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March 19, 2010

Massachusetts Department of Environmental Protection
Southeast Regional Office
20 Riverside Drive
Lakeville, Massachusetts 02347

RE: Response Action Outcome Statement Report
Liberty Street City Yard
Across from 230 Hathaway Boulevard
New Bedford, Massachusetts
Release Tracking Number (RTN) 4-22269

To Whom It May Concern:

TRC Environmental Corporation (TRC) has prepared the attached Response Action Outcome (RAO) Statement for submittal to the Massachusetts Department of Environmental Protection (MassDEP) on behalf of the City of New Bedford (City) for the Liberty Street City Yard (City Yard) Site. The RAO Statement was prepared in accordance with the requirements set forth in the Massachusetts Contingency Plan (MCP, 310 CMR 40.1000).

This RAO Statement addresses the release condition associated with three 55-gallon drums deposited on City property by an unknown entity that is tracked under RTN 4-22269 only. The release condition was identified by the City Department of Public Infrastructure (DPI) personnel where said personnel observed that three 55-gallon drums that been left at the Site by unknown parties, one of which appeared to be leaking a substance thought to be an asphalt emulsifier. Notification occurred within 2-hours of discovery on November 2, 2009, and required an Immediate Response Action (IRA) under 310 CMR 40.0311 and 310 CMR 40.0410 of the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). The IRA was initiated by the City DPI with the assistance of a Licensed Site Professional (LSP). A Notice of Responsibility (NOR) was issued by MassDEP on November 20, 2009.

The attached RAO Statement presents a summary of activities and documents the achievement of a Class A-1 RAO consistent with 310 CMR 40.1036(1) of the MCP.

This submittal also includes the following MassDEP transmittal form, filed electronically via e-DEP, as well as a copy of the check for the RAO submittal fee.

- BWSC-104 – Response Action Outcome (RAO) statement

If you have any questions regarding this submittal, please contact the undersigned at (978) 970-5600.

Sincerely,

TRC Environmental Corporation



David M. Sullivan, LSP, CHMM
Senior Project Manager

Attachments

RAO Statement Report
Copy of check for fee.

cc: S. Alfonse, City of New Bedford – Dept. of Environmental Stewardship
R. Labelle, City of New Bedford – Department of Public Infrastructure
M. Cote, MassDEP – SERO



RESPONSE ACTION OUTCOME STATEMENT REPORT

Liberty Street City Yard

Release Tracking Number (RTN) 4-22269

Across from 230 Hathaway Boulevard

New Bedford, Massachusetts

Prepared for:

City of New Bedford

c/o Department of Environmental Stewardship

133 William Street

New Bedford, Massachusetts 02740

Prepared by:

TRC Environmental Corporation

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650 Suffolk Street

Lowell, Massachusetts 01854

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March 2010

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- Appendix B Unmanifested Waste Report
- Appendix C MassDEP Transmittal Form
- Appendix D Public Notification Letters
- Appendix E Data Usability Assessment
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1.0 INTRODUCTION

TRC Environmental Corporation (TRC) prepared this Response Action Outcome (RAO) Statement Report for submittal to the Massachusetts Department of Environmental Protection (MassDEP), on behalf of the City of New Bedford (City) through the City's Department of Environmental Stewardship, in accordance with the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). The RAO Statement was prepared for the Liberty Street City Yard Release (City Yard) Site located across from 230 Hathaway Boulevard in New Bedford, Massachusetts (the Site) and documents the completion of the activities taken to address the release condition that was reported to MassDEP on November 2, 2009 by City Department of Public Infrastructure (DPI) personnel as described herein and tracked under Release Tracking Number (RTN) 4-22269.

This report is subject to the limitations included in Appendix A.

1.1 Release Background

This RAO Statement addresses the release condition tracked under RTN 4-22269 only, and is unrelated to other release conditions tracked by MassDEP in the vicinity of the RTN 4-22269 location. A Site Location Map is included as Figure 1.

On November 2, 2009 at 10:40 A.M., City DPI personnel observed that three 55-gallon drums and brush had been deposited on City property located along Liberty Street across (to the east) from the high school campus located at 230 Hathaway Boulevard in New Bedford, Massachusetts. One of the drums appeared to be leaking a dark viscous substance thought to be an asphalt emulsifier based on drum labels. The other two 55-gallon drums were rusty, but were not leaking and appeared to contain liquid tar. DPI reported the release condition to MassDEP on November 2, 2009 at 12:34 P.M. MassDEP personnel, Mr. Robert Murphy, met with DPI personnel at the Site and observed that the spill had impacted surface soils. The released material pooled in the northwest corner of the Site up against concrete blocks and soil, which acted as a berm to contain the release. A sheen was observed on puddles from recent rain showers on adjacent Liberty Street, which had also been recently paved.

MassDEP personnel notified City personnel that they were required to engage the services of a licensed site professional (LSP) and cleanup contractor to address the impacts of the spill. LSP, Mr. Joel Loitherstein, of Loitherstein Environmental Engineering, Incorporated (LEEI), 45 Beulah Street, Framingham, Massachusetts and remedial contractor Clean Venture, Incorporated (Clean Venture) of 138 Leland Street, Framingham, Massachusetts were contacted to perform the cleanup activities. Through further communications with MassDEP and Mr. Loitherstein, MassDEP orally approved the following immediate response action (IRA) activities:

- Deployment of absorbent materials to contain the spill and runoff on Liberty Street;
- Recovery of product and impacted soils utilizing hand tools and placing in six 55-gallon drums;

- Overpacking of the leaking 55-gallon drum and the two non-leaking but rusty 55-gallon drums;
- Excavation of 18.78 tons, or 12.52 cubic yards of potentially impacted soils (utilizing a 1.5 ton per cubic yard conversion factor). The soils were temporarily stockpiled at the Site on and under polyethylene sheeting;
- The potentially impacted soil stockpile was loaded in a lined roll-off container, and following loading of the impacted soils, a small amount of soil was excavated from the surface of the stockpile area;
- Following the excavation of the impacted soil, four confirmatory (post-excavation) soil samples were collected by LEEI personnel. LEEI personnel also collected one soil sample from the area beneath the removed soil stockpile;
- Temporary placement of the overpacked drums and drummed waste in a drum storage area in the City Maintenance Yard at 281 Liberty Street, New Bedford, Massachusetts; and
- Temporary placement of the lined roll-off container at the City of New Bedford Solid Waste Transfer Station at 1103 Shawmut Avenue, New Bedford, Massachusetts.

