L	100		98.3	40-140			
n-Nonadecane	82.3	2.0	µg/L	100		82.3	40-140			
n-Nonane	43.4	2.0	µg/L	100		43.4	30-140			
n-Octacosane	86.6	2.0	µg/L	100		86.6	40-140			
n-Octadecane	85.2	2.0	µg/L	100		85.2	40-140			
n-Tetracosane	85.4	2.0	µg/L	100		85.4	40-140			
n-Tetradecane	73.3	2.0	µg/L	100		73.3	40-140			
n-Triacontane	89.9	2.0	µg/L	100		89.9	40-140			
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
Surrogate: Chlorooctadecane (COD)	*78.5*		µg/L	100		78.5	40-140			
Surrogate: o-Terphenyl (OTP)	*97.3*		µg/L	100		97.3	40-140			
Surrogate: 2-Bromonaphthalene	*111*		µg/L	100		111	40-140			
Surrogate: 2-Fluorobiphenyl	*106*		µg/L	100		106	40-140			
LCS Dup (B175480-BSD1)				Prepared: 04/27/17 Analyzed: 04/28/17						
C9-C18 Aliphatics	498	100	µg/L	600		83.1	0-200	2.73		
C19-C36 Aliphatics	825	100	µg/L	800		103	0-200	0.432		
Acenaphthene	92.5	2.0	µg/L	100		92.5	40-140	1.93	25	
Acenaphthylene	89.6	2.0	µg/L	100		89.6	40-140	2.48	25	
Anthracene	97.0	2.0	µg/L	100		97.0	40-140	0.797	25	
Benzo(a)anthracene	105	2.0	µg/L	100		105	40-140	1.35	25	
Benzo(a)pyrene	101	2.0	µg/L	100		101	40-140	0.942	25	
Benzo(b)fluoranthene	105	2.0	µg/L	100		105	40-140	1.43	25	
Benzo(g,h,i)perylene	103	2.0	µg/L	100		103	40-140	1.40	25	
Benzo(k)fluoranthene	96.4	2.0	µg/L	100		96.4	40-140	1.37	25	
Chrysene	99.5	2.0	µg/L	100		99.5	40-140	1.30	25	
Dibenz(a,h)anthracene	106	2.0	µg/L	100		106	40-140	1.00	25	
Fluoranthene	103	2.0	µg/L	100		103	40-140	1.23	25	
Fluorene	96.0	2.0	µg/L	100		96.0	40-140	0.634	25	
Indeno(1,2,3-cd)pyrene	107	2.0	µg/L	100		107	40-140	0.697	25	
2-Methylnaphthalene	88.4	2.0	µg/L	100		88.4	40-140	3.69	25	
Naphthalene	75.7	2.0	µg/L	100		75.7	40-140	3.71	25	
Phenanthrene	101	2.0	µg/L	100		101	40-140	0.770	25	
Pyrene	104	2.0	µg/L	100		104	40-140	1.26	25	
n-Decane	58.3	2.0	µg/L	100		58.3	40-140	6.84	25	

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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 B175480 - SW-846 3510C										
LCS Dup (B175480-BSD1)				Prepared: 04/27/17 Analyzed: 04/28/17						
n-Docosane	84.8	2.0	µg/L	100		84.8	40-140	1.30	25	
n-Dodecane	68.4	2.0	µg/L	100		68.4	40-140	7.67	25	
n-Eicosane	85.5	2.0	µg/L	100		85.5	40-140	1.55	25	
n-Hexacosane	86.8	2.0	µg/L	100		86.8	40-140	0.812	25	
n-Hexadecane	81.8	2.0	µg/L	100		81.8	40-140	2.05	25	
n-Hexatriacontane	98.5	2.0	µg/L	100		98.5	40-140	0.185	25	
n-Nonadecane	83.2	2.0	µg/L	100		83.2	40-140	0.981	25	
n-Nonane	46.7	2.0	µg/L	100		46.7	30-140	7.24	25	
n-Octacosane	87.2	2.0	µg/L	100		87.2	40-140	0.663	25	
n-Octadecane	86.5	2.0	µg/L	100		86.5	40-140	1.52	25	
n-Tetracosane	86.3	2.0	µg/L	100		86.3	40-140	1.04	25	
n-Tetradecane	76.9	2.0	µg/L	100		76.9	40-140	4.81	25	
n-Triacontane	90.5	2.0	µg/L	100		90.5	40-140	0.678	25	
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
Surrogate: Chlorooctadecane (COD)	*77.7*		µg/L	100		77.7	40-140			
Surrogate: o-Terphenyl (OTP)	*94.4*		µg/L	100		94.4	40-140			
Surrogate: 2-Bromonaphthalene	*106*		µg/L	100		106	40-140			
Surrogate: 2-Fluorobiphenyl	*104*		µg/L	100		104	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175367 - MA VPH										
Blank (B175367-BLK1)				Prepared & Analyzed: 04/26/17						
Unadjusted C5-C8 Aliphatics	ND	100	µg/L							
C5-C8 Aliphatics	ND	100	µg/L							
Unadjusted C9-C12 Aliphatics	ND	100	µg/L							
C9-C12 Aliphatics	ND	100	µg/L							
C9-C10 Aromatics	ND	100	µg/L							
Benzene	ND	1.0	µg/L							
Butylcyclohexane	ND	1.0	µg/L							
Decane	ND	1.0	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
2-Methylpentane	ND	1.0	µg/L							
Naphthalene	ND	5.0	µg/L							
Nonane	ND	1.0	µg/L							
Pentane	ND	1.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
2,2,4-Trimethylpentane	ND	1.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 2,5-Dibromotoluene (FID)	*45.5*		µg/L	40.0		114	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*44.6*		µg/L	40.0		112	70-130			
LCS (B175367-BS1)				Prepared & Analyzed: 04/26/17						
Benzene	85.4	1.0	µg/L	100		85.4	70-130			
Butylcyclohexane	75.9	1.0	µg/L	100		75.9	70-130			
Decane	79.2	1.0	µg/L	100		79.2	70-130			
Ethylbenzene	84.0	1.0	µg/L	100		84.0	70-130			
Methyl tert-Butyl Ether (MTBE)	84.8	1.0	µg/L	100		84.8	70-130			
2-Methylpentane	94.5	1.0	µg/L	100		94.5	70-130			
Naphthalene	89.3	5.0	µg/L	100		89.3	70-130			
Nonane	74.8	1.0	µg/L	100		74.8	70-130			
Pentane	98.6	1.0	µg/L	100		98.6	70-130			
Toluene	84.9	1.0	µg/L	100		84.9	70-130			
1,2,4-Trimethylbenzene	81.2	1.0	µg/L	100		81.2	70-130			
2,2,4-Trimethylpentane	76.8	1.0	µg/L	100		76.8	70-130			
m+p Xylene	167	2.0	µg/L	200		83.5	70-130			
o-Xylene	83.9	1.0	µg/L	100		83.9	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*40.5*		µg/L	40.0		101	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*39.6*		µg/L	40.0		99.1	70-130			
LCS Dup (B175367-BSD1)				Prepared & Analyzed: 04/26/17						
Benzene	83.7	1.0	µg/L	100		83.7	70-130	2.09	25	
Butylcyclohexane	74.1	1.0	µg/L	100		74.1	70-130	2.49	25	
Decane	78.2	1.0	µg/L	100		78.2	70-130	1.27	25	
Ethylbenzene	82.2	1.0	µg/L	100		82.2	70-130	2.18	25	
Methyl tert-Butyl Ether (MTBE)	84.0	1.0	µg/L	100		84.0	70-130	0.983	25	
2-Methylpentane	90.7	1.0	µg/L	100		90.7	70-130	4.04	25	
Naphthalene	89.7	5.0	µg/L	100		89.7	70-130	0.480	25	
Nonane	73.4	1.0	µg/L	100		73.4	70-130	1.99	25	
Pentane	93.4	1.0	µg/L	100		93.4	70-130	5.42	25	
Toluene	83.0	1.0	µg/L	100		83.0	70-130	2.27	25	
1,2,4-Trimethylbenzene	79.6	1.0	µg/L	100		79.6	70-130	1.90	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175367 - MA VPH										
LCS Dup (B175367-BSD1)				Prepared & Analyzed: 04/26/17						
2,2,4-Trimethylpentane	73.2	1.0	µg/L	100		73.2	70-130	4.87	25	
m+p Xylene	164	2.0	µg/L	200		81.8	70-130	2.12	25	
o-Xylene	82.4	1.0	µg/L	100		82.4	70-130	1.81	25	
Surrogate: 2,5-Dibromotoluene (FID)	*39.8*		µg/L	40.0		99.5	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*39.2*		µg/L	40.0		98.0	70-130			

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175377 - SW-846 7470A Prep										
Blank (B175377-BLK1)				Prepared & Analyzed: 04/26/17						
Mercury	ND	0.00010	mg/L							
LCS (B175377-BS1)				Prepared & Analyzed: 04/26/17						
Mercury	0.00201	0.00010	mg/L	0.00200		101	80-120			
LCS Dup (B175377-BSD1)				Prepared & Analyzed: 04/26/17						
Mercury	0.00192	0.00010	mg/L	0.00200		95.8	80-120	4.93	20	
Duplicate (B175377-DUP1)		**Source: 17D1050-01**		Prepared & Analyzed: 04/26/17						
Mercury	ND	0.00010	mg/L		ND			NC	20	
Matrix Spike (B175377-MS1)		**Source: 17D1050-01**		Prepared & Analyzed: 04/26/17						
Mercury	0.00195	0.00010	mg/L	0.00200	ND	97.5	75-125			
Batch B175401 - SW-846 3005A Dissolved										
Blank (B175401-BLK1)				Prepared: 04/26/17 Analyzed: 04/27/17						
Antimony	ND	1.0	µg/L							
Arsenic	ND	0.40	µg/L							
Barium	ND	10	µg/L							
Beryllium	ND	0.40	µg/L							
Cadmium	ND	0.50	µg/L							
Chromium	ND	1.0	µg/L							
Lead	ND	1.0	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.50	µg/L							
Thallium	ND	0.20	µg/L							
Vanadium	ND	5.0	µg/L							
Zinc	ND	10	µg/L							
LCS (B175401-BS1)				Prepared: 04/26/17 Analyzed: 04/27/17						
Antimony	236	5.0	µg/L	250		94.3	80-120			
Arsenic	288	2.0	µg/L	250		115	80-120			
Barium	274	50	µg/L	250		110	80-120			
Beryllium	293	2.0	µg/L	250		117	80-120			
Cadmium	285	2.5	µg/L	250		114	80-120			
Chromium	270	5.0	µg/L	250		108	80-120			
Lead	286	5.0	µg/L	250		114	80-120			
Nickel	275	25	µg/L	250		110	80-120			
Selenium	297	25	µg/L	250		119	80-120			
Silver	273	2.5	µg/L	250		109	80-120			
Thallium	271	1.0	µg/L	250		109	80-120			
Vanadium	271	25	µg/L	250		109	80-120			
Zinc	298	50	µg/L	250		119	80-120			

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175401 - SW-846 3005A Dissolved										
LCS Dup (B175401-BSD1)				Prepared: 04/26/17 Analyzed: 04/27/17						
Antimony	245	5.0	µg/L	250		97.9	80-120	3.74	20	
Arsenic	290	2.0	µg/L	250		116	80-120	0.641	20	
Barium	276	50	µg/L	250		110	80-120	0.392	20	
Beryllium	294	2.0	µg/L	250		118	80-120	0.428	20	
Cadmium	288	2.5	µg/L	250		115	80-120	0.996	20	
Chromium	274	5.0	µg/L	250		110	80-120	1.64	20	
Lead	287	5.0	µg/L	250		115	80-120	0.349	20	
Nickel	275	25	µg/L	250		110	80-120	0.0546	20	
Selenium	299	25	µg/L	250		120	80-120	0.858	20	
Silver	276	2.5	µg/L	250		110	80-120	1.09	20	
Thallium	274	1.0	µg/L	250		110	80-120	1.10	20	
Vanadium	276	25	µg/L	250		110	80-120	1.61	20	
Zinc	299	50	µg/L	250		120	80-120	0.307	20	

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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
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
RL-04	Elevated reporting limit due to sample matrix interference. Requested reporting limit not met.
RL-07	Elevated reporting limit based on lowest point in calibration. MA CAM reporting limit not met.
RL-14	Elevated reporting limit due to foaming sample matrix. MA CAM reporting limit not met.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Water	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(a)anthracene	CT,NC,ME,NH-P
Benzo(a)pyrene	CT,NC,ME,NH-P
Benzo(b)fluoranthene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Benzo(k)fluoranthene	CT,NC,ME,NH-P
Chrysene	CT,NC,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
Indeno(1,2,3-cd)pyrene	CT,NC,ME,NH-P
2-Methylnaphthalene	CT,NC,ME
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
MADEP-VPH-04-1.1 in Water	
Unadjusted C5-C8 Aliphatics	CT,NC,ME,NH-P
C5-C8 Aliphatics	CT,NC,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C10 Aromatics	CT,NC,ME,NH-P
Benzene	CT,NC,ME,NH-P
Ethylbenzene	CT,NC,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,ME,NH-P
Naphthalene	CT,NC,ME,NH-P
Toluene	CT,NC,ME,NH-P
m+p Xylene	CT,NC,ME,NH-P
o-Xylene	CT,NC,ME,NH-P
SW-846 6020A-B in Water	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,NC,ME,VA
Barium	MA,NY,CT,NC,NH,ME,VA
Beryllium	CT,NH,NY,NC,ME,VA
Cadmium	CT,NH,NY,NC,ME,VA
Chromium	CT,NH,NY,NC,ME,VA
Lead	CT,NH,NY,NC,ME,VA
Nickel	CT,NH,NY,NC,ME,VA
Selenium	CT,NH,NY,NC,ME,VA
Silver	CT,NC,NH,NY,ME,VA
Thallium	CT,NH,NY,NC,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6020A-B in Water	
Vanadium	CT,NH,NY,NC,ME,VA
Zinc	CT,NH,NY,NC,ME,VA
SW-846 7470A in Water	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8260C in Water	
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	NY,ME
sec-Butylbenzene	NY,ME
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Diisopropyl Ether (DIPE)	NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2018
RI	Rhode Island Department of Health	LAO00112	12/30/2017
NC	North Carolina Div. of Water Quality	652	12/31/2017
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2017
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

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Email: info@contestlabs.com
www.contestlabs.com
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East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

17D1050

Rev 04.05.12

Page 1 of 1

Company Name: EBI
Address: 21 B St, Burlington MA 01803
Attention: Dan Bellucci
Project Location: 400 Ocean Ave, Revere, MA
Sampled By: Dan Bellucci
Telephone:
Project # 1217000149
Client PO#

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

Project Proposal Provided? (for billing purposes) ○ yes ______ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	VOCs 8260	VPH Mass DEP	EPH Mass DEP	MCP 14 Metals
1	MW-3	04/24/17	0920			GW	U	X	X	X	X
2	MW-2		1025			GW	U	X	X	X	X
3	MW-1		1125			GW	U	X	X	X	X

# of Containers / ** Preservation / ***Container Code

ANALYSIS REQUESTED

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: * Metals field filtered *
~~* Mass DEP forms~~ - (3) VOC/VPH vials for each well

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

Signature	Date/Time
Relinquished by: (signature) [signature] 04/24/17	13:00
Received by: (signature) Tom Main 4/24/17	1343
Relinquished by: (signature) Tom Main 4/24/17	1618
Received by: (signature) [signature] 5.9 4/24/17	1615

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

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

Is your project MCP or RCP ?
☒ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME 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 INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: EBI **RECEIVED BY:** JM **DATE:** 4.24.17

1) **Was the chain(s) of custody relinquished and signed?** **Yes** ✓ **No** ____ **No COC Incl.**

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 5.9 # 7

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:** Login

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** **N/A** ✓

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	6	16 oz amber	
500 mL Amber		8 oz amber/clear jar	
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic	3	SOC Kit	
40 mL Vial - type listed below	9	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials: # HCl 9 # Methanol ____ **Time and Date Frozen:**
Bisulfate ____ # DI Water ____
Thiosulfate ____ Unpreserved ____

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JM **Date/Time:** 4/24/17 1615

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 17D1050
Project Location: 400 Ocean Ave., Revere, MA	RTN:

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

17D1050-01 thru 17D1050-03

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A (X)	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D (X)	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]

<u>Data User Note:</u> 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:  Position: Project Manager

Printed Name: Lisa A. Worthington Date: 05/01/17

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

April 28, 2017

Dan Bellucci
EBI Consultants
21 B Street
Burlington, MA 01803

Project Location: 400 Ocean Ave. Revere, MA
Client Job Number:
Project Number: 1217000149
Laboratory Work Order Number: 17D1005

Enclosed are results of analyses for samples received by the laboratory on April 21, 2017. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

Table of Contents

Table of Contents (continued)

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

EBI Consultants
21 B Street
Burlington, MA 01803
ATTN: Dan Bellucci

REPORT DATE: 4/28/2017

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1217000149

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 17D1005

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

PROJECT LOCATION: 400 Ocean Ave. Revere, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
EB-01 (1-2)	17D1005-01	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8260C	
EB-01 (10-12)	17D1005-02	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8260C	
EB-02 (2-5)	17D1005-03	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8260C	
EB-02 (10-12)	17D1005-04	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8260C	
EB-03 (2-7)	17D1005-05	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8082A	
EB-03 (4-6)	17D1005-06	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 8260C	

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EBI Consultants
21 B Street
Burlington, MA 01803
ATTN: Dan Bellucci

REPORT DATE: 4/28/2017

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1217000149

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 17D1005

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

PROJECT LOCATION: 400 Ocean Ave. Revere, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
EB-03 (10-12)	17D1005-07	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8082A	
				SW-846 8260C	

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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.