On November 2, 2009, upon arrival on Site by Mr. Loitherstein and Clean Venture, at the direction of Mr. Loitherstein, absorbent materials were deployed to contain the spill and puddled water with an observed sheen on Liberty Street. The leaking 55-gallon drum and two intact 55-gallon drums were placed into 85-gallon overpack drums. Product and impacted soils were placed in six 55-gallon drums utilizing hand tools. Additional soils were excavated and stockpiled at the Site on polyethylene sheeting. Mr. Loitherstein contacted Mr. Murphy and obtained approval for excavation of up to approximately 50 cubic yards of soil and disposal of the drums via manifest. All drums were transported to the City Maintenance Yard drum storage area for temporary storage, before leaving the Site. These activities were completed at 9:00 P.M. on November 2, 2009.

On November 3, 2009 at 9:00 A.M., Mr. Derek McClellan of LEEI, Clean Venture, and City personnel arrived at the Site to continue IRA activities. Utilizing a backhoe, stockpiled soils were loaded into a lined roll-off container. Following loading of stockpiled soils, a small amount of soil was scraped from below the stockpile. Additional soils were excavated below the concrete blocks and directly loaded into the roll-off container. The final excavated area was approximately 29 feet by 8 feet to a depth of 6 to 12 inches, with the deeper excavation in the northwest corner of the excavation.

Following the excavation of impacted soils, five samples were taken to confirm that release impacts had been removed. Three soil samples were collected from the excavation bottom (sample identification BTM-1, BTM-2, and BTM-3), one of the excavation east side wall (sample identification ESW), and one sample under the stockpile location (sample identification Under Stockpile). The samples were submitted by LEEI for laboratory analysis of extractable petroleum hydrocarbons (EPH) and target polycyclic aromatic hydrocarbons (PAHs) by the MassDEP EPH method by Groundwater Analytical of 228 Main Street, Buzzards Bay, Massachusetts. Following excavation and sampling activities, the Site was graded with existing

soils at the Site. A Site Layout Map is enclosed as Figure 2 which includes the excavation and stockpile locations, and sample locations.

Following the initial response actions, post-excavation sampling, and remediation waste characterization managed by LEEI, the city requested that remaining response actions be transitioned to TRC. LEEI's LSP submitted notification of the transition to TRC to MassDEP on November 25, 2009.

The sample results did not indicate the presence of EPH or PAHs above MCP Method 1 soil cleanup standards, as further discussed herein. The EPH and target PAH laboratory results are presented in Table 1.

Following the completion of the aforementioned IRA activities, the overpacked liquid material was shipped to General Chemical Corporation (General Chemical) of 133 Leland Street, Framingham, Massachusetts for disposal under a non-hazardous waste manifest. The drums were believed to contain liquid asphalt and asphalt emulsifier and therefore, could be transported via a non-hazardous waste manifest. The facility tested the materials and found that two of the three drums contained trichloroethylene (TCE). On December 10, 2009, General Chemical issued an Unmanifested Waste Report to the MassDEP in compliance with 310 CMR 30.543(2). On December 14, 2009, a copy of the report was forwarded to the City. A copy of the report is included in Appendix B.

Given the detection of TCE in the drummed waste, sampling for volatile organic compounds (VOCs) in soil at the release site was performed to evaluate potential impacts, if any. On December 17, 2009, TRC field personnel performed additional sampling activities that included the collection of soil samples, collocated with the locations of the previous EPH soil samples, and submitted the soil samples for laboratory analysis for VOCs by Con-Test Analytical Laboratory of 39 Spruce Street, Longmeadow, Massachusetts.

The sample results did not indicate the presence of VOCs above MCP Method 1 soil cleanup standards (all VOC results were non-detect), as further discussed herein. The analytical results for the VOC analysis of soil samples are presented in Table 2.

1.2 Objective

TRC completed this RAO Statement in accordance with 310 CMR 40.1056 (Content of Response Action Outcome Statements) to document and/or support the following:

- Activities completed on-Site were an appropriate remedy for the documented release conditions;
- Environmental assessment activities completed at the Site indicate that the sources of oil and/or hazardous material have been eliminated;

- A level of No Significant Risk is demonstrated for the disposal site based on comparison of post-excavation soil sample results to applicable Method 1 soil cleanup standards and a Permanent Solution has been achieved;
- The concentrations of oil and hazardous material (OHM) in the environment have been reduced to background, and an Activity and Use Limitation (AUL) is not required to maintain a level of No Significant Risk; and
- The LSP Opinion stating that the actions completed in support of the IRA meet the standards and requirements of a Class A-1 RAO under the MCP (310 CMR 40.1036(1)) as described and subject to the limitations noted herein.

1.3 RAO Minimum Content Information – 310 CMR 40.1056(1)

1.3.1 Disposal Site Information – 310 CMR 40.1056(1)(a)

Consistent with 310 CMR 40.1056(1)(a) of the MCP, the following table summarizes the required Disposal Site Information.

Site/Disposal Site Name	City of New Bedford Liberty Street Yard Release
Address	Across from 230 Hathaway Boulevard
City	New Bedford
Release Tracking Number (RTN)	4-22269

1.3.2 Class of Response Action Outcome – 310 CMR 40.1056(1)(b)

As described herein, the IRA conducted at the Site by TRC succeeded in achieving a Class A-1 Response Action Outcome consistent with 310 CMR 40.1036(1) of the MCP.

1.3.3 Risk Characterization Method Employed – 310 CMR 40.1056(1)(c)

A Method 1 Risk Characterization was conducted to characterize the risk of harm posed by the Site to health, public welfare, safety and the environment, pursuant to 310 CMR 40.0900. As described herein, a condition of No Significant Risk has been achieved.

1.3.3 Relationship to Other RAO Statements – 310 CMR 40.1056(1)(d)

No other release conditions or RAOs are known to exist in relation to the release condition addressed by this RAO statement. The Liberty Street City Yard Release (RTN 4-22269) is not associated with the nearby Parker Street Waste Site (RTN 4-15685).

1.3.4 Post-RAO Active Operation and Maintenance – 310 CMR 40.1056(1)(e)

Post-RAO Active Operation and Maintenance is not required; a Class A-1 RAO applies to this Site.

1.3.5 Activity and Use Limitation Summary – 310 CMR 40.1056(1)(f)

An AUL is not required to achieve a condition of No Significant Risk. A Class A-1 RAO applies to this Site.

1.3.6 Licensed Site Professional (LSP) Opinion – 310 CMR 40.1056(1)(g)

Mr. David M. Sullivan (LSP No. 1488), on behalf of TRC, has provided the required LSP Opinion on Form BWSC-104, the Response Action Outcome Statement Transmittal Form, which accompanies this RAO Statement in Appendix C.

1.3.7 Certification of Submittal – 310 CMR 40.1056(1)(h)

Mr. Scott Alfonse, Director of the Department of Environmental Stewardship for the City of New Bedford, has provided the required Certification of Submittal on Form BWSC-104, the Response Action Outcome Statement Transmittal Form, which accompanies this RAO Statement in Appendix C.

1.3.8 Upper Concentration Limits – 310 CMR 40.1056(1)(i)

None of the OHM constituents detected that are associated with this release exceed corresponding Upper Concentration Limits (UCLs).

2.0 RESPONSE ACTION OUTCOME SUPPORTING DOCUMENTATION

2.1 Disposal Site Location Description – 310 CMR 40.1056(2)(a)

The Disposal Site is located in an area utilized by the City to temporarily store and stage construction materials and is approximately 1,700 square feet. The area is located to the east across Liberty Street from the New Bedford High School (NBHS) campus, and bordered to the east by the Oak Grove Cemetery and to the west by Liberty Street. The Site has a gravel surface and access from Liberty Street is controlled with large concrete blocks. The Site location and surrounding features are identified in Figure 1.

The location where the release occurred lies within 500 feet of the NBHS campus. Residential properties are located approximately 600 feet to the north along Liberty Street.

The groundwater category at the Site is GW-3 (applies to all groundwater throughout the state). However, given the viscosity of the spilled substance, the seasonally cold ambient temperatures when the release was observed, the quick remedial response to the release, and the results of the confirmatory soil samples following soil removal actions, it is reasonable to presume that there were no impacts to groundwater from this release.

Based on review of on-line MassDEP Priority Resource Map data available from Massachusetts Geographic Information System (MassGIS), the Site is not located with a Current or Potential Drinking Water Source Area (MassGIS, 2008). A MassDEP Priority Resources Map is included as Figure 3.

The release Site is not located in a wetland resource area. The Site is located across Liberty Street from an area designated as Protected Open Space on the MassDEP Priority Resources Map. No other documented sensitive ecological receptor areas are known to be located at or near the release Site. The nearest wetland resource area is located approximately 720 feet from the Site, behind the Stephen Hetland Ice Skating Rink.

The approximate coordinates of the Site are 41.6462 North, 70.9458 West. The Universal Transverse Mercator (UTM) coordinates for the Site are 4612328.87 meters north and 337978.31 meters east.

The description of land use in the vicinity of the Site is based on review of aerial photography (<http://maps.google.com/>) and a visual site inspection, and discussions with City of New Bedford personnel.

Disposal Site Boundary. The Disposal Site Boundary is illustrated in Figure 2

Proximity to Environmental Resources. The Site's proximity to environmental resources is illustrated in Figure 3, which presents a MassDEP Site Scoring Map with five hundred foot and one-half mile radii as measured from the Site.

Property Owner. The Site property is owned by the City of New Bedford.

Site Use and Area Land Use. The Site property is currently utilized by the City to temporarily store and stage construction materials. The area is located across Liberty Street to the east from the NBHS campus, and bordered to the east by the Oak Grove Cemetery and to the west by Liberty Street. The Site has a gravel surface and is blocked off from Liberty Street with concrete blocks. Surrounding land use is predominantly residential, recreational, with some commercial land use (e.g., Stephen Hetland Ice Skating Rink).

Institutions. The Site lies across Liberty Street to the east of the NBHS campus and within 225 feet of the NBHS buildings.

Residential Population. An estimated 2,500 people reside within a ½-mile radius of the Site. This estimate is based on the proportion of the City of New Bedford found within a ½-mile radius of the Site and community profile population data obtained from the official Commonwealth of Massachusetts website (DHCD, 2007).

Drinking Water Source Areas. Based on review of the MassDEP Site Scoring Map (see Figure 3), the Site is not located within a Zone II or Zone A of a drinking water supply area, an Interim Wellhead Protection Area (IWPA), or a potentially productive aquifer (PPA).

Public/Private Wells. No private or non-municipal public wells are located within 500 feet of the Site. There are no municipal wells located within 1,000 feet of the Site.

Environmental Concerns/Receptors. The Site is located in New Bedford in a residential/urbanized area. There is no surface water or wetland habitats at, or impacted by the Site. The nearest water body is the New Bedford Harbor which is located approximately 1.2 miles to the east of the Site, and the nearest wetland resource area is located approximately 720 feet from the Site behind the Stephen Hetland Ice Skating Rink. There is also a stream that drains from the wetland to the rear of the Keith Middle School (KMS) located approximately 1,300 feet from the Disposal Site. There are no endangered species habitat, Areas of Critical Environmental Concern (ACECs) and/or certified vernal pools within 500 feet of the Site. The Site is located to the east across Liberty Street from an area designated as Protected Open Space on the MassDEP Priority Resources Map (primarily the NBHS campus).

2.2 Elimination or Control of Uncontrolled Sources – 310 CMR 40.1056(2)(b)

The following describes the work undertaken and completed by TRC and others to address the release, and to demonstrate that all uncontrolled sources have been eliminated or controlled.

2.2.1 Immediate Response Action Activities

RTN 4-22269 is associated with an IRA condition observed by DPI personnel. On November 2, 2009 at 10:40 A.M., DPI personnel observed that three 55-gallon drums and brush had been deposited at the Site by unknown parties. One of the drums appeared to be leaking a dark

viscous substance thought to be an asphalt emulsifier. The other two 55-gallon drums were rusty, but were not leaking and appeared to contain liquid tar.