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MADEP-EPH-04-1.1

Qualifications:

S-19

Surrogate recovery is outside of control limits, matrix interference suspected. Reanalysis yielded similar surrogate non-conformance.

Analyte & Samples(s) Qualified:

Chlorooctadecane (COD)
17D1005-03[EB-02 (2-5)], 17D1005-03RE1[EB-02 (2-5)]

o-Terphenyl (OTP)
17D1005-03[EB-02 (2-5)], 17D1005-03RE1[EB-02 (2-5)]

MADEP-VPH-04-1.1

Qualifications:

O-01

Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.

Analyte & Samples(s) Qualified:

17D1005-01[EB-01 (1-2)], 17D1005-02[EB-01 (10-12)], 17D1005-03[EB-02 (2-5)], 17D1005-04[EB-02 (10-12)], 17D1005-06[EB-03 (4-6)], 17D1005-07[EB-03 (10-12)], 17D1005-07RE1[EB-03 (10-12)]

S-16

Surrogate recovery is outside of control limits. Reanalysis is not required if % solids is <75% and recovery is >10%.

Analyte & Samples(s) Qualified:

2,5-Dibromotoluene (PID)
17D1005-06[EB-03 (4-6)]

SW-846 6010C-D

Qualifications:

R-04

Duplicate relative percent difference (RPD) is a less useful indicator of sample precision for sample results that are <5 times the reporting limit (RL).

Analyte & Samples(s) Qualified:

Arsenic
17D1005-01[EB-01 (1-2)], B175136-DUP1

SW-846 8082A

Qualifications:

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

17D1005-01[EB-01 (1-2)], 17D1005-02[EB-01 (10-12)], 17D1005-04[EB-02 (10-12)], 17D1005-07[EB-03 (10-12)]

SW-846 8260C

Qualifications:

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
17D1005-01[EB-01 (1-2)], 17D1005-02[EB-01 (10-12)], 17D1005-03[EB-02 (2-5)], 17D1005-04[EB-02 (10-12)], 17D1005-06[EB-03 (4-6)], 17D1005-07[EB-03 (10-12)], B175189-BLK1, B175189-BS1, B175189-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

2-Butanone (MEK)
B175189-BS1, B175189-BSD1

Acetone
B175189-BS1, B175189-BSD1

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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.

MADEP-VPH-04-1.1

No significant modifications were made to the method. All VPH samples were received preserved properly in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol in the proper containers specified on the chain-of-custody form unless specified in this narrative.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

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.

Lisa A. Worthington
Project Manager

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (1-2) | Sampled: 4/20/2017 07:30

Sample ID: 17D1005-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Benzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Bromobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Bromochloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Bromodichloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Bromoform	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Bromomethane	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
2-Butanone (MEK)	ND	0.032	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
n-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
sec-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
tert-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Carbon Disulfide	ND	0.0049	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Carbon Tetrachloride	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Chlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Chlorodibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Chloroethane	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Chloroform	ND	0.0032	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Chloromethane	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
2-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
4-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0032	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,2-Dibromoethane (EDB)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Dibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,2-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,3-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,4-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,1-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,2-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,1-Dichloroethylene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
cis-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
trans-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,3-Dichloropropane	ND	0.00081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
2,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,1-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
cis-1,3-Dichloropropene	ND	0.00081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
trans-1,3-Dichloropropene	ND	0.00081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Diethyl Ether	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Diisopropyl Ether (DIPE)	ND	0.00081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,4-Dioxane	ND	0.16	mg/Kg dry	1	V-16	SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Ethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (1-2) | Sampled: 4/20/2017 07:30

Sample ID: 17D1005-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
2-Hexanone (MBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Isopropylbenzene (Cumene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0032	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Methylene Chloride	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Naphthalene	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
n-Propylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Styrene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,1,1,2-Tetrachloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,1,2,2-Tetrachloroethane	ND	0.00081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Tetrachloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Tetrahydrofuran	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Toluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,2,3-Trichlorobenzene	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,2,4-Trichlorobenzene	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,1,1-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,1,2-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Trichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,2,3-Trichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,2,4-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
1,3,5-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
Vinyl Chloride	ND	0.0081	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
m+p Xylene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF
o-Xylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 12:53	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	105	70-130		4/24/17 12:53
Toluene-d8	96.9	70-130		4/24/17 12:53
4-Bromofluorobenzene	91.6	70-130		4/24/17 12:53

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (1-2) | Sampled: 4/20/2017 07:30

Sample ID: 17D1005-01

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:25	JMB
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:25	JMB
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:25	JMB
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:25	JMB
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:25	JMB
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:25	JMB
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:25	JMB
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:25	JMB
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:25	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	128	30-150		4/26/17 0:25
Decachlorobiphenyl [2]	117	30-150		4/26/17 0:25
Tetrachloro-m-xylene [1]	117	30-150		4/26/17 0:25
Tetrachloro-m-xylene [2]	109	30-150		4/26/17 0:25

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (1-2) | Sampled: 4/20/2017 07:30

Sample ID: 17D1005-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Benzo(g,h,i)perylene	0.45	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Chrysene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG
Pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 11:50	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	56.1	40-140		4/25/17 11:50
o-Terphenyl (OTP)	66.7	40-140		4/25/17 11:50
2-Bromonaphthalene	87.9	40-140		4/25/17 11:50
2-Fluorobiphenyl	88.6	40-140		4/25/17 11:50

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

Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (1-2) | Sampled: 4/20/2017 07:30

Sample ID: 17D1005-01

Sample Matrix: Soil

Sample Flags: O-01

Soil/Methanol Preservation Ratio: 1.27

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:16	EEH
C5-C8 Aliphatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:16	EEH
Unadjusted C9-C12 Aliphatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:16	EEH
C9-C12 Aliphatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:16	EEH
C9-C10 Aromatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:16	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
2,5-Dibromotoluene (FID)	86.2	70-130		4/25/17	17:16
2,5-Dibromotoluene (PID)	76.1	70-130		4/25/17	17:16

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Project Location: 400 Ocean Ave. Revere, MA Sample Description: Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (1-2) Sampled: 4/20/2017 07:30

Sample ID: 17D1005-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.6	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Arsenic	ND	2.6	mg/Kg dry	1	R-04	SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Barium	6.8	2.6	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Beryllium	ND	0.26	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Cadmium	ND	0.26	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Chromium	4.3	0.52	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Lead	17	0.79	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Mercury	0.043	0.026	mg/Kg dry	1		SW-846 7471B	4/24/17	4/25/17 12:21	TJK
Nickel	2.9	0.52	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Selenium	ND	5.2	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Silver	ND	0.52	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Thallium	ND	2.6	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Vanadium	6.3	1.0	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW
Zinc	25	1.0	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 20:43	QNW

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (1-2) | Sampled: 4/20/2017 07:30

Sample ID: 17D1005-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.7		% Wt	1		SM 2540G	4/25/17	4/26/17 8:06	MRL

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (10-12) | Sampled: 4/20/2017 07:40

Sample ID: 17D1005-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Benzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Bromobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Bromochloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Bromodichloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Bromoform	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Bromomethane	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
2-Butanone (MEK)	ND	0.027	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
n-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
sec-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
tert-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Carbon Disulfide	ND	0.0041	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Carbon Tetrachloride	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Chlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Chlorodibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Chloroethane	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Chloroform	ND	0.0027	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Chloromethane	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
2-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
4-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0027	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,2-Dibromoethane (EDB)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Dibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,2-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,3-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,4-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,1-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,2-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,1-Dichloroethylene	ND	0.0027	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
cis-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
trans-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,3-Dichloropropane	ND	0.00068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
2,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,1-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
cis-1,3-Dichloropropene	ND	0.00068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
trans-1,3-Dichloropropene	ND	0.00068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Diethyl Ether	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Diisopropyl Ether (DIPE)	ND	0.00068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,4-Dioxane	ND	0.14	mg/Kg dry	1	V-16	SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Ethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (10-12) | Sampled: 4/20/2017 07:40

Sample ID: 17D1005-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
2-Hexanone (MBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Isopropylbenzene (Cumene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0027	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Methylene Chloride	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Naphthalene	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
n-Propylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Styrene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,1,1,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,1,2,2-Tetrachloroethane	ND	0.00068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Tetrachloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Tetrahydrofuran	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Toluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,2,3-Trichlorobenzene	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,2,4-Trichlorobenzene	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,1,1-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,1,2-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Trichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,2,3-Trichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,2,4-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
1,3,5-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
Vinyl Chloride	ND	0.0068	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
m+p Xylene	ND	0.0027	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF
o-Xylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:20	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	106	70-130		4/24/17 13:20
Toluene-d8	98.3	70-130		4/24/17 13:20
4-Bromofluorobenzene	94.2	70-130		4/24/17 13:20

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (10-12) | Sampled: 4/20/2017 07:40

Sample ID: 17D1005-02

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:42	JMB
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:42	JMB
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:42	JMB
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:42	JMB
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:42	JMB
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:42	JMB
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:42	JMB
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:42	JMB
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 0:42	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	125	30-150		4/26/17 0:42
Decachlorobiphenyl [2]	114	30-150		4/26/17 0:42
Tetrachloro-m-xylene [1]	59.0	30-150		4/26/17 0:42
Tetrachloro-m-xylene [2]	56.5	30-150		4/26/17 0:42

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Date Received: 4/21/2017

Field Sample #: EB-01 (10-12) | Sampled: 4/20/2017 07:40

Sample ID: 17D1005-02

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Chrysene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG
Pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:10	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	65.8	40-140		4/25/17 12:10
o-Terphenyl (OTP)	72.5	40-140		4/25/17 12:10
2-Bromonaphthalene	81.5	40-140		4/25/17 12:10
2-Fluorobiphenyl	82.8	40-140		4/25/17 12:10

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (10-12) | Sampled: 4/20/2017 07:40

Sample ID: 17D1005-02

Sample Matrix: Soil

Sample Flags: O-01

Soil/Methanol Preservation Ratio: 1.59

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.7	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:45	EEH
C5-C8 Aliphatics	ND	8.7	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:45	EEH
Unadjusted C9-C12 Aliphatics	ND	8.7	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:45	EEH
C9-C12 Aliphatics	ND	8.7	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:45	EEH
C9-C10 Aromatics	ND	8.7	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 17:45	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
2,5-Dibromotoluene (FID)	88.2	70-130		4/25/17	17:45
2,5-Dibromotoluene (PID)	77.8	70-130		4/25/17	17:45

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

Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (10-12) | Sampled: 4/20/2017 07:40

Sample ID: 17D1005-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Arsenic	ND	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Barium	3.6	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Beryllium	ND	0.27	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Cadmium	ND	0.27	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Chromium	4.6	0.54	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Lead	1.6	0.81	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Mercury	ND	0.029	mg/Kg dry	1		SW-846 7471B	4/24/17	4/25/17 12:35	TJK
Nickel	3.4	0.54	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Silver	ND	0.54	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Vanadium	6.3	1.1	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW
Zinc	18	1.1	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:16	QNW

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

Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-01 (10-12) | Sampled: 4/20/2017 07:40

Sample ID: 17D1005-02

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.5		% Wt	1		SM 2540G	4/25/17	4/26/17 8:06	MRL

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (2-5) | Sampled: 4/20/2017 08:30

Sample ID: 17D1005-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Benzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Bromobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Bromochloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Bromodichloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Bromoform	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Bromomethane	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
2-Butanone (MEK)	ND	0.035	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
n-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
sec-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
tert-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Carbon Disulfide	ND	0.0053	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Carbon Tetrachloride	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Chlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Chlorodibromomethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Chloroethane	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Chloroform	ND	0.0035	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Chloromethane	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
2-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
4-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0035	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,2-Dibromoethane (EDB)	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Dibromomethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,2-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,3-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,4-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,1-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,2-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,1-Dichloroethylene	ND	0.0035	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
cis-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
trans-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,3-Dichloropropane	ND	0.00088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
2,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,1-Dichloropropene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
cis-1,3-Dichloropropene	ND	0.00088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
trans-1,3-Dichloropropene	ND	0.00088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Diethyl Ether	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Diisopropyl Ether (DIPE)	ND	0.00088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,4-Dioxane	ND	0.18	mg/Kg dry	1	V-16	SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Ethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (2-5) | Sampled: 4/20/2017 08:30

Sample ID: 17D1005-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
2-Hexanone (MBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Isopropylbenzene (Cumene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0035	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Methylene Chloride	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Naphthalene	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
n-Propylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Styrene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,1,1,2-Tetrachloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,1,2,2-Tetrachloroethane	ND	0.00088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Tetrachloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Tetrahydrofuran	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Toluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,2,3-Trichlorobenzene	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,2,4-Trichlorobenzene	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,1,1-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,1,2-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Trichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,2,3-Trichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,2,4-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
1,3,5-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
Vinyl Chloride	ND	0.0088	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
m+p Xylene	ND	0.0035	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF
o-Xylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 13:47	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	105	70-130		4/24/17 13:47
Toluene-d8	96.9	70-130		4/24/17 13:47
4-Bromofluorobenzene	90.8	70-130		4/24/17 13:47

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (2-5) | Sampled: 4/20/2017 08:30

Sample ID: 17D1005-03

Sample Matrix: Soil

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 22:54	JMB
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 22:54	JMB
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 22:54	JMB
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 22:54	JMB
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 22:54	JMB
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 22:54	JMB
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 22:54	JMB
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 22:54	JMB
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 22:54	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	94.7	30-150		4/26/17 22:54
Decachlorobiphenyl [2]	122	30-150		4/26/17 22:54
Tetrachloro-m-xylene [1]	108	30-150		4/26/17 22:54
Tetrachloro-m-xylene [2]	123	30-150		4/26/17 22:54

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (2-5) | Sampled: 4/20/2017 08:30

Sample ID: 17D1005-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
C19-C36 Aliphatics	32	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
C19-C36 Aliphatics	26	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Unadjusted C11-C22 Aromatics	250	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Unadjusted C11-C22 Aromatics	200	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
C11-C22 Aromatics	140	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
C11-C22 Aromatics	180	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Acenaphthene	0.12	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Acenaphthylene	0.28	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Acenaphthylene	0.25	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Anthracene	1.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Anthracene	0.84	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Benzo(a)anthracene	6.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Benzo(a)anthracene	4.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Benzo(a)pyrene	5.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Benzo(a)pyrene	4.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Benzo(b)fluoranthene	7.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Benzo(b)fluoranthene	6.0	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Benzo(g,h,i)perylene	1.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Benzo(g,h,i)perylene	2.0	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Benzo(k)fluoranthene	2.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Benzo(k)fluoranthene	2.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Chrysene	5.0	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Chrysene	6.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Dibenz(a,h)anthracene	0.85	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Dibenz(a,h)anthracene	0.73	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Fluoranthene	13	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Fluoranthene	9.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Fluorene	0.18	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Fluorene	0.29	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Indeno(1,2,3-cd)pyrene	2.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Indeno(1,2,3-cd)pyrene	2.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Naphthalene	0.14	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Phenanthrene	3.5	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Phenanthrene	5.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG
Pyrene	9.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/26/17	4/27/17 11:12	PJG
Pyrene	13	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:29	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	**26.6** *	40-140	S-19	4/25/17 13:29

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

Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (2-5) | Sampled: 4/20/2017 08:30

Sample ID: 17D1005-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates	**% Recovery**		**Recovery Limits**		**Flag/Qual**				
Chlorooctadecane (COD)	**29.1**	*	40-140		S-19			4/27/17 11:12	
o-Terphenyl (OTP)	**27.7**	*	40-140		S-19			4/25/17 13:29	
o-Terphenyl (OTP)	**34.8**	*	40-140		S-19			4/27/17 11:12	
2-Bromonaphthalene	88.3		40-140					4/25/17 13:29	
2-Bromonaphthalene	86.4		40-140					4/27/17 11:12	
2-Fluorobiphenyl	91.4		40-140					4/25/17 13:29	
2-Fluorobiphenyl	96.0		40-140					4/27/17 11:12	