Mr. Joel Loitherstein, LSP with LEEI and remedial contractor Clean Venture performed the cleanup activities. Through further communications with the MassDEP and Mr. Loitherstein, MassDEP orally approved IRA activities.

The IRA activities performed under the direction of LEEI included the following:

- Deployment of absorbent materials to contain the spill and runoff on Liberty Street;
- Recovery of product and impacted soils utilizing hand tools and placing in six 55-gallon drums;
- Overpacking of the leaking 55-gallon drum and the two non-leaking but rusty 55-gallon drums;
- Excavation of 18.78 tons, or 12.52 cubic yards of potentially impacted soils (utilizing a 1.5 ton per cubic yard conversion factor) and temporarily stockpiled at the Site on polyethylene sheeting;
- Loading of impacted stockpiled soils into a lined roll-off container, and following loading of the impacted soils, removal of a small amount of soil from the surface of the stockpile area;
- Following the excavation of impacted soils, collection of four confirmatory samples from the excavation, and one sample from under the former location of the soil stockpile;
- Temporary placement of the overpacked drums and drummed waste in a drum storage area in the City Maintenance Yard at 281 Liberty Street, New Bedford, Massachusetts; and
- Temporary placement of the lined roll-off container at the City of New Bedford Solid Waste Transfer Station at 1103 Shawmut Avenue, New Bedford, Massachusetts.

On November 2, 2009, upon arrival on Site by Mr. Loitherstein, Clean Venture was directed to deploy absorbent materials to contain the release spill and puddled water with an observed sheen on Liberty Street. The leaking 55-gallon drum and two intact 55-gallon drums were overpacked in 85-gallon drums. Material released from the drum and impacted soils were placed in six 55-gallon drums utilizing hand tools. Additional soils were excavated and stockpiled at the Site on and under polyethylene sheeting. Mr. Loitherstein contacted MassDEP and obtained approval to excavate up to 50 cubic yards of soil and dispose of the drum materials via manifest. All drums were transported to the City Maintenance Yard drum storage area for temporary storage pending disposal. These activities were completed at 9:00 P.M. on November 2, 2009.

On November 3, 2009 at 9:00 A.M., Mr. Derek McClellan of LEEI, Clean Venture, and City personnel arrived at the Site to continue IRA activities. Utilizing a backhoe, stockpiled soils were loaded into a lined roll-off container. Following loading of stockpiled soils, a small amount of soil was scraped from below the stockpile. Additional soils were excavated below the concrete blocks and directly loaded into the roll-off container. The final excavated area was

approximately 29 feet by 8 feet to a depth of 6 to 12 inches, with the deeper excavation in the northwest corner of the excavation.

Following excavation, five samples were taken to confirm that all impacted soils had been removed. Three samples were collected from the excavation bottom (sample identification BTM-1, BTM-2, and BTM-3), one of the excavation east side wall (sample identification ESW), and one sample under the stockpile location (sample identification Under Stockpile). The samples were submitted by LEEI for laboratory analysis by MassDEP's EPH method (with target PAHs) by Groundwater Analytical. Following excavation and sampling activities, the Site was graded with existing soils at the Site. A Site Layout Map is enclosed as Figure 2, which includes the excavation and stockpile locations, and sample locations.

Following the initial response actions, post-excavation sampling, and remediation waste characterization managed by LEEI, the city requested that remaining response actions be transitioned to TRC. LEEI's LSP submitted notification of the transition to TRC to MassDEP on November 25, 2009.

The sample results did not indicate the presence of EPH or PAHs above MCP Method 1 soil cleanup standards, or above MassDEP natural soil background concentrations (MassDEP, 2002) for certain constituents, as discussed herein. Laboratory results for soil analysis are presented in Table 1.

Following the completion of the aforementioned IRA activities, the overpacked liquid material was shipped to General Chemical for disposal under a non-hazardous waste manifest. The drums were believed to contain liquid asphalt and asphalt emulsifier and therefore, could be transported via a non-hazardous waste manifest. The facility tested the materials and found that two of the three drums contained detectable concentrations of TCE. On December 10, 2009, General Chemical issued an Unmanifested Waste Report to the MassDEP in compliance with 310 CMR 30.543(2). On December 14, 2009, a copy of the report was forwarded to the City. A copy of the report is included in Appendix B.

Given the detection of TCE in the drummed waste, sampling for VOCs was deemed required to complete Site characterization. On December 17, 2009, TRC field personnel collected additional soil samples from the location of the previous EPH soil samples and submitted the soil samples for VOC analysis by Con-Test Analytical Laboratory.

The sample results did not indicate the presence of VOCs above MCP Method 1 soil cleanup standards as further discussed herein. Laboratory results for the VOC soil analysis are presented in Table 2.

2.2.2 *Imminent Hazards*

An Imminent Hazard is not present at this Site. This determination was based on a review of criteria 310 CMR 40.0321(1) and 310 CMR 40.0321(2).

2.3 Achievement of Level of No Significant Risk – 310 CMR 40.1056(2)(c)

As discussed in Section 3, the response action has successfully reduced concentrations of OHM remaining in soil following the response actions conducted at the Site to below applicable MCP Method 1 S-1/GW-2/GW-3 soil cleanup standards, resulting in the achievement of a condition of No Significant Risk.

2.4 Elimination of Substantial Hazards – 310 CMR 40.1056(2)(d)

The Elimination of Substantial Hazards requirement is not applicable and applies only to Class C RAOs. A Class A-1 RAO has been achieved for RTN 4-22269.

2.5 Achievement of Background – 310 CMR 40.1056(2)(e)

A Class A-1 RAO has been achieved for the Site, a Permanent Solution has been achieved, and the concentrations of OHM in the environment have been reduced below applicable Method 1 soil cleanup standards. Background is defined by 310 CMR 40.0006 of the MCP as those levels of OHM that would exist in the absence of impact from a disposal site of concern that are either:

- Ubiquitous and consistently present in the environment at and in the vicinity of the disposal site of concern; and attributable to geologic or ecological conditions, or atmospheric deposition of industrial process or engine emissions;
- Attributable to coal ash or wood ash associated with fill material;
- Releases to groundwater from a public water supply system; or
- Petroleum residues that are incidental to the normal operation of motor vehicles.