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (2-5) | Sampled: 4/20/2017 08:30

Sample ID: 17D1005-03

Sample Matrix: Soil

Sample Flags: O-01

Soil/Methanol Preservation Ratio: 1.34

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	9.8	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:14	EEH
C5-C8 Aliphatics	ND	9.8	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:14	EEH
Unadjusted C9-C12 Aliphatics	ND	9.8	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:14	EEH
C9-C12 Aliphatics	ND	9.8	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:14	EEH
C9-C10 Aromatics	ND	9.8	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:14	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	84.6	70-130		4/25/17 18:14
2,5-Dibromotoluene (PID)	74.3	70-130		4/25/17 18:14

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (2-5) | Sampled: 4/20/2017 08:30

Sample ID: 17D1005-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.8	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Arsenic	5.2	2.8	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Barium	36	2.8	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Beryllium	ND	0.28	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Cadmium	0.52	0.28	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Chromium	12	0.56	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Lead	130	0.83	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Mercury	0.19	0.028	mg/Kg dry	1		SW-846 7471B	4/24/17	4/25/17 12:36	TJK
Nickel	8.5	0.56	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Selenium	ND	5.6	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Silver	ND	0.56	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Vanadium	16	1.1	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW
Zinc	230	1.1	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:21	QNW

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (2-5) | Sampled: 4/20/2017 08:30

Sample ID: 17D1005-03

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.4		% Wt	1		SM 2540G	4/25/17	4/26/17 8:06	MRL

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (10-12) | Sampled: 4/20/2017 08:40

Sample ID: 17D1005-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Benzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Bromobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Bromochloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Bromodichloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Bromoform	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Bromomethane	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
2-Butanone (MEK)	ND	0.028	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
n-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
sec-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
tert-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Carbon Disulfide	ND	0.0043	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Carbon Tetrachloride	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Chlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Chlorodibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Chloroethane	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Chloroform	ND	0.0028	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Chloromethane	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
2-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
4-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0028	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,2-Dibromoethane (EDB)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Dibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,2-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,3-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,4-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,1-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,2-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,1-Dichloroethylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
cis-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
trans-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,3-Dichloropropane	ND	0.00071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
2,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,1-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
cis-1,3-Dichloropropene	ND	0.00071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
trans-1,3-Dichloropropene	ND	0.00071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Diethyl Ether	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Diisopropyl Ether (DIPE)	ND	0.00071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,4-Dioxane	ND	0.14	mg/Kg dry	1	V-16	SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Ethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (10-12) | Sampled: 4/20/2017 08:40

Sample ID: 17D1005-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
2-Hexanone (MBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Isopropylbenzene (Cumene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0028	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Methylene Chloride	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Naphthalene	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
n-Propylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Styrene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,1,1,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,1,2,2-Tetrachloroethane	ND	0.00071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Tetrachloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Tetrahydrofuran	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Toluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,2,3-Trichlorobenzene	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,2,4-Trichlorobenzene	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,1,1-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,1,2-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Trichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,2,3-Trichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,2,4-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
1,3,5-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
Vinyl Chloride	ND	0.0071	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
m+p Xylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF
o-Xylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:14	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	106	70-130		4/24/17 14:14
Toluene-d8	98.4	70-130		4/24/17 14:14
4-Bromofluorobenzene	95.0	70-130		4/24/17 14:14

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (10-12) | Sampled: 4/20/2017 08:40

Sample ID: 17D1005-04

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:17	JMB
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:17	JMB
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:17	JMB
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:17	JMB
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:17	JMB
Aroclor-1254 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:17	JMB
Aroclor-1260 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:17	JMB
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:17	JMB
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:17	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	94.5	30-150		4/26/17 1:17
Decachlorobiphenyl [2]	87.4	30-150		4/26/17 1:17
Tetrachloro-m-xylene [1]	36.3	30-150		4/26/17 1:17
Tetrachloro-m-xylene [2]	35.3	30-150		4/26/17 1:17

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (10-12) | Sampled: 4/20/2017 08:40

Sample ID: 17D1005-04

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
C19-C36 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Unadjusted C11-C22 Aromatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
C11-C22 Aromatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Acenaphthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Benzo(a)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Benzo(a)pyrene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Benzo(b)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Benzo(g,h,i)perylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Benzo(k)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Chrysene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Dibenz(a,h)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Fluoranthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Fluorene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Indeno(1,2,3-cd)pyrene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
2-Methylnaphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Naphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Phenanthrene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG
Pyrene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:30	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	63.1	40-140		4/25/17 12:30
o-Terphenyl (OTP)	70.0	40-140		4/25/17 12:30
2-Bromonaphthalene	76.2	40-140		4/25/17 12:30
2-Fluorobiphenyl	79.1	40-140		4/25/17 12:30

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (10-12) | Sampled: 4/20/2017 08:40

Sample ID: 17D1005-04

Sample Matrix: Soil

Sample Flags: O-01

Soil/Methanol Preservation Ratio: 1.58

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:44	EEH
C5-C8 Aliphatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:44	EEH
Unadjusted C9-C12 Aliphatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:44	EEH
C9-C12 Aliphatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:44	EEH
C9-C10 Aromatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 18:44	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
2,5-Dibromotoluene (FID)	90.8	70-130			4/25/17 18:44
2,5-Dibromotoluene (PID)	79.2	70-130			4/25/17 18:44

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (10-12) | Sampled: 4/20/2017 08:40

Sample ID: 17D1005-04

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Arsenic	ND	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Barium	3.5	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Beryllium	ND	0.27	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Cadmium	ND	0.27	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Chromium	4.6	0.54	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Lead	1.1	0.82	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Mercury	ND	0.029	mg/Kg dry	1		SW-846 7471B	4/24/17	4/25/17 12:37	TJK
Nickel	3.3	0.54	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Silver	ND	0.54	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Vanadium	6.2	1.1	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW
Zinc	10	1.1	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:26	QNW

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-02 (10-12) | Sampled: 4/20/2017 08:40

Sample ID: 17D1005-04

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.8		% Wt	1		SM 2540G	4/25/17	4/26/17 8:06	MRL

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (2-7) | Sampled: 4/20/2017 09:30

Sample ID: 17D1005-05

Sample Matrix: Soil

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.14	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 23:12	JMB
Aroclor-1221 [1]	ND	0.14	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 23:12	JMB
Aroclor-1232 [1]	ND	0.14	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 23:12	JMB
Aroclor-1242 [1]	ND	0.14	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 23:12	JMB
Aroclor-1248 [1]	ND	0.14	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 23:12	JMB
Aroclor-1254 [1]	ND	0.14	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 23:12	JMB
Aroclor-1260 [1]	ND	0.14	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 23:12	JMB
Aroclor-1262 [1]	ND	0.14	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 23:12	JMB
Aroclor-1268 [1]	ND	0.14	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 23:12	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	94.3	30-150		4/26/17 23:12
Decachlorobiphenyl [2]	118	30-150		4/26/17 23:12
Tetrachloro-m-xylene [1]	101	30-150		4/26/17 23:12
Tetrachloro-m-xylene [2]	114	30-150		4/26/17 23:12

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (2-7) | Sampled: 4/20/2017 09:30

Sample ID: 17D1005-05

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
C19-C36 Aliphatics	37	14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Unadjusted C11-C22 Aromatics	180	14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
C11-C22 Aromatics	120	14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Acenaphthene	0.24	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Acenaphthylene	0.36	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Anthracene	1.6	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Benzo(a)anthracene	4.0	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Benzo(a)pyrene	4.4	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Benzo(b)fluoranthene	5.3	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Benzo(g,h,i)perylene	2.3	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Benzo(k)fluoranthene	1.9	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Chrysene	4.1	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Dibenz(a,h)anthracene	0.60	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Fluoranthene	11	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Fluorene	0.68	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Indeno(1,2,3-cd)pyrene	2.4	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
2-Methylnaphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Naphthalene	0.23	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Phenanthrene	7.0	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG
Pyrene	10	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 13:49	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	43.5	40-140		4/25/17 13:49
o-Terphenyl (OTP)	50.4	40-140		4/25/17 13:49
2-Bromonaphthalene	83.1	40-140		4/25/17 13:49
2-Fluorobiphenyl	87.0	40-140		4/25/17 13:49

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Project Location: 400 Ocean Ave. Revere, MA Sample Description: Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (2-7) Sampled: 4/20/2017 09:30

Sample ID: 17D1005-05

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	3.9	3.5	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Arsenic	8.0	3.5	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Barium	270	3.5	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Beryllium	0.42	0.35	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Cadmium	1.2	0.35	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Chromium	21	0.70	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Lead	730	1.1	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Mercury	1.2	0.18	mg/Kg dry	5		SW-846 7471B	4/24/17	4/25/17 13:01	TJK
Nickel	16	0.70	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Selenium	ND	7.0	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Silver	2.0	0.70	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Thallium	ND	3.5	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Vanadium	21	1.4	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW
Zinc	580	1.4	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:31	QNW

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (2-7) | Sampled: 4/20/2017 09:30

Sample ID: 17D1005-05

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	70.3		% Wt	1		SM 2540G	4/25/17	4/26/17 8:06	MRL

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (4-6) | Sampled: 4/20/2017 09:30

Sample ID: 17D1005-06

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.14	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Benzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Bromobenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Bromochloromethane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Bromodichloromethane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Bromoform	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Bromomethane	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
2-Butanone (MEK)	ND	0.058	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
n-Butylbenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
sec-Butylbenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
tert-Butylbenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Carbon Disulfide	ND	0.0087	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Carbon Tetrachloride	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Chlorobenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Chlorodibromomethane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Chloroethane	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Chloroform	ND	0.0058	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Chloromethane	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
2-Chlorotoluene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
4-Chlorotoluene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0058	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,2-Dibromoethane (EDB)	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Dibromomethane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,2-Dichlorobenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,3-Dichlorobenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,4-Dichlorobenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,1-Dichloroethane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,2-Dichloroethane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,1-Dichloroethylene	ND	0.0058	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
cis-1,2-Dichloroethylene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
trans-1,2-Dichloroethylene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,2-Dichloropropane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,3-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
2,2-Dichloropropane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,1-Dichloropropene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
cis-1,3-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
trans-1,3-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Diethyl Ether	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Diisopropyl Ether (DIPE)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,4-Dioxane	ND	0.29	mg/Kg dry	1	V-16	SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Ethylbenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF

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

Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (4-6) | Sampled: 4/20/2017 09:30

Sample ID: 17D1005-06

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
2-Hexanone (MBK)	ND	0.029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Isopropylbenzene (Cumene)	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0058	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Methylene Chloride	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Naphthalene	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
n-Propylbenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Styrene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,1,1,2-Tetrachloroethane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,1,2,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Tetrachloroethylene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Tetrahydrofuran	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Toluene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,2,3-Trichlorobenzene	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,2,4-Trichlorobenzene	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,1,1-Trichloroethane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,1,2-Trichloroethane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Trichloroethylene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Trichlorofluoromethane (Freon 11)	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,2,3-Trichloropropane	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,2,4-Trimethylbenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
1,3,5-Trimethylbenzene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
Vinyl Chloride	ND	0.014	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
m+p Xylene	ND	0.0058	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF
o-Xylene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 14:41	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	104	70-130		4/24/17 14:41
Toluene-d8	95.1	70-130		4/24/17 14:41
4-Bromofluorobenzene	97.0	70-130		4/24/17 14:41

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

Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (4-6) | Sampled: 4/20/2017 09:30

Sample ID: 17D1005-06

Sample Matrix: Soil

Sample Flags: O-01

Soil/Methanol Preservation Ratio: 0.93

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	20	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 19:13	EEH
C5-C8 Aliphatics	ND	20	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 19:13	EEH
Unadjusted C9-C12 Aliphatics	ND	20	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 19:13	EEH
C9-C12 Aliphatics	ND	20	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 19:13	EEH
C9-C10 Aromatics	ND	20	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/25/17 19:13	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	72.7	70-130		4/25/17 19:13
2,5-Dibromotoluene (PID)	**64.1** *	70-130	S-16	4/25/17 19:13

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

Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (4-6) | Sampled: 4/20/2017 09:30

Sample ID: 17D1005-06

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	70.3		% Wt	1		SM 2540G	4/27/17	4/27/17 10:45	MRL

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (10-12) | Sampled: 4/20/2017 10:00

Sample ID: 17D1005-07

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Bromoform	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Bromomethane	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
2-Butanone (MEK)	ND	0.030	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Carbon Disulfide	ND	0.0045	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Chlorodibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Chloroethane	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Chloroform	ND	0.0030	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Chloromethane	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0030	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,2-Dibromoethane (EDB)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,1-Dichloroethylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,3-Dichloropropane	ND	0.00075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
cis-1,3-Dichloropropene	ND	0.00075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
trans-1,3-Dichloropropene	ND	0.00075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Diethyl Ether	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Diisopropyl Ether (DIPE)	ND	0.00075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,4-Dioxane	ND	0.15	mg/Kg dry	1	V-16	SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF

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

Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (10-12) | Sampled: 4/20/2017 10:00

Sample ID: 17D1005-07

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0030	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Methylene Chloride	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Naphthalene	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,1,2,2-Tetrachloroethane	ND	0.00075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Tetrahydrofuran	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,2,3-Trichlorobenzene	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,2,4-Trichlorobenzene	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
Vinyl Chloride	ND	0.0075	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
m+p Xylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	4/24/17	4/24/17 15:04	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	103	70-130		4/24/17 15:04
Toluene-d8	97.5	70-130		4/24/17 15:04
4-Bromofluorobenzene	94.0	70-130		4/24/17 15:04

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

Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (10-12) | Sampled: 4/20/2017 10:00

Sample ID: 17D1005-07

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:51	JMB
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:51	JMB
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:51	JMB
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:51	JMB
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:51	JMB
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:51	JMB
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:51	JMB
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:51	JMB
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/24/17	4/26/17 1:51	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	100	30-150		4/26/17 1:51
Decachlorobiphenyl [2]	91.7	30-150		4/26/17 1:51
Tetrachloro-m-xylene [1]	54.4	30-150		4/26/17 1:51
Tetrachloro-m-xylene [2]	52.7	30-150		4/26/17 1:51

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (10-12) | Sampled: 4/20/2017 10:00

Sample ID: 17D1005-07

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Chrysene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG
Pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	4/24/17	4/25/17 12:50	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	61.2	40-140		4/25/17 12:50
o-Terphenyl (OTP)	73.0	40-140		4/25/17 12:50
2-Bromonaphthalene	80.7	40-140		4/25/17 12:50
2-Fluorobiphenyl	81.4	40-140		4/25/17 12:50

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (10-12) | Sampled: 4/20/2017 10:00

Sample ID: 17D1005-07

Sample Matrix: Soil

Sample Flags: O-01

Soil/Methanol Preservation Ratio: 1.55

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.4	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/26/17 6:16	EEH
C5-C8 Aliphatics	ND	8.4	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/26/17 6:16	EEH
Unadjusted C9-C12 Aliphatics	ND	8.4	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/26/17 6:16	EEH
C9-C12 Aliphatics	ND	8.4	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/26/17 6:16	EEH
C9-C10 Aromatics	ND	8.4	mg/Kg dry	1		MADEP-VPH-04-1.1	4/25/17	4/26/17 6:16	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	77.4	70-130		4/25/17 19:42
2,5-Dibromotoluene (FID)	80.3	70-130		4/26/17 6:16
2,5-Dibromotoluene (PID)	70.5	70-130		4/26/17 6:16

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Project Location: 400 Ocean Ave. Revere, MA Sample Description: Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (10-12) Sampled: 4/20/2017 10:00

Sample ID: 17D1005-07

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Arsenic	ND	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Barium	4.3	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Beryllium	ND	0.27	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Cadmium	ND	0.27	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Chromium	4.9	0.53	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Lead	1.5	0.80	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Mercury	ND	0.028	mg/Kg dry	1		SW-846 7471B	4/24/17	4/25/17 12:40	TJK
Nickel	4.0	0.53	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Selenium	ND	5.3	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Silver	ND	0.53	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Vanadium	7.0	1.1	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW
Zinc	11	1.1	mg/Kg dry	1		SW-846 6010C-D	4/24/17	4/25/17 22:37	QNW

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Project Location: 400 Ocean Ave. Revere, MA | Sample Description: | Work Order: 17D1005

Date Received: 4/21/2017

Field Sample #: EB-03 (10-12) | Sampled: 4/20/2017 10:00

Sample ID: 17D1005-07

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.4		% Wt	1		SM 2540G	4/25/17	4/26/17 8:06	MRL