The available soil sampling results described herein document the absence of a release source (the leaking drums have been removed). The Site is located immediately adjacent to a busy roadway, and heavy equipment operating on diesel fuel (front-end loaders and dump trucks) frequent the area as it is utilized to store construction-related materials (structural fill, etc.). Given the high volume of motor vehicle operation at the Site, it is likely that the detectable levels of PAHs are attributable to atmospheric deposition related to such use, are otherwise incidental to the normal operation of motor vehicles, and are pervasive in the surrounding area.

Soil exposure point concentrations show that the detections in soil are below applicable Method 1 soil cleanup standards. Additional remedial activity is not warranted. Background has been achieved. A Class A-1 RAO is applicable for closeout of RTN 4-22269.

2.6 Upper Concentration Limits – 310 CMR 40.1056(2)(f)

Not applicable. No exposure point concentrations associated with RTN 4-22269 exceed UCLs because all soil concentrations are below applicable Method 1 cleanup standards. A Class A-1 RAO has been achieved for RTN 4-22269.

2.7 Activity and Use Limitation Documentation – 310 CMR 40.1056(2)(g)

An AUL is not required to maintain a level of No Significant Risk. A Class A-1 RAO has been achieved for RTN 4-22269.

2.8 Activity and Use Limitation Opinion – 310 CMR 40.1056(2)(h)

An AUL is not required to maintain a level of No Significant Risk. A Class A-1 RAO has been achieved for RTN 4-22269.

2.9 Operation, Maintenance, and Monitoring – 310 CMR 40.1056(2)(i)

Operation and maintenance is not required to maintain a level of No Significant Risk. A Class A-1 RAO has been achieved for RTN 4-22269.

3.0 HUMAN HEALTH RISK CHARACTERIZATION AND EXPOSURE ASSESSMENT [310 CMR 40.1056(1)(c)]

3.1 Introduction [310 CMR 40.0900]

This section was prepared consistent with 310 CMR 40.1056(1)(c) of the MCP and Appendix F of the MassDEP *Guidance for Disposal Site Risk Characterization* (MassDEP, 1995) and provides an exposure assessment and risk characterization for the Site. The risk characterization addresses human and environmental receptors reasonably expected to be at and near the disposal Site. As discussed herein, a Method 1 approach was selected to verify that No Significant Risk had been achieved for the Site. Even though background has been achieved for this disposal site, detectable levels of certain constituents remain and are evaluated through this risk characterization.

3.2 Adequacy of Site Characterization

3.2.1 Impacted Media

The potentially impacted media at the Site includes soil. Impacts to soil from the drum release were not greater than one foot. Groundwater was not encountered during the excavation. A review of a soil boring log taken in the vicinity of the Site indicates that groundwater was encountered at approximately 7 feet below ground surface in the vicinity of the drum release. Given the viscosity of the spilled substance, the seasonally cold ambient temperatures, the quick remedial response time to the release, the depth of excavation of impacted soils, the approximate depth to groundwater, and the results of the confirmatory samples, it is reasonable to presume that there were no impacts to groundwater from this release.

Remedial activities have removed impacted soils, reduced OHM concentrations below applicable MCP Method 1 soil cleanup standards, and achieved background conditions.

3.2.2 Extent of Release Impact

The nature and extent of release impact has been analyzed and is discussed in Section 2. The nature and extent has been sufficiently delineated to support this RAO and risk characterization.

3.2.2.1 Horizontal and Vertical Extent

The horizontal and vertical extent of release impact is discussed in Section 2.

Groundwater impact was not evaluated at the Site because groundwater was not encountered during the excavation and soil boring activities by TRC in the vicinity of the Site indicate that groundwater is well below soils impacted by the release event at this Disposal Site.

3.2.2.2 *Background Concentrations*

PAHs detected in confirmatory samples are likely incidental to the normal operation of motor vehicles, and are below MCP Method 1 Standards.

3.2.2.3 *Existing or Potential Migration Pathways*

Consistent with 310 CMR 40.1003(5), the source of OHM (a leaking 55-gallon drum) was eliminated by the removal work undertaken by LEEI. Impacted soils were removed from the Site and disposed of off-site by General Chemical. The potential for intermediate transfer of OHM has also been eliminated at the Site through the removal of the impacted soil. All on-site soil impacted by the release has been removed, and remaining soil concentrations are below the applicable MCP Method 1 standards (see Tables 1 and 2).

3.2.3 *Compounds of Potential Concern*

The post-excavation soil analytical results (Table 1 and 2) for EPH and target PAHs, and VOCs indicate that the concentrations are well below MCP Method 1 soil cleanup standards.

3.3 **Site Activities and Uses (Current and Foreseeable Future)**

3.3.1 *Current Uses*

The Site is currently occupied by the City's DPI. The Site is located across Liberty Street from the NBHS campus, in an urbanized area consisting of mixed commercial, residential, and open space uses. While the Site property is not used for residential purposes, residences are located approximately 600 feet to the north along Liberty Street. Commercial properties are located to the northwest of the Site. Current human receptors at the Site include City DPI employees and trespassers.

3.3.2 *Foreseeable Future Uses*

The City does not plan to change the utilization of the Site from its current (and long-standing) use to store and stage construction materials. Reasonably anticipated future human receptors are consistent with those described above for the Site's current use (i.e., DPI employees and trespassers).

There are no plans for residential development at this parcel. There are also no plans for institutional development at the Site (e.g., schools, senior housing, hospitals, etc.) that would incorporate overnight housing (in whole or in part). There are no plans for cultivation of soil at the Site in the foreseeable future. However, consistent with assumed future unlimited Site use, all future foreseeable activities and uses have been evaluated in the risk characterization including residential use.

There are no private drinking water wells within 500 feet of the Site and the area is serviced by the municipal water supply system.