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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
17D1005-01 [EB-01 (1-2)]	B175112	20.0	2.00	04/24/17
17D1005-02 [EB-01 (10-12)]	B175112	20.0	2.00	04/24/17
17D1005-03 [EB-02 (2-5)]	B175112	20.0	2.00	04/24/17
17D1005-04 [EB-02 (10-12)]	B175112	20.0	2.00	04/24/17
17D1005-05 [EB-03 (2-7)]	B175112	20.0	2.00	04/24/17
17D1005-07 [EB-03 (10-12)]	B175112	20.0	2.00	04/24/17

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
17D1005-03RE1 [EB-02 (2-5)]	B175447	20.0	2.00	04/26/17

Prep Method: MA VPH-MADEP-VPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
17D1005-01 [EB-01 (1-2)]	B175257	19.1	16.1	04/25/17
17D1005-02 [EB-01 (10-12)]	B175257	23.9	18.1	04/25/17
17D1005-03 [EB-02 (2-5)]	B175257	6.70	5.80	04/25/17
17D1005-04 [EB-02 (10-12)]	B175257	23.6	18.5	04/25/17
17D1005-06 [EB-03 (4-6)]	B175257	14.0	19.2	04/25/17
17D1005-07RE1 [EB-03 (10-12)]	B175257	23.3	17.6	04/25/17

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
17D1005-01 [EB-01 (1-2)]	B175280	04/25/17
17D1005-02 [EB-01 (10-12)]	B175280	04/25/17
17D1005-03 [EB-02 (2-5)]	B175280	04/25/17
17D1005-04 [EB-02 (10-12)]	B175280	04/25/17
17D1005-05 [EB-03 (2-7)]	B175280	04/25/17
17D1005-06 [EB-03 (4-6)]	B175280	04/27/17
17D1005-07 [EB-03 (10-12)]	B175280	04/25/17

Prep Method: SW-846 3051-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
17D1005-01 [EB-01 (1-2)]	B175136	1.01	50.0	04/24/17
17D1005-02 [EB-01 (10-12)]	B175136	1.05	50.0	04/24/17
17D1005-03 [EB-02 (2-5)]	B175136	1.02	50.0	04/24/17
17D1005-04 [EB-02 (10-12)]	B175136	1.07	50.0	04/24/17
17D1005-05 [EB-03 (2-7)]	B175136	1.01	50.0	04/24/17
17D1005-07 [EB-03 (10-12)]	B175136	1.05	50.0	04/24/17

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
17D1005-01 [EB-01 (1-2)]	B175162	0.602	50.0	04/24/17
17D1005-02 [EB-01 (10-12)]	B175162	0.595	50.0	04/24/17
17D1005-03 [EB-02 (2-5)]	B175162	0.600	50.0	04/24/17

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Sample Extraction Data

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
17D1005-04 [EB-02 (10-12)]	B175162	0.598	50.0	04/24/17
17D1005-05 [EB-03 (2-7)]	B175162	0.602	50.0	04/24/17
17D1005-07 [EB-03 (10-12)]	B175162	0.607	50.0	04/24/17

Prep Method: SW-846 3546-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
17D1005-01 [EB-01 (1-2)]	B175139	10.0	10.0	04/24/17
17D1005-02 [EB-01 (10-12)]	B175139	10.0	10.0	04/24/17
17D1005-03 [EB-02 (2-5)]	B175139	10.0	10.0	04/24/17
17D1005-04 [EB-02 (10-12)]	B175139	10.0	10.0	04/24/17
17D1005-05 [EB-03 (2-7)]	B175139	10.0	10.0	04/24/17
17D1005-07 [EB-03 (10-12)]	B175139	10.0	10.0	04/24/17

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
17D1005-01 [EB-01 (1-2)]	B175189	6.52	10.0	04/24/17
17D1005-02 [EB-01 (10-12)]	B175189	8.39	10.0	04/24/17
17D1005-03 [EB-02 (2-5)]	B175189	6.45	10.0	04/24/17
17D1005-04 [EB-02 (10-12)]	B175189	8.21	10.0	04/24/17
17D1005-06 [EB-03 (4-6)]	B175189	4.92	10.0	04/24/17
17D1005-07 [EB-03 (10-12)]	B175189	7.47	10.0	04/24/17

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175189 - SW-846 5035										
Blank (B175189-BLK1)				Prepared & Analyzed: 04/24/17						
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B175189 - SW-846 5035											
Blank (B175189-BLK1)				Prepared & Analyzed: 04/24/17							
n-Propylbenzene	ND	0.0020	mg/Kg wet								
Styrene	ND	0.0020	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet								
Tetrachloroethylene	ND	0.0020	mg/Kg wet								
Tetrahydrofuran	ND	0.010	mg/Kg wet								
Toluene	ND	0.0020	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet								
Trichloroethylene	ND	0.0020	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet								
Vinyl Chloride	ND	0.010	mg/Kg wet								
m+p Xylene	ND	0.0040	mg/Kg wet								
o-Xylene	ND	0.0020	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0514*		mg/Kg wet	0.0500		103	70-130				
Surrogate: Toluene-d8	*0.0481*		mg/Kg wet	0.0500		96.1	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0471*		mg/Kg wet	0.0500		94.1	70-130				
LCS (B175189-BS1)				Prepared & Analyzed: 04/24/17							
Acetone	0.151	0.10	mg/Kg wet	0.200		75.5	40-160			V-20	†
tert-Amyl Methyl Ether (TAME)	0.0179	0.0010	mg/Kg wet	0.0200		89.7	70-130				
Benzene	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130				
Bromobenzene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130				
Bromochloromethane	0.0227	0.0020	mg/Kg wet	0.0200		114	70-130				
Bromodichloromethane	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130				
Bromoform	0.0230	0.0020	mg/Kg wet	0.0200		115	70-130				
Bromomethane	0.0145	0.010	mg/Kg wet	0.0200		72.4	40-160				†
2-Butanone (MEK)	0.167	0.040	mg/Kg wet	0.200		83.4	40-160			V-20	†
n-Butylbenzene	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130				
sec-Butylbenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
tert-Butylbenzene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0185	0.0010	mg/Kg wet	0.0200		92.4	70-130				
Carbon Disulfide	0.0233	0.0060	mg/Kg wet	0.0200		116	70-130				
Carbon Tetrachloride	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130				
Chlorobenzene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130				
Chlorodibromomethane	0.0220	0.0010	mg/Kg wet	0.0200		110	70-130				
Chloroethane	0.0163	0.010	mg/Kg wet	0.0200		81.5	70-130				
Chloroform	0.0213	0.0040	mg/Kg wet	0.0200		106	70-130				
Chloromethane	0.0138	0.010	mg/Kg wet	0.0200		68.8	40-160			L-14	†
2-Chlorotoluene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130				
4-Chlorotoluene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130				
1,2-Dibromoethane (EDB)	0.0216	0.0010	mg/Kg wet	0.0200		108	70-130				
Dibromomethane	0.0219	0.0020	mg/Kg wet	0.0200		109	70-130				
1,2-Dichlorobenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130				
1,3-Dichlorobenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130				
1,4-Dichlorobenzene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B175189 - SW-846 5035											
LCS (B175189-BS1)				Prepared & Analyzed: 04/24/17							
Dichlorodifluoromethane (Freon 12)	0.0118	0.010	mg/Kg wet	0.0200		59.2	40-160			L-14	†
1,1-Dichloroethane	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130				
1,2-Dichloroethane	0.0229	0.0020	mg/Kg wet	0.0200		115	70-130				
1,1-Dichloroethylene	0.0206	0.0040	mg/Kg wet	0.0200		103	70-130				
cis-1,2-Dichloroethylene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130				
trans-1,2-Dichloroethylene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130				
1,2-Dichloropropane	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130				
1,3-Dichloropropane	0.0205	0.0010	mg/Kg wet	0.0200		103	70-130				
2,2-Dichloropropane	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
1,1-Dichloropropene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
cis-1,3-Dichloropropene	0.0187	0.0010	mg/Kg wet	0.0200		93.4	70-130				
trans-1,3-Dichloropropene	0.0200	0.0010	mg/Kg wet	0.0200		100	70-130				
Diethyl Ether	0.0177	0.010	mg/Kg wet	0.0200		88.7	70-130				
Diisopropyl Ether (DIPE)	0.0193	0.0010	mg/Kg wet	0.0200		96.7	70-130				
1,4-Dioxane	0.233	0.10	mg/Kg wet	0.200		117	40-160			V-16	†
Ethylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130				
Hexachlorobutadiene	0.0255	0.0020	mg/Kg wet	0.0200		128	70-130				
2-Hexanone (MBK)	0.176	0.020	mg/Kg wet	0.200		88.1	40-160				†
Isopropylbenzene (Cumene)	0.0234	0.0020	mg/Kg wet	0.0200		117	70-130				
p-Isopropyltoluene (p-Cymene)	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0185	0.0040	mg/Kg wet	0.0200		92.7	70-130				
Methylene Chloride	0.0210	0.010	mg/Kg wet	0.0200		105	70-130				
4-Methyl-2-pentanone (MIBK)	0.195	0.020	mg/Kg wet	0.200		97.5	40-160				†
Naphthalene	0.0188	0.0040	mg/Kg wet	0.0200		94.2	70-130				
n-Propylbenzene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130				
Styrene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130				
1,1,1,2-Tetrachloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
1,1,2,2-Tetrachloroethane	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130				
Tetrachloroethylene	0.0238	0.0020	mg/Kg wet	0.0200		119	70-130				
Tetrahydrofuran	0.0193	0.010	mg/Kg wet	0.0200		96.7	70-130				
Toluene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130				
1,2,3-Trichlorobenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130				
1,2,4-Trichlorobenzene	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130				
1,1,1-Trichloroethane	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130				
1,1,2-Trichloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
Trichloroethylene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130				
Trichlorofluoromethane (Freon 11)	0.0187	0.010	mg/Kg wet	0.0200		93.7	70-130				
1,2,3-Trichloropropane	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130				
1,2,4-Trimethylbenzene	0.0196	0.0020	mg/Kg wet	0.0200		98.2	70-130				
1,3,5-Trimethylbenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130				
Vinyl Chloride	0.0152	0.010	mg/Kg wet	0.0200		75.8	70-130				
m+p Xylene	0.0418	0.0040	mg/Kg wet	0.0400		105	70-130				
o-Xylene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0519*		mg/Kg wet	0.0500		104	70-130				
Surrogate: Toluene-d8	*0.0488*		mg/Kg wet	0.0500		97.6	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0504*		mg/Kg wet	0.0500		101	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B175189 - SW-846 5035											
LCS Dup (B175189-BSD1)				Prepared & Analyzed: 04/24/17							
Acetone	0.150	0.10	mg/Kg wet	0.200		75.1	40-160	0.505	20	V-20	†
tert-Amyl Methyl Ether (TAME)	0.0184	0.0010	mg/Kg wet	0.0200		92.1	70-130	2.64	20		
Benzene	0.0199	0.0020	mg/Kg wet	0.0200		99.6	70-130	2.23	20		
Bromobenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	0.573	20		
Bromochloromethane	0.0230	0.0020	mg/Kg wet	0.0200		115	70-130	1.31	20		
Bromodichloromethane	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130	1.27	20		
Bromoform	0.0227	0.0020	mg/Kg wet	0.0200		114	70-130	1.22	20		
Bromomethane	0.0147	0.010	mg/Kg wet	0.0200		73.6	40-160	1.64	20		†
2-Butanone (MEK)	0.165	0.040	mg/Kg wet	0.200		82.4	40-160	1.29	20	V-20	†
n-Butylbenzene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130	0.542	20		
sec-Butylbenzene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	2.09	20		
tert-Butylbenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	0.588	20		
tert-Butyl Ethyl Ether (TBEE)	0.0188	0.0010	mg/Kg wet	0.0200		93.8	70-130	1.50	20		
Carbon Disulfide	0.0230	0.0060	mg/Kg wet	0.0200		115	70-130	0.950	20		
Carbon Tetrachloride	0.0227	0.0020	mg/Kg wet	0.0200		114	70-130	5.15	20		
Chlorobenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	3.40	20		
Chlorodibromomethane	0.0224	0.0010	mg/Kg wet	0.0200		112	70-130	1.53	20		
Chloroethane	0.0166	0.010	mg/Kg wet	0.0200		82.8	70-130	1.58	20		
Chloroform	0.0211	0.0040	mg/Kg wet	0.0200		106	70-130	0.755	20		
Chloromethane	0.0131	0.010	mg/Kg wet	0.0200		65.7	40-160	4.61	20	L-14	†
2-Chlorotoluene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	2.89	20		
4-Chlorotoluene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130	1.60	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0182	0.0020	mg/Kg wet	0.0200		90.9	70-130	12.9	20		
1,2-Dibromoethane (EDB)	0.0218	0.0010	mg/Kg wet	0.0200		109	70-130	0.645	20		
Dibromomethane	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	2.78	20		
1,2-Dichlorobenzene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	2.51	20		
1,3-Dichlorobenzene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130	1.19	20		
1,4-Dichlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	1.08	20		
Dichlorodifluoromethane (Freon 12)	0.0104	0.010	mg/Kg wet	0.0200		51.9	40-160	13.1	20	L-14	†
1,1-Dichloroethane	0.0223	0.0020	mg/Kg wet	0.0200		111	70-130	1.63	20		
1,2-Dichloroethane	0.0227	0.0020	mg/Kg wet	0.0200		114	70-130	1.05	20		
1,1-Dichloroethylene	0.0207	0.0040	mg/Kg wet	0.0200		103	70-130	0.291	20		
cis-1,2-Dichloroethylene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	4.40	20		
trans-1,2-Dichloroethylene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130	4.68	20		
1,2-Dichloropropane	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130	0.390	20		
1,3-Dichloropropane	0.0194	0.0010	mg/Kg wet	0.0200		97.1	70-130	5.51	20		
2,2-Dichloropropane	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130	1.37	20		
1,1-Dichloropropene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	1.47	20		
cis-1,3-Dichloropropene	0.0184	0.0010	mg/Kg wet	0.0200		92.2	70-130	1.29	20		
trans-1,3-Dichloropropene	0.0190	0.0010	mg/Kg wet	0.0200		95.0	70-130	5.23	20		
Diethyl Ether	0.0183	0.010	mg/Kg wet	0.0200		91.7	70-130	3.33	20		
Diisopropyl Ether (DIPE)	0.0198	0.0010	mg/Kg wet	0.0200		99.1	70-130	2.45	20		
1,4-Dioxane	0.195	0.10	mg/Kg wet	0.200		97.5	40-160	18.0	20	V-16	†
Ethylbenzene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130	0.654	20		
Hexachlorobutadiene	0.0248	0.0020	mg/Kg wet	0.0200		124	70-130	2.86	20		
2-Hexanone (MBK)	0.168	0.020	mg/Kg wet	0.200		84.1	40-160	4.62	20		†
Isopropylbenzene (Cumene)	0.0230	0.0020	mg/Kg wet	0.0200		115	70-130	1.73	20		
p-Isopropyltoluene (p-Cymene)	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	1.30	20		
Methyl tert-Butyl Ether (MTBE)	0.0190	0.0040	mg/Kg wet	0.0200		95.0	70-130	2.45	20		
Methylene Chloride	0.0213	0.010	mg/Kg wet	0.0200		106	70-130	1.33	20		
4-Methyl-2-pentanone (MIBK)	0.189	0.020	mg/Kg wet	0.200		94.4	40-160	3.27	20		†
Naphthalene	0.0184	0.0040	mg/Kg wet	0.0200		92.2	70-130	2.15	20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175189 - SW-846 5035										
LCS Dup (B175189-BSD1)				Prepared & Analyzed: 04/24/17						
n-Propylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	2.02	20	
Styrene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	2.51	20	
1,1,1,2-Tetrachloroethane	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130	0.491	20	
1,1,2,2-Tetrachloroethane	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130	0.00	20	
Tetrachloroethylene	0.0238	0.0020	mg/Kg wet	0.0200		119	70-130	0.0839	20	
Tetrahydrofuran	0.0189	0.010	mg/Kg wet	0.0200		94.6	70-130	2.20	20	
Toluene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	0.0993	20	
1,2,3-Trichlorobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	3.53	20	
1,2,4-Trichlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	6.77	20	
1,1,1-Trichloroethane	0.0221	0.0020	mg/Kg wet	0.0200		111	70-130	3.96	20	
1,1,2-Trichloroethane	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	0.587	20	
Trichloroethylene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130	3.05	20	
Trichlorofluoromethane (Freon 11)	0.0189	0.010	mg/Kg wet	0.0200		94.5	70-130	0.850	20	
1,2,3-Trichloropropane	0.0196	0.0020	mg/Kg wet	0.0200		97.8	70-130	1.86	20	
1,2,4-Trimethylbenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130	1.32	20	
1,3,5-Trimethylbenzene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130	2.04	20	
Vinyl Chloride	0.0149	0.010	mg/Kg wet	0.0200		74.4	70-130	1.86	20	
m+p Xylene	0.0423	0.0040	mg/Kg wet	0.0400		106	70-130	1.09	20	
o-Xylene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	1.84	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0538*		mg/Kg wet	0.0500		108	70-130			
Surrogate: Toluene-d8	*0.0490*		mg/Kg wet	0.0500		98.0	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0495*		mg/Kg wet	0.0500		99.0	70-130			

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175139 - SW-846 3546										
Blank (B175139-BLK1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.219*		mg/Kg wet	0.200		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.200*		mg/Kg wet	0.200		100	30-150			
Surrogate: Tetrachloro-m-xylene	*0.216*		mg/Kg wet	0.200		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.196*		mg/Kg wet	0.200		97.8	30-150			
LCS (B175139-BS1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.0	40-140			
Aroclor-1016 [2C]	0.15	0.020	mg/Kg wet	0.200		73.4	40-140			
Aroclor-1260	0.17	0.020	mg/Kg wet	0.200		87.3	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		83.6	40-140			
Surrogate: Decachlorobiphenyl	*0.210*		mg/Kg wet	0.200		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.202*		mg/Kg wet	0.200		101	30-150			
Surrogate: Tetrachloro-m-xylene	*0.139*		mg/Kg wet	0.200		69.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.137*		mg/Kg wet	0.200		68.3	30-150			
LCS Dup (B175139-BSD1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		72.9	40-140	2.91	30	
Aroclor-1016 [2C]	0.15	0.020	mg/Kg wet	0.200		77.3	40-140	5.14	30	
Aroclor-1260	0.16	0.020	mg/Kg wet	0.200		80.1	40-140	8.62	30	
Aroclor-1260 [2C]	0.15	0.020	mg/Kg wet	0.200		76.5	40-140	8.93	30	
Surrogate: Decachlorobiphenyl	*0.188*		mg/Kg wet	0.200		94.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.181*		mg/Kg wet	0.200		90.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.162*		mg/Kg wet	0.200		81.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.163*		mg/Kg wet	0.200		81.5	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175139 - SW-846 3546										
Matrix Spike (B175139-MS1)	**Source: 17D1005-01**			Prepared: 04/24/17 Analyzed: 04/26/17						
Aroclor-1016	0.23	0.11	mg/Kg dry	0.211	ND	107	40-140			
Aroclor-1016 [2C]	0.22	0.11	mg/Kg dry	0.211	ND	102	40-140			
Aroclor-1260	0.24	0.11	mg/Kg dry	0.211	ND	112	40-140			
Aroclor-1260 [2C]	0.22	0.11	mg/Kg dry	0.211	ND	103	40-140			
Surrogate: Decachlorobiphenyl	*0.255*		mg/Kg dry	0.211		121	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.231*		mg/Kg dry	0.211		109	30-150			
Surrogate: Tetrachloro-m-xylene	*0.151*		mg/Kg dry	0.211		71.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.145*		mg/Kg dry	0.211		68.5	30-150			
Matrix Spike Dup (B175139-MSD1)	**Source: 17D1005-01**			Prepared: 04/24/17 Analyzed: 04/26/17						
Aroclor-1016	0.25	0.11	mg/Kg dry	0.211	ND	118	40-140	9.90	30	
Aroclor-1016 [2C]	0.24	0.11	mg/Kg dry	0.211	ND	112	40-140	9.72	30	
Aroclor-1260	0.25	0.11	mg/Kg dry	0.211	ND	118	40-140	5.30	30	
Aroclor-1260 [2C]	0.23	0.11	mg/Kg dry	0.211	ND	111	40-140	7.59	30	
Surrogate: Decachlorobiphenyl	*0.274*		mg/Kg dry	0.211		130	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.250*		mg/Kg dry	0.211		119	30-150			
Surrogate: Tetrachloro-m-xylene	*0.190*		mg/Kg dry	0.211		90.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.181*		mg/Kg dry	0.211		85.8	30-150			

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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 B175112 - SW-846 3546										
Blank (B175112-BLK1)				Prepared: 04/24/17 Analyzed: 04/25/17						
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							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.23*		mg/Kg wet	5.00		64.5	40-140			
Surrogate: o-Terphenyl (OTP)	*3.72*		mg/Kg wet	5.00		74.4	40-140			
Surrogate: 2-Bromonaphthalene	*4.01*		mg/Kg wet	5.00		80.1	40-140			
Surrogate: 2-Fluorobiphenyl	*3.90*		mg/Kg wet	5.00		78.0	40-140			
LCS (B175112-BS1)				Prepared: 04/24/17 Analyzed: 04/25/17						
C9-C18 Aliphatics	25.1	10	mg/Kg wet	30.0		83.5	40-140			
C19-C36 Aliphatics	35.8	10	mg/Kg wet	40.0		89.4	40-140			
Acenaphthene	3.56	0.10	mg/Kg wet	5.00		71.1	40-140			
Acenaphthylene	3.37	0.10	mg/Kg wet	5.00		67.4	40-140			
Anthracene	3.79	0.10	mg/Kg wet	5.00		75.8	40-140			
Benzo(a)anthracene	3.73	0.10	mg/Kg wet	5.00		74.7	40-140			
Benzo(a)pyrene	3.61	0.10	mg/Kg wet	5.00		72.2	40-140			
Benzo(b)fluoranthene	3.67	0.10	mg/Kg wet	5.00		73.4	40-140			
Benzo(g,h,i)perylene	3.44	0.10	mg/Kg wet	5.00		68.7	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 B175112 - SW-846 3546										
LCS (B175112-BS1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Benzo(k)fluoranthene	3.59	0.10	mg/Kg wet	5.00		71.9	40-140			
Chrysene	3.73	0.10	mg/Kg wet	5.00		74.5	40-140			
Dibenz(a,h)anthracene	3.65	0.10	mg/Kg wet	5.00		73.0	40-140			
Fluoranthene	3.74	0.10	mg/Kg wet	5.00		74.9	40-140			
Fluorene	3.62	0.10	mg/Kg wet	5.00		72.3	40-140			
Indeno(1,2,3-cd)pyrene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			
2-Methylnaphthalene	3.12	0.10	mg/Kg wet	5.00		62.4	40-140			
Naphthalene	2.95	0.10	mg/Kg wet	5.00		58.9	40-140			
Phenanthrene	3.69	0.10	mg/Kg wet	5.00		73.8	40-140			
Pyrene	3.77	0.10	mg/Kg wet	5.00		75.3	40-140			
n-Decane	2.32	0.10	mg/Kg wet	5.00		46.4	40-140			
n-Docosane	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			
n-Dodecane	2.84	0.10	mg/Kg wet	5.00		56.9	40-140			
n-Eicosane	3.62	0.10	mg/Kg wet	5.00		72.5	40-140			
n-Hexacosane	3.47	0.10	mg/Kg wet	5.00		69.4	40-140			
n-Hexadecane	3.74	0.10	mg/Kg wet	5.00		74.9	40-140			
n-Hexatriacontane	3.53	0.10	mg/Kg wet	5.00		70.7	40-140			
n-Nonadecane	3.57	0.10	mg/Kg wet	5.00		71.5	40-140			
n-Nonane	1.75	0.10	mg/Kg wet	5.00		34.9	30-140			
n-Octacosane	3.39	0.10	mg/Kg wet	5.00		67.9	40-140			
n-Octadecane	3.89	0.10	mg/Kg wet	5.00		77.7	40-140			
n-Tetracosane	3.58	0.10	mg/Kg wet	5.00		71.5	40-140			
n-Tetradecane	3.44	0.10	mg/Kg wet	5.00		68.7	40-140			
n-Triacontane	3.47	0.10	mg/Kg wet	5.00		69.5	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)	*3.22*		mg/Kg wet	5.00		64.3	40-140			
Surrogate: o-Terphenyl (OTP)	*3.59*		mg/Kg wet	5.00		71.8	40-140			
Surrogate: 2-Bromonaphthalene	*4.13*		mg/Kg wet	5.00		82.6	40-140			
Surrogate: 2-Fluorobiphenyl	*4.17*		mg/Kg wet	5.00		83.3	40-140			
LCS Dup (B175112-BSD1)				Prepared: 04/24/17 Analyzed: 04/25/17						
C9-C18 Aliphatics	25.0	10	mg/Kg wet	30.0		83.3	40-140	0.269	25	
C19-C36 Aliphatics	34.2	10	mg/Kg wet	40.0		85.6	40-140	4.43	25	
Acenaphthene	3.41	0.10	mg/Kg wet	5.00		68.1	40-140	4.29	25	
Acenaphthylene	3.25	0.10	mg/Kg wet	5.00		65.0	40-140	3.55	25	
Anthracene	3.57	0.10	mg/Kg wet	5.00		71.5	40-140	5.84	25	
Benzo(a)anthracene	3.56	0.10	mg/Kg wet	5.00		71.1	40-140	4.83	25	
Benzo(a)pyrene	3.45	0.10	mg/Kg wet	5.00		68.9	40-140	4.65	25	
Benzo(b)fluoranthene	3.50	0.10	mg/Kg wet	5.00		70.0	40-140	4.72	25	
Benzo(g,h,i)perylene	3.35	0.10	mg/Kg wet	5.00		66.9	40-140	2.68	25	
Benzo(k)fluoranthene	3.43	0.10	mg/Kg wet	5.00		68.7	40-140	4.52	25	
Chrysene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140	4.26	25	
Dibenz(a,h)anthracene	3.55	0.10	mg/Kg wet	5.00		70.9	40-140	2.91	25	
Fluoranthene	3.55	0.10	mg/Kg wet	5.00		71.0	40-140	5.37	25	
Fluorene	3.42	0.10	mg/Kg wet	5.00		68.4	40-140	5.48	25	
Indeno(1,2,3-cd)pyrene	3.38	0.10	mg/Kg wet	5.00		67.6	40-140	5.46	25	
2-Methylnaphthalene	3.10	0.10	mg/Kg wet	5.00		62.1	40-140	0.549	25	
Naphthalene	2.98	0.10	mg/Kg wet	5.00		59.6	40-140	1.08	25	
Phenanthrene	3.50	0.10	mg/Kg wet	5.00		70.0	40-140	5.28	25	
Pyrene	3.56	0.10	mg/Kg wet	5.00		71.3	40-140	5.54	25	
n-Decane	2.56	0.10	mg/Kg wet	5.00		51.1	40-140	9.66	25	

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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 B175112 - SW-846 3546										
LCS Dup (B175112-BSD1)				Prepared: 04/24/17 Analyzed: 04/25/17						
n-Docosane	3.50	0.10	mg/Kg wet	5.00		70.0	40-140	2.05	25	
n-Dodecane	3.07	0.10	mg/Kg wet	5.00		61.4	40-140	7.59	25	
n-Eicosane	3.55	0.10	mg/Kg wet	5.00		71.0	40-140	2.07	25	
n-Hexacosane	3.41	0.10	mg/Kg wet	5.00		68.2	40-140	1.75	25	
n-Hexadecane	3.70	0.10	mg/Kg wet	5.00		74.1	40-140	1.08	25	
n-Hexatriacontane	3.32	0.10	mg/Kg wet	5.00		66.4	40-140	6.21	25	
n-Nonadecane	3.51	0.10	mg/Kg wet	5.00		70.2	40-140	1.75	25	
n-Nonane	1.97	0.10	mg/Kg wet	5.00		39.4	30-140	12.1	25	
n-Octacosane	3.33	0.10	mg/Kg wet	5.00		66.6	40-140	1.83	25	
n-Octadecane	3.81	0.10	mg/Kg wet	5.00		76.1	40-140	2.12	25	
n-Tetracosane	3.52	0.10	mg/Kg wet	5.00		70.3	40-140	1.72	25	
n-Tetradecane	3.53	0.10	mg/Kg wet	5.00		70.7	40-140	2.81	25	
n-Triacontane	3.39	0.10	mg/Kg wet	5.00		67.9	40-140	2.28	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)	*3.07*		mg/Kg wet	5.00		61.4	40-140			
Surrogate: o-Terphenyl (OTP)	*3.37*		mg/Kg wet	5.00		67.4	40-140			
Surrogate: 2-Bromonaphthalene	*4.06*		mg/Kg wet	5.00		81.2	40-140			
Surrogate: 2-Fluorobiphenyl	*4.05*		mg/Kg wet	5.00		80.9	40-140			
Matrix Spike (B175112-MS1)		**Source: 17D1005-01**		Prepared: 04/24/17 Analyzed: 04/25/17						
C9-C18 Aliphatics	25.5	11	mg/Kg dry	31.7	6.33	60.5	40-140			
C19-C36 Aliphatics	35.8	11	mg/Kg dry	42.2	6.35	69.8	40-140			
Unadjusted C11-C22 Aromatics	69.4	11	mg/Kg dry	89.8	6.70	69.8	40-140			
Acenaphthene	3.72	0.11	mg/Kg dry	5.28	ND	70.5	40-140			
Acenaphthylene	3.57	0.11	mg/Kg dry	5.28	ND	67.7	40-140			
Anthracene	3.79	0.11	mg/Kg dry	5.28	ND	71.8	40-140			
Benzo(a)anthracene	3.72	0.11	mg/Kg dry	5.28	ND	70.5	40-140			
Benzo(a)pyrene	3.67	0.11	mg/Kg dry	5.28	ND	69.5	40-140			
Benzo(b)fluoranthene	3.70	0.11	mg/Kg dry	5.28	ND	70.1	40-140			
Benzo(g,h,i)perylene	3.92	0.11	mg/Kg dry	5.28	0.450	65.6	40-140			
Benzo(k)fluoranthene	3.58	0.11	mg/Kg dry	5.28	ND	67.9	40-140			
Chrysene	3.70	0.11	mg/Kg dry	5.28	ND	70.1	40-140			
Dibenz(a,h)anthracene	3.69	0.11	mg/Kg dry	5.28	ND	69.9	40-140			
Fluoranthene	3.75	0.11	mg/Kg dry	5.28	ND	71.1	40-140			
Fluorene	3.73	0.11	mg/Kg dry	5.28	ND	70.6	40-140			
Indeno(1,2,3-cd)pyrene	3.54	0.11	mg/Kg dry	5.28	ND	67.0	40-140			
2-Methylnaphthalene	3.39	0.11	mg/Kg dry	5.28	ND	64.3	40-140			
Naphthalene	3.20	0.11	mg/Kg dry	5.28	ND	60.7	40-140			
Phenanthrene	3.74	0.11	mg/Kg dry	5.28	ND	70.8	40-140			
Pyrene	3.76	0.11	mg/Kg dry	5.28	ND	71.2	40-140			
n-Nonane	1.97	0.11	mg/Kg dry	5.28	ND	37.4	30-140			
Surrogate: Chlorooctadecane (COD)	*3.27*		mg/Kg dry	5.28		61.9	40-140			
Surrogate: o-Terphenyl (OTP)	*3.59*		mg/Kg dry	5.28		68.0	40-140			
Surrogate: 2-Bromonaphthalene	*4.00*		mg/Kg dry	5.28		75.8	40-140			
Surrogate: 2-Fluorobiphenyl	*4.06*		mg/Kg dry	5.28		76.9	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 B175112 - SW-846 3546										
Matrix Spike Dup (B175112-MSD1)	**Source: 17D1005-01**			Prepared: 04/24/17 Analyzed: 04/25/17						
C9-C18 Aliphatics	25.4	11	mg/Kg dry	31.7	6.33	60.2	40-140	0.354	50	
C19-C36 Aliphatics	36.3	11	mg/Kg dry	42.2	6.35	71.0	40-140	1.43	50	
Unadjusted C11-C22 Aromatics	70.4	11	mg/Kg dry	89.8	6.70	71.0	40-140	1.45	50	
Acenaphthene	3.63	0.11	mg/Kg dry	5.28	ND	68.7	40-140	2.63	50	
Acenaphthylene	3.47	0.11	mg/Kg dry	5.28	ND	65.7	40-140	3.05	50	
Anthracene	3.83	0.11	mg/Kg dry	5.28	ND	72.5	40-140	0.901	50	
Benzo(a)anthracene	3.80	0.11	mg/Kg dry	5.28	ND	71.9	40-140	2.01	50	
Benzo(a)pyrene	3.75	0.11	mg/Kg dry	5.28	ND	71.0	40-140	2.07	50	
Benzo(b)fluoranthene	3.79	0.11	mg/Kg dry	5.28	ND	71.8	40-140	2.37	50	
Benzo(g,h,i)perylene	4.03	0.11	mg/Kg dry	5.28	0.450	67.8	40-140	2.93	50	
Benzo(k)fluoranthene	3.66	0.11	mg/Kg dry	5.28	ND	69.2	40-140	2.01	50	
Chrysene	3.75	0.11	mg/Kg dry	5.28	ND	71.1	40-140	1.38	50	
Dibenz(a,h)anthracene	3.77	0.11	mg/Kg dry	5.28	ND	71.4	40-140	2.12	50	
Fluoranthene	3.83	0.11	mg/Kg dry	5.28	ND	72.5	40-140	2.00	50	
Fluorene	3.69	0.11	mg/Kg dry	5.28	ND	69.9	40-140	1.00	50	
Indeno(1,2,3-cd)pyrene	3.64	0.11	mg/Kg dry	5.28	ND	69.0	40-140	2.89	50	
2-Methylnaphthalene	3.26	0.11	mg/Kg dry	5.28	ND	61.8	40-140	3.98	50	
Naphthalene	3.04	0.11	mg/Kg dry	5.28	ND	57.7	40-140	5.12	50	
Phenanthrene	3.78	0.11	mg/Kg dry	5.28	ND	71.7	40-140	1.26	50	
Pyrene	3.86	0.11	mg/Kg dry	5.28	ND	73.0	40-140	2.52	50	
n-Nonane	1.89	0.11	mg/Kg dry	5.28	ND	35.8	30-140	4.35	50	
Surrogate: Chlorooctadecane (COD)	*3.16*		mg/Kg dry	5.28		59.9	40-140			
Surrogate: o-Terphenyl (OTP)	*3.61*		mg/Kg dry	5.28		68.3	40-140			
Surrogate: 2-Bromonaphthalene	*4.23*		mg/Kg dry	5.28		80.0	40-140			
Surrogate: 2-Fluorobiphenyl	*4.24*		mg/Kg dry	5.28		80.2	40-140			
Batch B175447 - SW-846 3546										
Blank (B175447-BLK1)				Prepared: 04/26/17 Analyzed: 04/27/17						
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							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							