3.4 Appropriateness of the Use of Method 1

A Method 1 risk characterization approach, as described in 310 CMR 40.0970 was selected to characterize the risk of harm to health, public welfare and the environment. A Method 1 approach alone is suitable to this Site for the following reasons:

- The OHM associated with the drum release event that has been detected at the Site is limited to soil; and
- Materials with the potential to bioaccumulate and associated with the drum release event are not present within 2 feet of the ground surface, and there is limited potential for environmental receptors to be present at the Site due to the urbanized character of the Site location and given that the soil surface is frequently disturbed by heavy equipment.

Consequently, a Method 1 approach is suitable to address both human and environmental receptors.

3.5 Groundwater and Soil Categorization

The following sets forth the applicable groundwater and soil categories at the Site. This categorization was prepared consistent with 310 CMR 40.0932, 310 CMR 40.0933, and Table 40.0933(9) of the MCP.

3.5.1 Groundwater Categories

The groundwater category for this Site was determined pursuant to 310 CMR 40.0932, research of available documentation, and through the use of MassDEP Site Scoring Map (see Figure 3). Based on the available information, groundwater category GW-3 applies to groundwater beneath this Site for the following reason:

GW-3. All groundwater is thought to eventually discharge to surface water bodies per MassDEP's Method 1 groundwater criteria development guidance; therefore, groundwater category 3 (GW-3) is also relevant to the entire Site.

3.5.2 Soil Categories

Consistent with 310 CMR 40.0933(4), the applicability of the MCP soil categories was determined based on consideration of the frequency of Site use, intensity of activities and the accessibility of the soil, as well as human receptor characteristics.

Direct exposure to Site soil is unlimited since the Site is not covered with a building, is not paved, and is covered only to a limited degree by vegetation.

Current adult and children frequency of use at the Site is determined to be “low” due to the current adult worker being present at the Site for short periods of time (less than two hours per day on a continuing basis or full days of shifts on a sporadic bases), and children may be present at the Site as infrequent trespassers as access is unrestricted. Adult and child intensity of activity is determined to be “high” because the Site is unpaved or otherwise not covered by vegetation and thus site activities and uses have a potential to disturb the soil and result in either direct contact with the soil or inhalation of soil-derived dust. Under future unlimited Site activities and uses, child and adult frequency and intensity of use is assumed to be “high” for a residential scenario.

Impacted soil is found at depths less than 3 feet and unpaved, and is therefore considered *accessible*, consistent with 310 CMR 40.0933(4)(c)1.

Based on the above-summarized information, and Table 40.0933(9) of the MCP, soil category S-1 applies to Site soil currently and in the future.

3.6 Exposure Point Concentrations

Exposure point concentrations for soil and groundwater were determined for the Site consistent with 310 CMR 40.0926 and supporting MassDEP guidance (MassDEP, 1995). In addition, the potential presence of hot spots was evaluated as set forth herein.

An exposure point concentration (EPC) is the measured or estimated amount of a constituent in the environmental medium of concern at the point of human contact. The EPCs are directly compared to the MCP Method 1 soil cleanup standards for each OHM and are representative of the actual concentration of OHM at the Exposure Point without being modified by other assumptions in accordance with 310 CMR 40.0973(4).

3.6.1 Exposure Point Concentrations for Soil

The soil EPCs were compared to Method 1 S-1 soil cleanup standards for the GW-3 groundwater category in Tables 1 and 2. All VOC results were non-detected. The detectable concentrations of PAHs were below MCP Method 1 soil cleanup standards.

3.6.2 Exposure Point Concentrations for Groundwater

Not applicable. Groundwater was not encountered during the excavation conducted by LEEI and sampling activities by TRC. Given the viscosity of the spilled substance, the relatively cold ambient temperatures, the quick remedial response time to the release, the depth of excavation of impacted soils, the approximate depth to groundwater, and the results of the confirmatory samples, it is reasonable to presume that there were no impacts to groundwater from this release.

3.6.3 Hot Spots

No hot spots were identified at the Site.

3.7 Background Concentrations

See Section 3.2.2.2 for a discussion of background concentrations for this Site.

3.8 Identification of Method 1 Standards

As discussed in Section 3.5.1, groundwater category GW-3 apply to the Site. As discussed in Section 3.5.2, soil category S-1 applies to Site soil. Consistent with these categorizations, tabulated soil laboratory data from the Site have been compared to Method 1 Soil Standards obtained from tables in section 310 CMR 40.0975 of the MCP, respectively. Groundwater was not sampled at the Site because groundwater was not encountered during the excavation conducted by LEEI and soil sampling activities by TRC. Given the viscosity of the spilled substance, the relatively cold ambient temperatures, the quick remedial response time to the release, the depth of excavation of impacted soils, the approximate depth to groundwater, and the results of the confirmatory samples, it is reasonable to presume that there were no impacts to groundwater from this release.

3.9 Method 1 Risk Characterization

The EPCs for the Site soil are summarized in Tables 1 and 2 for current and future soil and groundwater categories. As shown in the tables, the soil EPCs indicate a condition of No Significant Risk (all results are below applicable Method 1 soil cleanup standards).

3.10 Risk of Harm to Safety and the Environment

The following sections present a characterization of risk to safety and an environmental risk characterization.

3.10.1 Characterization of Risk to Safety

The risk of harm to safety, as described in 310 CMR 40.0960, was evaluated for the disposal Site. The Site location does not contain the following items related to a release of OHM:

- There are no rusted or corroded drums or containers, open pits or lagoons, at the Site.
- There is no threat of fire or explosion, or the presence of explosive vapors from the release of OHM; and
- There are no uncontainerized materials exhibiting the characteristics of corrosivity, reactivity, or flammability.

Based on the above information, it was determined that the Site does not pose a risk to safety due to the presence of dangerous structures related to the release of OHM.

3.10.2 Environmental Risk Characterization

This environmental risk characterization briefly describes the terrestrial habitat present at the Site and evaluates the quality of the habitat associated with the Site. This risk assessment represents a Stage I - Method 3 Environmental Risk Characterization (ERC) under the MCP and was conducted in accordance with the *Guidance for Disposal Site Risk Characterization, Method 3 - Environmental Risk Characterization*. Massachusetts Department of Environmental Protection. Interim Final Policy WSC/ORS-95-141, April 1996. The objectives of this Stage I screening ERC are to determine whether significant environmental exposure exists at the Site and whether additional investigation to assess environmental risks is warranted.

The Site is located in an area utilized by the City to temporarily store and stage construction materials in a residential/urbanized area that provides limited terrestrial habitat for ecological receptors and consists of an area that is approximately 1,700 square feet. No habitats are present on the Site or in the vicinity of the Site. A small wooded area containing both forested upland and an isolated forested wetland is present approximately 720 feet to the northwest of the Site and represents the only undeveloped habitat in the vicinity of the Site. Based on a review of priority habitats (Natural Heritage Atlas, 13th Edition, MassGIS, 2008), no state-listed threatened, endangered or species of special concern are present at the Site or in the vicinity. In addition, ACECs are not located in the vicinity of the Site. Furthermore, due to the nearly level conditions present at the Site, transport of impacted surface soil to off-Site, sensitive, habitats such as ACECs or wetlands is extremely unlikely.

The Site is immediately adjacent to a busy roadway and the soil surface is frequently disturbed by heavy equipment, providing limited value for ecological receptors. Undeveloped land consisting of non-maintained areas of forest, scrub-shrub or grassland is not present on the campus. Land use at the Site is not expected to change in the foreseeable future to result in the establishment of more valuable habitat for terrestrial receptors.

Groundwater was not encountered during the excavation. A review of a soil boring log taken in the vicinity of the Site indicates that groundwater was encountered at approximately 7 feet below ground surface. Given the viscosity of the spilled substance, the relatively cold ambient temperatures, the quick remedial response time to the release, the depth of excavation of impacted soils, the approximate depth to groundwater, and the results of the confirmatory samples, it is reasonable to presume that there were no impacts to groundwater from this release. This suggests that the oil and hazardous materials associated with the spill did not impact groundwater quality, and that potential migration from the Site to nearby receptors via groundwater flow is not a concern.

Therefore, in accordance with the ERC guidance, no significant soil exposure pathways exist at the Site. Therefore, further ecological investigation at the Site is not warranted.

3.11 Conclusions

Post-excavation soil analytical results for petroleum constituents (EPH) and VOCs show that the post-excavation soil concentrations are significantly lower than applicable Method 1 soil standards (VOCs were not detected and EPH and PAHs concentrations are below applicable Method 1 soil standards).

The results of the soil removal have achieved No Significant Risk for the drum-related release. Groundwater was not encountered during the excavation effort conducted by LEEI and soil sampling activities by TRC. Given the viscosity of the spilled substance, the relatively cold ambient temperatures, the quick remedial response time to the release, the depth of excavation of impacted soils, the approximate depth to groundwater, and the results of the confirmatory samples, it is reasonable to presume that there were no impacts to groundwater from this release.

A Stage I Environmental Risk Characterization indicated no significant soil exposure pathways exist at the Site and groundwater data indicate a condition of no significant risk to environmental receptors. Therefore, further ecological investigation at the Site is not warranted.

4.0 DATA USABILITY AND REPRESENTATIVENESS

4.1 Data Usability Assessment

In general, the data are usable for MCP decisions and a Representativeness Evaluation due to acceptable accuracy, precision, and sensitivity on the basis of the analytical and field quality control components of the program.

4.1.1 Analytical Data Usability Assessment

Refer to Appendix E for a summary of the data usability assessment associated with TRC's investigation of the Site. In general, the analytical data are usable for MCP decisions and a Representativeness Evaluation based on the Compendium of Analytical Methods (CAM) requirements for acceptable accuracy, precision, and sensitivity. In general, the data are valid as reported and may be used for decision-making purposes.

4.1.1.1 Rejection of Analytical Data

Appendix II of the Draft Interim Data Usability Guidance (March 2007) was used to determine if gross failures of quality control existed in the Site data sets. There were no gross failures of quality control in the sampling or analytical procedures. As a result, none of the data points were judged to be unusable for the Representativeness Evaluation.

4.1.2 Field Quality Control Data Usability Assessment

Quality control (QC) in the field was assessed in the Data Usability Assessments provided in Appendix E. In general, the results of the QC samples were within the established acceptance criteria. One field duplicate was collected for VOC analysis. Matrix Spike (MS) analyses were performed on one sample for VOC analysis of soil samples.

EPH soil samples collected by LEEI could not be evaluated for field quality control as no field QC samples were collected. However, laboratory QC performance criteria were within all specified limits.

Holding times were achieved for all analyses performed. Sampling procedures and sample preservation techniques were conducted in accordance with TRC Standard Operating Procedures (SOPs) for soil sampling for VOCs.

4.1.3 Achievement of Data Quality Objectives

Data Quality Objectives (DQOs) for the Site program were as follows:

- To assess the nature and extent of oil and hazardous material present in soil at the Site.
- To evaluate the potential risks posed by the Site release to human health, safety, public welfare and the environment.

- To evaluate the success of the Site remediation activities in achieving a condition of No Significant Risk as defined by the MCP.

The data usability assessment evaluated whether the data were usable to achieve project objectives. In addition, any cautions or limitations on the data which could affect the achievement of these objectives or the decision-making process were also highlighted. As per Appendix E, no cautions or limitations on the data were noted.

4.2 Representativeness Evaluation

TRC prepared this Representativeness Evaluation to describe the extent to which Site data provide an accurate representation of Site environmental characteristics pursuant to 310 CMR 40.1056(2)(k) of the MCP and the MCP Representativeness Evaluations and Data Usability Assessment document issued by MassDEP in September 2007 (Policy #WSC-07-350). The precision, accuracy and sensitivity of the Site data used in this Representativeness Evaluation were discussed in the Data Usability Assessment section (Section 4.1) of this RAO. As stated in the Data Usability Assessment, the data are valid as reported and may be used for decision-making purposes with no cautions and/or limitations.

4.3 Conceptual Site Model

The subject Site is the location at which three 55-gallon drums were deposited by unknown parties on City property located on Liberty Street where the City stores and stages construction materials. One of the drums appeared to be leaking a dark viscous substance thought to be an asphalt emulsifier. The other two 55-gallon drums were very rusty, but were not leaking and appeared to contain liquid tar.