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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 B175447 - SW-846 3546										
Blank (B175447-BLK1)				Prepared: 04/26/17 Analyzed: 04/27/17						
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*2.95*		mg/Kg wet	5.00		58.9	40-140			
Surrogate: o-Terphenyl (OTP)	*3.46*		mg/Kg wet	5.00		69.1	40-140			
Surrogate: 2-Bromonaphthalene	*3.89*		mg/Kg wet	5.00		77.9	40-140			
Surrogate: 2-Fluorobiphenyl	*4.07*		mg/Kg wet	5.00		81.5	40-140			
LCS (B175447-BS1)				Prepared: 04/26/17 Analyzed: 04/27/17						
C9-C18 Aliphatics	27.9	10	mg/Kg wet	30.0		92.9	40-140			
C19-C36 Aliphatics	38.8	10	mg/Kg wet	40.0		97.0	40-140			
Acenaphthene	4.02	0.10	mg/Kg wet	5.00		80.3	40-140			
Acenaphthylene	3.84	0.10	mg/Kg wet	5.00		76.9	40-140			
Anthracene	4.24	0.10	mg/Kg wet	5.00		84.8	40-140			
Benzo(a)anthracene	4.16	0.10	mg/Kg wet	5.00		83.2	40-140			
Benzo(a)pyrene	4.06	0.10	mg/Kg wet	5.00		81.3	40-140			
Benzo(b)fluoranthene	4.13	0.10	mg/Kg wet	5.00		82.6	40-140			
Benzo(g,h,i)perylene	3.98	0.10	mg/Kg wet	5.00		79.5	40-140			
Benzo(k)fluoranthene	4.05	0.10	mg/Kg wet	5.00		80.9	40-140			
Chrysene	4.16	0.10	mg/Kg wet	5.00		83.3	40-140			
Dibenz(a,h)anthracene	4.20	0.10	mg/Kg wet	5.00		84.0	40-140			
Fluoranthene	4.16	0.10	mg/Kg wet	5.00		83.3	40-140			
Fluorene	4.01	0.10	mg/Kg wet	5.00		80.1	40-140			
Indeno(1,2,3-cd)pyrene	4.04	0.10	mg/Kg wet	5.00		80.8	40-140			
2-Methylnaphthalene	3.65	0.10	mg/Kg wet	5.00		73.1	40-140			
Naphthalene	3.46	0.10	mg/Kg wet	5.00		69.2	40-140			
Phenanthrene	4.12	0.10	mg/Kg wet	5.00		82.4	40-140			
Pyrene	4.18	0.10	mg/Kg wet	5.00		83.5	40-140			
n-Decane	2.92	0.10	mg/Kg wet	5.00		58.3	40-140			
n-Docosane	3.90	0.10	mg/Kg wet	5.00		78.1	40-140			
n-Dodecane	3.45	0.10	mg/Kg wet	5.00		68.9	40-140			
n-Eicosane	3.94	0.10	mg/Kg wet	5.00		78.7	40-140			
n-Hexacosane	3.79	0.10	mg/Kg wet	5.00		75.9	40-140			
n-Hexadecane	4.13	0.10	mg/Kg wet	5.00		82.5	40-140			
n-Hexatriacontane	3.94	0.10	mg/Kg wet	5.00		78.8	40-140			
n-Nonadecane	3.94	0.10	mg/Kg wet	5.00		78.7	40-140			
n-Nonane	2.23	0.10	mg/Kg wet	5.00		44.6	30-140			
n-Octacosane	3.71	0.10	mg/Kg wet	5.00		74.3	40-140			
n-Octadecane	4.26	0.10	mg/Kg wet	5.00		85.1	40-140			
n-Tetracosane	3.91	0.10	mg/Kg wet	5.00		78.3	40-140			
n-Tetradecane	3.90	0.10	mg/Kg wet	5.00		78.0	40-140			
n-Triacontane	3.80	0.10	mg/Kg wet	5.00		76.0	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 B175447 - SW-846 3546										
LCS (B175447-BS1)				Prepared: 04/26/17 Analyzed: 04/27/17						
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)	*3.03*		mg/Kg wet	5.00		60.5	40-140			
Surrogate: o-Terphenyl (OTP)	*3.86*		mg/Kg wet	5.00		77.1	40-140			
Surrogate: 2-Bromonaphthalene	*3.79*		mg/Kg wet	5.00		75.9	40-140			
Surrogate: 2-Fluorobiphenyl	*4.26*		mg/Kg wet	5.00		85.1	40-140			
LCS Dup (B175447-BSD1)				Prepared: 04/26/17 Analyzed: 04/27/17						
C9-C18 Aliphatics	25.3	10	mg/Kg wet	30.0		84.2	40-140	9.74	25	
C19-C36 Aliphatics	35.1	10	mg/Kg wet	40.0		87.8	40-140	9.97	25	
Acenaphthene	3.57	0.10	mg/Kg wet	5.00		71.3	40-140	11.9	25	
Acenaphthylene	3.42	0.10	mg/Kg wet	5.00		68.4	40-140	11.6	25	
Anthracene	3.78	0.10	mg/Kg wet	5.00		75.5	40-140	11.6	25	
Benzo(a)anthracene	3.71	0.10	mg/Kg wet	5.00		74.1	40-140	11.5	25	
Benzo(a)pyrene	3.60	0.10	mg/Kg wet	5.00		72.0	40-140	12.1	25	
Benzo(b)fluoranthene	3.67	0.10	mg/Kg wet	5.00		73.4	40-140	11.8	25	
Benzo(g,h,i)perylene	3.48	0.10	mg/Kg wet	5.00		69.6	40-140	13.3	25	
Benzo(k)fluoranthene	3.59	0.10	mg/Kg wet	5.00		71.8	40-140	11.9	25	
Chrysene	3.70	0.10	mg/Kg wet	5.00		74.0	40-140	11.8	25	
Dibenz(a,h)anthracene	3.71	0.10	mg/Kg wet	5.00		74.3	40-140	12.3	25	
Fluoranthene	3.72	0.10	mg/Kg wet	5.00		74.4	40-140	11.3	25	
Fluorene	3.58	0.10	mg/Kg wet	5.00		71.7	40-140	11.1	25	
Indeno(1,2,3-cd)pyrene	3.59	0.10	mg/Kg wet	5.00		71.7	40-140	11.9	25	
2-Methylnaphthalene	3.19	0.10	mg/Kg wet	5.00		63.8	40-140	13.5	25	
Naphthalene	2.98	0.10	mg/Kg wet	5.00		59.6	40-140	15.0	25	
Phenanthrene	3.67	0.10	mg/Kg wet	5.00		73.4	40-140	11.5	25	
Pyrene	3.73	0.10	mg/Kg wet	5.00		74.5	40-140	11.4	25	
n-Decane	2.51	0.10	mg/Kg wet	5.00		50.2	40-140	15.0	25	
n-Docosane	3.57	0.10	mg/Kg wet	5.00		71.4	40-140	8.99	25	
n-Dodecane	3.04	0.10	mg/Kg wet	5.00		60.9	40-140	12.4	25	
n-Eicosane	3.59	0.10	mg/Kg wet	5.00		71.8	40-140	9.21	25	
n-Hexacosane	3.47	0.10	mg/Kg wet	5.00		69.5	40-140	8.81	25	
n-Hexadecane	3.74	0.10	mg/Kg wet	5.00		74.8	40-140	9.79	25	
n-Hexatriacontane	3.54	0.10	mg/Kg wet	5.00		70.9	40-140	10.5	25	
n-Nonadecane	3.60	0.10	mg/Kg wet	5.00		72.0	40-140	8.96	25	
n-Nonane	1.86	0.10	mg/Kg wet	5.00		37.3	30-140	18.0	25	
n-Octacosane	3.39	0.10	mg/Kg wet	5.00		67.8	40-140	9.06	25	
n-Octadecane	3.88	0.10	mg/Kg wet	5.00		77.7	40-140	9.14	25	
n-Tetracosane	3.58	0.10	mg/Kg wet	5.00		71.6	40-140	8.90	25	
n-Tetradecane	3.50	0.10	mg/Kg wet	5.00		70.1	40-140	10.7	25	
n-Triacontane	3.45	0.10	mg/Kg wet	5.00		69.0	40-140	9.70	25	
Naphthalene-aliphatic fraction	0.174	0.10	mg/Kg wet	5.00		3.49	0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.16*		mg/Kg wet	5.00		63.2	40-140			
Surrogate: o-Terphenyl (OTP)	*3.48*		mg/Kg wet	5.00		69.6	40-140			
Surrogate: 2-Bromonaphthalene	*3.54*		mg/Kg wet	5.00		70.9	40-140			
Surrogate: 2-Fluorobiphenyl	*4.15*		mg/Kg wet	5.00		83.0	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175257 - MA VPH										
Blank (B175257-BLK1)				Prepared & Analyzed: 04/25/17						
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
2-Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.50	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
o-Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	*4.26*		mg/Kg wet	3.33		128	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*3.78*		mg/Kg wet	3.33		113	70-130			
LCS (B175257-BS1)				Prepared & Analyzed: 04/25/17						
Benzene	0.0903	0.0010	mg/Kg wet	0.100		90.3	70-130			
Butylcyclohexane	0.0793	0.0010	mg/Kg wet	0.100		79.3	70-130			
Decane	0.0840	0.0010	mg/Kg wet	0.100		84.0	70-130			
Ethylbenzene	0.0885	0.0010	mg/Kg wet	0.100		88.5	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0903	0.0010	mg/Kg wet	0.100		90.3	70-130			
2-Methylpentane	0.0953	0.0010	mg/Kg wet	0.100		95.3	70-130			
Naphthalene	0.0935	0.010	mg/Kg wet	0.100		93.5	70-130			
Nonane	0.0788	0.0010	mg/Kg wet	0.100		78.8	30-130			
Pentane	0.101	0.0010	mg/Kg wet	0.100		101	70-130			
Toluene	0.0896	0.0010	mg/Kg wet	0.100		89.6	70-130			
1,2,4-Trimethylbenzene	0.0863	0.0010	mg/Kg wet	0.100		86.3	70-130			
2,2,4-Trimethylpentane	0.0799	0.0010	mg/Kg wet	0.100		79.9	70-130			
m+p Xylene	0.177	0.0020	mg/Kg wet	0.200		88.3	70-130			
o-Xylene	0.0889	0.0010	mg/Kg wet	0.100		88.9	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*0.0395*		mg/Kg wet	0.0400		98.8	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0397*		mg/Kg wet	0.0400		99.3	70-130			
LCS Dup (B175257-BSD1)				Prepared & Analyzed: 04/25/17						
Benzene	0.0880	0.0010	mg/Kg wet	0.100		88.0	70-130	2.60	25	
Butylcyclohexane	0.0777	0.0010	mg/Kg wet	0.100		77.7	70-130	2.03	25	
Decane	0.0826	0.0010	mg/Kg wet	0.100		82.6	70-130	1.66	25	
Ethylbenzene	0.0863	0.0010	mg/Kg wet	0.100		86.3	70-130	2.54	25	
Methyl tert-Butyl Ether (MTBE)	0.0897	0.0010	mg/Kg wet	0.100		89.7	70-130	0.593	25	
2-Methylpentane	0.0914	0.0010	mg/Kg wet	0.100		91.4	70-130	4.21	25	
Naphthalene	0.0934	0.010	mg/Kg wet	0.100		93.4	70-130	0.118	25	
Nonane	0.0767	0.0010	mg/Kg wet	0.100		76.7	30-130	2.75	25	
Pentane	0.0925	0.0010	mg/Kg wet	0.100		92.5	70-130	9.17	25	
Toluene	0.0874	0.0010	mg/Kg wet	0.100		87.4	70-130	2.42	25	
1,2,4-Trimethylbenzene	0.0843	0.0010	mg/Kg wet	0.100		84.3	70-130	2.33	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B175257 - MA VPH										
LCS Dup (B175257-BSD1)				Prepared & Analyzed: 04/25/17						
2,2,4-Trimethylpentane	0.0763	0.0010	mg/Kg wet	0.100		76.3	70-130	4.61	25	
m+p Xylene	0.172	0.0020	mg/Kg wet	0.200		86.1	70-130	2.53	25	
o-Xylene	0.0871	0.0010	mg/Kg wet	0.100		87.1	70-130	2.09	25	
Surrogate: 2,5-Dibromotoluene (FID)	*0.0412*		mg/Kg wet	0.0400		103	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0412*		mg/Kg wet	0.0400		103	70-130			

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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 B175136 - SW-846 3051										
Blank (B175136-BLK1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Antimony	ND	2.5	mg/Kg wet							
Arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Nickel	ND	0.50	mg/Kg wet							
Selenium	ND	5.0	mg/Kg wet							
Silver	ND	0.50	mg/Kg wet							
Thallium	ND	2.5	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
Zinc	ND	1.0	mg/Kg wet							
LCS (B175136-BS1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Antimony	128	5.1	mg/Kg wet	88.2		145	0-210.3			
Arsenic	55.1	5.1	mg/Kg wet	57.0		96.7	77.8-122.1			
Barium	97.1	5.1	mg/Kg wet	110		88.3	82-117.4			
Beryllium	73.4	0.51	mg/Kg wet	67.5		109	82.3-117.7			
Cadmium	75.1	0.51	mg/Kg wet	77.8		96.5	81.9-118.2			
Chromium	60.7	1.0	mg/Kg wet	65.0		93.4	78.7-120.6			
Lead	76.1	1.5	mg/Kg wet	85.6		88.9	82.4-117.8			
Nickel	58.5	1.0	mg/Kg wet	61.3		95.5	82.2-117.8			
Selenium	74.2	10	mg/Kg wet	78.9		94.1	77.1-122.3			
Silver	50.7	1.0	mg/Kg wet	54.2		93.5	74.3-125.4			
Thallium	172	5.1	mg/Kg wet	178		96.8	78.2-121.6			
Vanadium	50.9	2.0	mg/Kg wet	56.3		90.5	64.8-135.2			
Zinc	186	2.0	mg/Kg wet	198		94.0	79.7-120.8			
LCS Dup (B175136-BSD1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Antimony	138	5.1	mg/Kg wet	88.2		157	0-210.3	7.43	30	
Arsenic	54.3	5.1	mg/Kg wet	57.0		95.3	77.8-122.1	1.50	30	
Barium	92.2	5.1	mg/Kg wet	110		83.8	82-117.4	5.19	30	
Beryllium	70.5	0.51	mg/Kg wet	67.5		104	82.3-117.7	4.05	30	
Cadmium	71.8	0.51	mg/Kg wet	77.8		92.4	81.9-118.2	4.42	30	
Chromium	60.1	1.0	mg/Kg wet	65.0		92.4	78.7-120.6	1.10	30	
Lead	76.3	1.5	mg/Kg wet	85.6		89.2	82.4-117.8	0.344	30	
Nickel	57.3	1.0	mg/Kg wet	61.3		93.5	82.2-117.8	2.12	30	
Selenium	73.3	10	mg/Kg wet	78.9		92.9	77.1-122.3	1.32	30	
Silver	49.8	1.0	mg/Kg wet	54.2		91.9	74.3-125.4	1.69	30	
Thallium	167	5.1	mg/Kg wet	178		94.0	78.2-121.6	2.89	30	
Vanadium	50.7	2.0	mg/Kg wet	56.3		90.1	64.8-135.2	0.482	30	
Zinc	180	2.0	mg/Kg wet	198		91.0	79.7-120.8	3.15	30	

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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 B175136 - SW-846 3051										
Duplicate (B175136-DUP1)	**Source: 17D1005-01**			Prepared: 04/24/17 Analyzed: 04/25/17						
Antimony	ND	2.6	mg/Kg dry		ND			NC	35	
Arsenic	ND	2.6	mg/Kg dry		ND			NC	35	R-04
Barium	7.12	2.6	mg/Kg dry		6.84			4.00	35	
Beryllium	ND	0.26	mg/Kg dry		ND			NC	35	
Cadmium	ND	0.26	mg/Kg dry		ND			NC	35	
Chromium	4.85	0.52	mg/Kg dry		4.26			13.1	35	
Lead	17.6	0.78	mg/Kg dry		16.9			3.80	35	
Nickel	3.45	0.52	mg/Kg dry		2.91			16.9	35	
Selenium	ND	5.2	mg/Kg dry		ND			NC	35	
Silver	ND	0.52	mg/Kg dry		ND			NC	35	
Thallium	ND	2.6	mg/Kg dry		ND			NC	35	
Vanadium	7.69	1.0	mg/Kg dry		6.32			19.7	35	
Zinc	26.6	1.0	mg/Kg dry		25.3			5.28	35	
MRL Check (B175136-MRL1)				Prepared: 04/24/17 Analyzed: 04/26/17						
Lead	0.729	0.74	mg/Kg wet	0.735		99.2	80-120			
Matrix Spike (B175136-MS1)	**Source: 17D1005-01**			Prepared: 04/24/17 Analyzed: 04/25/17						
Antimony	24.3	2.6	mg/Kg dry	26.3	ND	92.6	75-125			
Arsenic	25.3	2.6	mg/Kg dry	26.3	0.579	94.3	75-125			
Barium	33.4	2.6	mg/Kg dry	26.3	6.84	101	75-125			
Beryllium	27.2	0.26	mg/Kg dry	26.3	ND	103	75-125			
Cadmium	24.7	0.26	mg/Kg dry	26.3	ND	94.1	75-125			
Chromium	30.4	0.53	mg/Kg dry	26.3	4.26	99.6	75-125			
Lead	43.9	0.79	mg/Kg dry	26.3	16.9	103	75-125			
Nickel	28.0	0.53	mg/Kg dry	26.3	2.91	95.6	75-125			
Selenium	24.1	5.3	mg/Kg dry	26.3	ND	91.8	75-125			
Silver	24.0	0.53	mg/Kg dry	26.3	ND	91.2	75-125			
Thallium	24.8	2.6	mg/Kg dry	26.3	1.82	87.5	75-125			
Vanadium	34.3	1.1	mg/Kg dry	26.3	6.32	106	75-125			
Zinc	52.6	1.1	mg/Kg dry	26.3	25.3	104	75-125			
Batch B175162 - SW-846 7471										
Blank (B175162-BLK1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Mercury	ND	0.025	mg/Kg wet							
LCS (B175162-BS1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Mercury	9.07	1.9	mg/Kg wet	9.36		96.9	73.7-126.3			
LCS Dup (B175162-BSD1)				Prepared: 04/24/17 Analyzed: 04/25/17						
Mercury	9.38	1.9	mg/Kg wet	9.36		100	73.7-126.3	3.34	30	

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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 B175162 - SW-846 7471										
Duplicate (B175162-DUP1)		**Source: 17D1005-01**		Prepared: 04/24/17 Analyzed: 04/25/17						
Mercury	0.0474	0.026	mg/Kg dry		0.0434			8.74	35	
Matrix Spike (B175162-MS1)		**Source: 17D1005-01**		Prepared: 04/24/17 Analyzed: 04/25/17						
Mercury	0.230	0.026	mg/Kg dry	0.176	0.0434	106	75-125			

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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 B175280 - % Solids										
Duplicate (B175280-DUP1)	**Source: 17D1005-01**			Prepared: 04/25/17 Analyzed: 04/26/17						
% Solids	94.5		% Wt		94.7			0.211	20	
Duplicate (B175280-DUP2)	**Source: 17D1005-02**			Prepared: 04/25/17 Analyzed: 04/26/17						
% Solids	86.0		% Wt		87.5			1.73	20	
Duplicate (B175280-DUP3)	**Source: 17D1005-03**			Prepared: 04/25/17 Analyzed: 04/26/17						
% Solids	87.5		% Wt		88.4			1.02	20	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B175139-BS1 Date(s) Analyzed: 04/25/2017 04/25/2017

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.15	
	2	0.00	0.00	0.00	0.15	0.0
Aroclor-1260	1	0.00	0.00	0.00	0.17	
	2	0.00	0.00	0.00	0.17	5.7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B175139-BSD1 Date(s) Analyzed: 04/25/2017 04/25/2017

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.15	
	2	0.00	0.00	0.00	0.15	0.0
Aroclor-1260	1	0.00	0.00	0.00	0.16	
	2	0.00	0.00	0.00	0.15	6.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B175139-MS1 Date(s) Analyzed: 04/26/2017 04/26/2017

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.23	
	2	0.00	0.00	0.00	0.22	4.4
Aroclor-1260	1	0.00	0.00	0.00	0.24	
	2	0.00	0.00	0.00	0.22	8.7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B175139-MSD1 Date(s) Analyzed: 04/26/2017 04/26/2017

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.25	
	2	0.00	0.00	0.00	0.24	4.1
Aroclor-1260	1	0.00	0.00	0.00	0.25	
	2	0.00	0.00	0.00	0.23	8.3

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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
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.

L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
O-01	Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.
O-32	A dilution was performed as part of the standard analytical procedure.
R-04	Duplicate relative percent difference (RPD) is a less useful indicator of sample precision for sample results that are <5 times the reporting limit (RL).
S-16	Surrogate recovery is outside of control limits. Reanalysis is not required if % solids is <75% and recovery is >10%.
S-19	Surrogate recovery is outside of control limits, matrix interference suspected. Reanalysis yielded similar surrogate non-conformance.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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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,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(a)anthracene	CT,NC,ME,NH-P
Benzo(a)pyrene	CT,NC,ME,NH-P
Benzo(b)fluoranthene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Benzo(k)fluoranthene	CT,NC,ME,NH-P
Chrysene	CT,NC,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
Indeno(1,2,3-cd)pyrene	CT,NC,ME,NH-P
2-Methylnaphthalene	CT,NC,ME
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
MADEP-VPH-04-1.1 in Soil	
Unadjusted C5-C8 Aliphatics	CT,NC,ME,NH-P
C5-C8 Aliphatics	CT,NC,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C10 Aromatics	CT,NC,ME,NH-P
Benzene	CT,NC,ME,NH-P
Ethylbenzene	CT,NC,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,ME,NH-P
Naphthalene	CT,NC,ME,NH-P
Toluene	CT,NC,ME,NH-P
m+p Xylene	CT,NC,ME,NH-P
o-Xylene	CT,NC,ME,NH-P
SW-846 6010C-D in Soil	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6010C-D in Soil	
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,NC,ME,VA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1221	CT,NH,NY,NC,ME,VA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1232	CT,NH,NY,NC,ME,VA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1242	CT,NH,NY,NC,ME,VA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1248	CT,NH,NY,NC,ME,VA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1254	CT,NH,NY,NC,ME,VA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1260	CT,NH,NY,NC,ME,VA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1262	NH,NY,NC,ME,VA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA
Aroclor-1268	NH,NY,NC,ME,VA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA
SW-846 8260C in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Soil	
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
1,4-Dioxane	NY
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NH,NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NY
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2018
RI	Rhode Island Department of Health	LAO00112	12/30/2017
NC	North Carolina Div. of Water Quality	652	12/31/2017
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2017
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

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CHAIN OF CUSTODY RECORD

17D1005

Rev 04.05.12

Page 1 of 1

Company Name: EBI
Address: 21 B St, Burlington MA 01803
Attention: Dan Bellucci
Project Location: 400 Ocean Ave, Revere, MA
Sampled By: Dan Bellucci
Project Proposal Provided? (for billing purposes) ○ yes ______ proposal date

Telephone:
Project # 1217000049
Client PO#

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

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	VPH	VOCs 8260	PCBs 8082	MCP 14 Metals
1	EB-01(1-2')	04/20/17	07:30		X	S	L	X	X	X	X	X
2	EB-01(10-12')		07:40		X	S	L	X	X	X	X	X
3	EB-02(2-5')		08:30		X	S	L	X	X	X	X	X
4	EB-02(10-12')		08:40		X	S	L	X	X	X	X	X
5	EB-03(2-7')		09:30		X	S	L	X			X	X
6	EB-03(4-6')		09:30		X	S	L		X	X		
7	EB-03(10-12')		10:00		X	S	L	X	X	X	X	X

VPH ranges only per Dan B - MEK 4/24/2017

# of Containers
** Preservation
***Container Code

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: * % solids for EB-03(4-6') from EB-03(2-7') Jar

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

Signature	Date/Time
Relinquished by: (signature) [signature] 04/21/17	1450
Received by: (signature) [signature] 4/21/17	1450
Relinquished by: (signature) [signature] 4/21/17	2000
Received by: (signature) [signature] 4/21/17	2000

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: MA EDD's
Connecticut:
Other:

Is your project MCP or RCP ?
☒ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # ______

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME 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 INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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Sample Receipt Checklist

CLIENT NAME: FBI **RECEIVED BY:** JM **DATE:** 4/21/17

1) **Was the chain(s) of custody relinquished and signed?** **Yes** ✓ **No** ____ **No COC Incl.**

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 2.7 # 2

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:** Login

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** ____ **N/A** ✓

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	6
250 mL Amber (8oz amber)		4 oz amber/clear jar	6
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below	24	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials: # HCl ____ # Methanol 12 **Time and Date Frozen:**
Bisulfate 12 # DI Water ____
Thiosulfate ____ Unpreserved ____

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	N/A	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	N/A	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	N/A	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	N/A	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	N/A	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JM **Date/Time:** 4/21/17 2000

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 17D1005
Project Location: 400 Ocean Ave. Revere, MA	RTN:

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

17D1005-01 thru 17D1005-07

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A (X)	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	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]

<u>Data User Note:</u> 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:  Position: Project Manager

Printed Name: Lisa A. Worthington Date: 04/28/17

APPENDIX E
PROFESSIONAL QUALIFICATIONS

EBI Consulting
environmental | engineering | due diligence

Daniel Bellucci
Environmental Scientist
21 B Street
Burlington, MA 01803
Office: 781.418.2344 Mobile: 845.803.4347

Summary of Experience

Mr. Bellucci is a staff scientist specializing in Phase I and Phase II Environmental Site Assessments in the commercial real estate, telecommunications and environmental health and safety industries. Mr. Bellucci's experience also includes approximately 4 years of field work and report preparation associated with MassDEP MCP sites, under the guidance of an LSP. Mr. Bellucci has conducted numerous pre-acquisition/due diligence environmental assessments for a wide range of properties throughout the Northeast, Southeast and Midwest. These assessments have been performed to evaluate site conditions, potential off-site liabilities, historic site and vicinity usage, environmental control systems, and site remediation costs in order to advise prospective buyers, lenders, current operators, and owners of potential and existing environmental concerns. Sites inspected include multi-family residential, commercial, retail and industrial properties.

Additionally, Mr. Bellucci has experience in Land Surveying, performing subsurface investigations and creating As-Built drawings.

Relevant Project Experience

Limited Removal Action, Brookline, Massachusetts: Provided oversight for several rounds of investigation in order to delineate the extent of dry cleaning solvent impacts to soil and groundwater. Arranged out-of-state soil disposal in conjunction with an MCP Limited Removal Action (LRA) to remediate solvent impacted soils and prepared a Limited Removal Action report.

Limited Removal Action and Permanent Solution with No Conditions, Hyde Park, Massachusetts: Organized and executed multiple sounds of subsurface investigations to delineate the extent of impacts related to both onsite dry cleaning operations and a release of fuel oil from a former UST. Under LSP supervision, the delineated solvent impacts to soil were excavated and managed under a LRA. Following execution of the LRA, fuel oil related impacts to soil were further delineated, including the evaluation of a downgradient property. Mr. Bellucci completed a Release Abatement Measure (RAM) Plan and submitted via eDEP for the excavation and management of fuel oil impacted soils. All field work was conducted in accordance with MassDEP protocols as set forth in the MCP.

PCB Investigation and Excavation, Woburn, Massachusetts: Field representative assisting the LSP in the execution of PCB in soil delineation activities. Currently in the process of coordinating soil removal with appropriate disposal facilities in conjunction with the redevelopment of the former tannery site. Mr. Bellucci was responsible for drafting a Self Implementing Plan (SIP) which was submitted and approved by the US EPA Region I Office for the proper management of PCB soils. Additionally, Mr. Bellucci drafted the RAM Plan submitted to MassDEP outlining proposed remedial activities. Completed site investigation activities, regulatory report preparation, data compilation and regulatory correspondence/ permitting.

EBI Consulting
environmental | engineering | due diligence

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Sub slab Depressurization System Pilot Test, Installation, Startup and O&M: Completed field work including the installation, sampling, report preparation and quarterly operation and maintenance of five active sub-slab depressurization system to mitigate vapor migration from beneath the sub-slab into the building's interior space. Coordinated equipment and materials ordering, and executed the installation. Managed sub-contractors from project start to finish. Drafted technical reports and as-built figures for the system installation and quarterly sampling updates.

Phase II Subsurface Investigations: Mr. Bellucci has completed hundreds of Phase II and Phase III subsurface investigation and remediation projects, with extensive field and project management experience associated with the following: soil, groundwater, soil vapor, and surface water monitoring; UST closure; monitoring well elevation surveys; monitoring well abandonments; operation and maintenance of groundwater pump and treat systems; construction site air monitoring; and mapping using GIS and AutoCAD; ground penetrating radar and terrestrial laser scanning surveys. Mr. Bellucci has prepared project schedules, work plans, spill prevention control and countermeasure plans, state and city municipal water discharge permits, soil management plans, MCP Response Action Outcome Plans and stormwater NPDES permitting compliance.

Phase I Environmental Site Assessments: Mr. Bellucci has conducted ASTM Phase I Environmental Site Assessments in the Northeast and Midwest. These properties have included commercial, retail, and telecommunications properties. ASTM investigations include correspondence and consultation with Federal, state, and local government offices.

Preparation of Environmental Protection Plans (EPPs) and Spill Prevention, Control and Countermeasure Plans (SPCC) requiring Professional Engineer Certification under 40 CFR 112

Education
Bachelor of Science, Environmental Engineering – University of New Hampshire, Durham, NH

Professional Affiliations
Utility Contractors Association of New England (UCANE) Member, September 2015

Professional Registrations
Certified Engineer-in-Training (EIT), April 2011
40 hour HAZWOPER training certification- 29 CFR 1910.120
National Groundwater Association, Certified Well Driller (CWD), January 2015
MassDOT / Keolis Registered Contractor, October 6, 2014- October 6, 2015
Confined space training certification- 29 CFR 1910.146
ASTM e 1527 Phase I Environmental Site Assessment (ESA) training, 2012
AHERA 24-hour asbestos inspector accreditation, 2012
U.S. department of housing and urban development (HUD) lead based paint visual assessment training course, 2012

EBI Consulting
environmental | engineering | due diligence

Brian Kilcoyne
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SUMMARY OF EXPERIENCE

Mr. Kilcoyne has more than 20 years of experience in oil and hazardous materials site investigation and remediation and has directed numerous projects involving investigations and cleanup activities on industrial and commercial sites. He has been involved in a wide variety of site assessment and remediation projects since 1985 including numerous preacquisition site assessments for lenders (in accordance with ASTM Standard Designation E1527-00 and E1527-05) and due diligence reviews of multiple properties. He has extensive experience conducting all phases of site assessment and remediation under the Massachusetts Contingency Plan and Connecticut Remediation Regulations. Remediation projects have involved numerous soil and UST removals, monitored natural attenuation, enhanced bioremediation, emergency response actions for spills, and operation and maintenance of groundwater treatment systems and vapor extraction systems.

At EBI Consulting, Mr. Kilcoyne is a Senior Scientist in the Site Investigation and Remediation Group and specializes in the identification of effective and protective solutions to his client's environmental investigation and remediation needs. In doing this he recommends action-alternatives in consideration of the governing regulations and the client's specific needs, including but not limited to their current and foreseeable use of the property and the potential onsite and offsite environmental risks and liabilities.

RELEVANT PROJECT EXPERIENCE

PRIVATE CLIENT, PCE RELEASE AND MCP RESPONSE ACTIONS, DORCHESTER, MASSACHUSETTS. Project manager for environmental response actions conducted in accordance with the MCP for a former metal fabricating facility in Dorchester, Massachusetts. A release of tetrachloroethene (PCE) was detected in the area of a former vapor degreaser formerly operated at the facility. An Immediate Response Action (IRA) was conducted to evaluate a potential of Substantial Release Migration (SRM) relative to migration of vapors to adjacent residential properties. Indoor air testing confirmed that no SRM or imminent hazard existed. A Release Abatement Measure (RAM) was conducted consisting of the excavation and of-site disposal of PCE contaminated soils in the source area, and application of remedial additives to the excavation. Sheet pile installation was required to conduct the excavation to the required depth in close proximity to adjacent off-site buildings and roads. The RAM was successful in reducing contaminant levels in soil and groundwater to less than applicable standards, and a Class A-2 Response Action Outcome (RAO) was achieved within one year of reporting. [2007-2008]

NAEA ENERGY MASSACHUSETTS, HYDRAULIC OIL SPILL RESPONSE, CHICOPEE, MASSACHUSETTS. Project manager for environmental response actions conducted in accordance with the MCP for a release of hydraulic oil from a hydroelectric facility gatehouse on the Chicopee River. Response actions included the deployment of booms and absorbent materials and cleaning of gatehouse structures. A Class A-1 Response Action Outcome was achieved. [2007]

DRY CLEANER SITE, COLORADO SPRINGS, COLORADO. Project manager for environmental investigations and regulatory response actions at a dry cleaner site at a commercial shopping center in Colorado. Due diligence site assessment activities identified the presence of PCE in groundwater at concentrations greater than Colorado Department of Public Health and Environment (CDPHE) standards. A groundwater investigation and risk assessment was conducted, including evaluation of potential indoor air migration. A Corrective Action Plan (CAP) was submitted to and approved by CDPHE proposing the implementation of a quarterly monitoring program to further evaluate contaminant trends, and application of an environmental covenant to the property to restrict future use of groundwater as a drinking water resource. [2007 to present]

COMMERCIAL PROPERTY, PETROLEUM RELEASE, INDIANAPOLIS, INDIANA. Environmental response action project manager for a petroleum release at a commercial property in Indiana. A site assessment identified the presence of petroleum hydrocarbons in soil and groundwater in the vicinity of a former hydraulic lift at concentrations greater than Indiana Department of Environmental Management (IDEM) standards. Conditions were reported to IDEM, and a Site Investigation was conducted pursuant to Indiana Code 13-24-1-6. Based on the low levels of contamination observed, IDEM approved a quarterly monitoring program to document the natural attenuation of the contaminants. [2007 to present]

KAYEM FOODS, UST REMOVAL AND MCP RESPONSE ACTIONS, CHELSEA, MASSACHUSETTS. Project manager for UST removal project at former food processing facility. During the excavation and removal of an abandoned gasoline UST, the presence of a 72-hour reporting condition was identified based on the presence of elevated headspace screening results from soil samples collected beneath the UST. The UST was located within the City-owned sidewalk and adjacent to the existing building and numerous utilities. Notification was made to the Massachusetts Department of Environmental Protection (MADEP), and approval was obtained to perform an Immediate Response Action that included evaluation of Imminent Hazards, Substantial Release Migration and Critical Exposure Pathways. Investigations confirmed that no significant migration or infiltration of vapors to adjacent residential properties was occurring. [2008]

DOMINION RESOURCES, FORMER NORTHEAST PETROLEUM SITE, SALEM, MASSACHUSETTS. Project manager for environmental response actions conducted in accordance with the MCP for the former Northeast Petroleum Site in Salem, Massachusetts. The property was formerly operated as a home heating oil storage and distribution facility. In February 2001, light non-aqueous phase liquid (LNAPL) determined to be No. 2 fuel oil was measured in a monitoring well at a thickness of greater than ½ inch, triggering a 72-hour reporting condition under the MCP. An Immediate Response Action (IRA) was undertaken to delineate the extent of LNAPL at the site. Investigations determined that the fuel oil release was most likely associated with fuel delivery truck loading operations from the former fuel oil distributor. Response actions completed under the MCP have included the following: Phase I Initial Site Investigation and Tier Classification; Phase II Comprehensive Site Assessment, which documented the results of field activities to delineate the extent of the release, and a risk assessment to characterize potential site risks; Phase III Remedial Action Plan, which

recommended the installation of an oil recovery system; and a Phase IV Remedy Implementation Plan, which detailed the proposed design of a multi-phase extraction system to remediate the LNAPL and contaminated groundwater at the site. As part of site investigation activities, extensive analysis was performed to evaluate the actual thickness of LNAPL in the environment. This evaluation was performed through the use of bail down tests and installation and gauging of 4-inch monitoring wells. Pilot testing for multi-phase extraction and soil vapor extraction was performed during the summer 2006. Also provided litigation support services to assist client in pursuit of cost recovery from former operator. [2001 – 2006]

EASTERN TOOL AND STAMPING CO., MCP INVESTIGATIONS, SAUGUS, MASSACHUSETTS. Project manager for response actions conducted in accordance with the MCP at this manufacturing facility that was the site of a trichloroethylene (TCE) release adjacent to wetlands within a state-designated Area of Critical Environmental Concern. Managed the completion of a Phase I investigation, Numeric Ranking System scoring and Tier Classification which identified the site as a Tier II site; a Phase II Comprehensive Site Assessment (including installation of monitoring wells, sampling of surface water, sediment, groundwater and indoor air, hydrogeologic characterization and human health and ecological risk assessments); and a Phase III remedial action plan. Supervised investigations that identified the presence of TCE at greater than 400 ppm. Directed a Phase III soil vapor extraction/air sparging pilot study. A Class C response action outcome was achieved that involved the implementation of an Activity and Use Limitation and an intrinsic bioremediation remedy. The required five-year RAO-C review was performed in 2004, with the resulting recommendation that an enhanced bioremediation remedy consisting of the application of a slow-release carbohydrate solution be employed. The remedial additives were injected in November 2004 and performance monitoring is ongoing under Phase V of the MCP. [1995-present]

DYNO NOBEL, CONNECTICUT TRANSFER ACT PHASE II ASSESSMENT, SIMSBURY, CONNECTICUT. Served as Senior Reviewer and Project QA/QC Officer for Transfer Act Phase II Assessment for an explosives manufacturing facility. Field investigation was performed for 123 Areas of Concern on the facility campus that were identified in accordance with CTDEP regulations. Principal contaminants of concern consisted of energetic compounds (PETN, RDX, and HMX), lead, and tungsten. [2006]

EMERSON HOSPITAL, NO. 6 OIL INVESTIGATION, CONCORD, MASSACHUSETTS. Served as Project Manager for response actions under the MCP for a release of No. 6 oil at an operating hospital. The release was identified in November 1999 when petroleum was encountered during the advancement of a well intended to provide backup water supply to the hospital's boiler room. Installation of monitoring wells subsequently confirmed the presence of light non-aqueous phase liquid (LNAPL), which triggered a 72-hour reporting condition under the MCP. An Immediate Response Action (IRA) evaluated the extent of the LNAPL and potential impacts to adjacent wetlands and Sudbury River. After completion of the IRA, response actions were continued under the MCP. An extensive soil boring and monitoring well installation program was undertaken to evaluate the extent of impacts at the site. Based on the results of the Phase II Comprehensive Site Assessment, it was determined that No. 6 fuel oil had been released from a former 10,000-gallon UST, and that No. 6 oil was present as LNAPL at thicknesses of up to 3 feet. The No. 6 oil contamination is located in close proximity to the Emergency Room

entrance of the hospital, and at depths of up to 30 feet below the ground surface, which severely limited potential remedial approaches. The Phase III remedial alternative evaluation recommended implementation of a long-term monitoring program, because active remediation was determined to be cost prohibitive and overly disruptive to hospital operations. A Class-C RAO with an Activity and Use limitation was completed in 2003. Long term monitoring is on-going to confirm that no significant migration of the No. 6 oil migration towards downgradient wetlands and sensitive receptors occurs. [1999 – 2006]

CHEROKEE INVESTMENT PARTNERS, FORMER BORDEN CHEMICAL SITE, LEOMINSTER, MASSACHUSETTS. Project manager for environmental evaluation activities at a former chemical manufacturing plant classified as Tier 1B under MCP. Directed MCP Phase II and III evaluations and a predemolition inspection of the property. Directed removal of several thousand pounds of waste, including phthalates, TCE, n-butyl acrylate, vinyl acetate, and waste oils. Managed a Phase II assessment that identified the presence of four distinct release areas, consisting of TCE and vinyl chloride above Massachusetts ucls in groundwater in till and bedrock, phthalate and No. 6 oil contamination of soil, and metals and pahs in sediments of a former wastewater lagoon. Remediation of No. 6 oil and phthalate areas were completed as Release Abatement Measures under the MCP involving the excavation and off-site disposal of contaminated soil. A risk-based Class B RAO was achieved for the TCE area in 2004 through the use of a Method 2 risk assessment. Directed the closure of the former wastewater lagoon, which involved permitting (NOI, Section 404 and 401 permits, MEPA notification) and design for lagoon closure and stream restoration, which consisted of capping of affected sediments, construction of an armored stream channel, and removal of an existing concrete dam. [1996-2006]

GRINNELL CORPORATION, 1467 ELMWOOD AVENUE, CRANSTON, RHODE ISLAND: Served as Project Manager for environmental response actions conducted in accordance with the Rhode Island Remediation Regulations for the Grinnell Corporation site in Cranston, Rhode Island. In March 1998, petroleum-contaminated soils were encountered during the excavation for utility installation associated with a new building addition. In addition, characterization of soils excavated for building foundations indicated the presence of elevated concentrations of arsenic in soil. A Hazardous Material Release Notification Form (HMRNF) reporting the petroleum and arsenic releases was subsequently submitted to RIDEM. Following reporting, Conducted a Short Term Response (STR) in order to evaluate the potential sources of the releases and to delineate the nature and extent of the releases. The source of the petroleum contamination could not be determined within the 45-day period allotted for the STR. A Site Investigation Report (SIR) Work Plan was developed based on the findings of the STR. A SIR was completed and submitted to RIDEM in January 2000 documenting the results of site investigation activities, risk characterization, and remedial alternatives analysis. As part of site activities, arsenic-impacted soils that had been displaced by construction activities (totaling 5,054 tons) were transported off-site under a Material Shipping Record and disposed of as daily landfill cover. [1998 – 2000]

AFC CABLE, FUEL OIL REMEDIATION, NEW BEDFORD, MASSACHUSETTS. Based on the results of ASTM Phase I and Phase II assessments, the presence of petroleum hydrocarbons in soil and groundwater above applicable MCP reportable concentrations were identified. The

No. 2 fuel oil related contamination was apparently derived from a former UST that had previously been removed from the site in 1997. Performed the release notification on behalf of the property owner, and prepared a Release Abatement Measure (RAM) Plan to excavate and remove impacted soils. Approximately 50 cubic yards of soil were removed and post-excavation soil sampling and subsequent groundwater monitoring confirmed attainment of clean-up goals. A RAM Completion Statement and Response Action Outcome were completed in January 2006. [08/2005 – 01-2006]

ARK-LES CORPORATION, MCP INVESTIGATIONS, STOUGHTON, MASSACHUSETTS. Project manager for response actions at this Tier 1, public involvement plan (PIP) site involving a chlorinated solvent release that has impacted downgradient residential properties. Have conducted extensive site characterization, including residential indoor air evaluation, imminent hazard evaluation, and Method 3 risk assessment. Immediate response actions were conducted to address critical exposure pathway consisting of potential residential indoor air impacts. Prepared PIP documents, participated in public meetings and outreach to citizen's group. A Phase II comprehensive site assessment and response action outcome statement was completed in 2003 after indoor air evaluations determined that a condition of no significant risk was present at all downgradient homes. Also provided litigation support to client's counsel. [1998 – 2003]

BOSTON HOUSING AUTHORITY, UST REMOVAL CONSTRUCTION OVERSIGHT, HEATH-BROMLEY DEVELOPMENTS, BOSTON, MASSACHUSETTS. Provided construction management for UST removal project at public housing development. Services included pre-removal characterization of soil and groundwater conditions, preparation of bid spec documents, procurement and evaluation of bids, and oversight of selected contractor for the UST removal and site restoration. [2003]

CONED ENERGY MASSACHUSETTS, KEROSENE RELEASE, WEST SPRINGFIELD, MASSACHUSETTS. Conducted MCP response actions relative to a kerosene spill at active power plant. Provided oversight of soil removal as part of an immediate response action (IRA), soil and groundwater characterization. A response action outcome (RAO) was achieved through the use of a Method 3 risk assessment and Activity and Use Limitation. [2003]

JONES SANITATION SUPERFUND SITE, REMEDIAL INVESTIGATION, HYDE PARK, NEW YORK. Project manager for a CERCLA remedial investigation at a former septage disposal facility, performed for an industrial client under an administrative consent order with USEPA Region II. Developed and wrote a work plan and sampling and analysis plan. Managed implementation and oversight of field activities, which included a seismic survey, soil gas survey, wetlands delineation, soil boring program (104 borings), hydrogeologic investigation (installation, testing of 35 overburden and bedrock wells), cultural resource assessment, and ecological and human health risk assessment. Prepared monthly progress reports to EPA, wrote Final RI Report, and delivered presentation on findings to EPA. [1991-1994]

24 CHEMICAL WAREHOUSING FACILITIES, ASTM PHASE I SITE ASSESSMENTS, VARIOUS STATES. Project manager for due diligence project that involved the assessment of 24 chemical distribution and warehousing facilities in 15 states. Prepared reports to conform to the ASTM standard. Entire project was completed within three weeks through the mobilization of personnel from 11 offices. [1999]

CRANSTON PRINT WORKS, EMERGENCY SPILL RESPONSE AND MCP CLOSURE, WEBSTER, MASSACHUSETTS. Project manager for remedial response actions under the Massachusetts Contingency Plan at a manufacturing facility that experienced a rupture in a 6-inch-diameter underground oil pipeline. Directed an immediate response action to contain and remove heated No. 6 oil spilled on the ground; to locate, isolate, and repair the leak; and to excavate and remove oil contaminated soils in the area of the leak. The IRA was completed after it was determined through test pits that the contamination extended a considerable distance along the pipeline. Full delineation of the extent of contamination, removal of the contaminated soil and removal of the pipeline was subsequently completed as a Release Abatement Measure. A Class A-3 response action outcome was achieved within a year of the release. An Activity and Use Limitation was applied to an area of the release that was located beneath a concrete pad and stanchion and was therefore inaccessible for soil removal. Prepared and implemented the RAM and IRA, and prepared the necessary MCP submittals including release notification, an IRA Plan, IRA completion statement, RAM plan, bills of lading, an AUL, and an RAO. [1996]

IMMEDIATE RESPONSE ACTION AND UST CLOSURE, PIER 37 MARINA, FALMOUTH, MASSACHUSETTS. Project manager gasoline release site on Cape Cod. Performed 72-hour release notification because of a threat of release after an underground storage tank failed a tightness test. Subsequently performed an IRA consisting of soil and groundwater assessment, tank removal and excavation and recycling of contaminated soil. A Class A-2 response action outcome was achieved within one year of notification. [1995]

CRANSTON PRINT WORKS FACILITY, PHASE II INVESTIGATION, WEBSTER, MASSACHUSETTS Project manager for the MCP site investigations for an industrial client with a site contaminated by No. 6 fuel oil and mineral spirits. Completed Phase II comprehensive site assessment that included passive soil gas survey, extensive soil boring program, groundwater and sediment sampling. Several distinct release areas were identified, consisting predominantly of various petroleum distillates and polynuclear aromatic hydrocarbons (PAHS) in soil and sediment. PAHS in soil were determined to be exempt from the MCP based on their derivation from coal ash observed on site, and the ecological risk assessment determined the PAHS in sediment to represent local conditions. The risk assessment found that additional response actions would be required for a No. 6 fuel oil release in the vicinity of abandoned USTS, but that risk characterization and application of Activity and Use Limitations without any remediation would be sufficient to address the majority of the releases identified. [1995 -1997]

BRAINTREE ELECTRIC LIGHT DEPARTMENT, MULTIPLE SPILL SITES, BRAINTREE, MASSACHUSETTS. Conducted response actions at seven spill sites for local utility. Conducted immediate response actions for each release, which typically consisted of releases of dielectric fluid and mineral oil from transformers at commercial and residential locations. Conducted

product recovery, soil excavation, site characterization, and risk assessment to achieve closure under the MCP. [1998 – 2005]

MASSHIGHWAY DEPARTMENT, MULTIPLE SITES, MASSACHUSETTS. Project manager for environmental projects at multiple sites operated by MassHighway. Managed Phase I and II investigations, implementation of Activity and Use Limitations, and completion of response action outcomes for sites that typically have involved petroleum contamination of soil and groundwater. [2000 – 2004]

EDUCATION

B.A. geology Williams College

PROFESSIONAL AFFILIATIONS

Licensed Site Professional Association, Member