Under the supervision of a LSP, Mr. Joel Loitherstein of LEEI, IRA activities were immediately taken in order to contain the spill, and remove the source and impacted soils. Further IRA activities were taken to remove all impacted soils and to properly dispose of the soils and overpacked 55-gallon drums containing the liquids. Post-excavation sampling was performed for EPH and target PAHs, and the sample results did not indicate the presence of EPH fractions or PAHs above MCP Method 1 soil cleanup standards. The EPH and PAH laboratory results are presented in Table 1.

Following the completion of the IRA activities, the overpacked liquid material was shipped to General Chemical in Framingham, Massachusetts for disposal under a non-hazardous waste manifest. The drums were believed to contain liquid asphalt and asphalt emulsifier and therefore, could be transported via a non-hazardous waste manifest. The facility tested the materials and found that two of the three drums contained detectable concentrations of TCE. On December 10, 2009, General Chemical issued an Unmanifested Waste Report to the MassDEP in compliance with 310 CMR 30.543(2). On December 14, 2009, a copy of the report was forwarded to the City.

Given the detection of TCE in the drummed waste, TRC personnel collected soil samples for VOC analysis. The sample results did not indicate the presence of VOCs above MCP Method 1

soil cleanup standards. All VOC soil results are non-detect. VOC laboratory results are presented in Table 2.

Groundwater was not encountered during the excavation. A review of a soil boring log taken in the vicinity of the Site indicates that groundwater was encountered at approximately 7 feet below ground surface. Given the viscosity of the spilled substance, the relatively cold ambient temperatures, the quick remedial response time to the release, the depth of excavation of impacted soils, the approximate depth to groundwater, and the results of the confirmatory samples, it is reasonable to presume that there were no impacts to groundwater from this release. This suggests that the oil and hazardous materials associated with the spill did not impact groundwater quality, and that potential migration from the Site to nearby receptors via groundwater flow is not a concern.

Based on the post-excavation sampling program undertaken by LEEI and TRC, a Class A-1 RAO has been achieved for the Site. Background and a Permanent Solution have been achieved. A level of No Significant Risk exists for this Disposal Site (see Section 3.0 for further detail).

4.4 Work Plan, Data Quality Objectives and Data Collection Approach

4.4.1 Site Testing

LEEI was retained by the City to initiate the performance of IRA activities in response to the dumping of three 55-gallon drums on City property. Following the initial response actions, post-excavation sampling, and remediation waste characterization managed by LEEI, the City requested that remaining response actions be transitioned to TRC.

Following the removal of the 55-gallon drums and excavation of impacted soils, LEEI collected three samples from the bottom of the excavation, one from the side wall of the excavation, and one sample under the location of the stockpiled impacted soils. The samples were submitted for laboratory analysis of EPH and target PAHs in order to document that impacted soils had been removed. Sample locations are presented in Figure 2.

Following the detection of TCE in two of the three drums that were removed from the Site, TRC collected soil samples, collocated with the EPH and target PAH soil samples, and submitted the samples for laboratory analysis of VOCs, in order to determine if VOCs had impacted soils at the Site.

All soil samples were taken utilizing hand tools. Soil samples collected by TRC were obtained from each location consistent with TRC Standard Operating Procedures (SOPs) and generally accepted good industry practice.

Post-excavation soil samples were analyzed for EPH and target PAHs by the MassDEP EPH Method. The analysis of soils for EPH and target PAHs was consistent with observations of spilled materials at the Site. The subsequent analysis of soils for VOCs was consistent with aforementioned detection of TCE in the drummed liquids. Analytical Laboratory Data Reports are provided in Appendix F.

The DQOs for LEEI and TRC's Site testing programs were to collect data that could be used to assess the nature and extent of oil and hazardous materials present in soil; evaluate the potential risks posed by the site release to human health, safety, public welfare and the environment; and support Site closure, as appropriate. The results of LEEI and TRC's sampling are summarized in Table 1 and Table 2, respectively.

4.5 Selection of Sampling Locations and Depths

Summaries of the sampling locations, depths, chemical analyses and rationale for the investigative samples collected at the Site are provided in Section 2.0 (Response Action Outcome Supporting Documentation).

4.6 Number and Spatial Distribution of Sampling Locations

The soil samples were collected to document post-excavation soil conditions in the location of the spill. The locations selected for soil sampling targeted the limits of impacted soil removal. The number and spatial distribution of sampling at the Site is sufficiently representative of Site conditions and meet the requirements of a RAO.

4.7 Temporal Distribution of Samples

The release conditions at this Site do not warrant monitoring over time. No Time Critical Conditions were identified at the Site. Groundwater is not a concern at this Site. All post-excavation soil analytical results for petroleum constituents indicate that the post-excavation soil results have been reduced to levels significantly below the MCP Method 1 soil cleanup standards.

4.8 Critical Samples

Critical soil samples are identified as those samples necessary to support the conclusion that the RAO conclusion has been met. Critical samples utilized to determine that post-excavation soils are at concentrations that are significantly below applicable MCP Method 1 soil cleanup standards, and as discussed herein the soil post-excavation soil results are consistent with background, which include all post-excavation soil samples collected by LEEI and TRC. The sample results for these critical samples are provided in Tables 1 and 2.

4.9 Completeness

No site data used to determine that concentrations that are significantly below applicable MCP Method 1 soil cleanup standards or consistent with background were rejected as a result of the Data Usability Assessment presented in Section 4.1 of this RAO. Therefore, 100-percent completeness was achieved for all site data.

4.10 Uncertainty and Inconsistency

No areas of uncertainty associated with this Representativeness Evaluation were identified.

4.11 Conclusion from Representativeness Evaluation

TRC has developed the following conclusions with respect to the representativeness of the Site data to actual Site conditions:

- As indicated by the Data Usability Assessment presented in Section 4 of this RAO, the Site data used in this RAO to demonstrate that a condition of No Significant Risk has been achieved are consistent and/or comparable to current MassDEP CAM requirements.
- The number of samples, sample depths, spatial and temporal distribution of the samples is sufficient to identify releases from the source and to delineate the extent of oil and/or hazardous materials impacted soils at the Site.
- No significant discrepancies between Site spill information, and/or laboratory sample results were identified that would undermine the conclusions of this RAO.

Based on the above conclusions, TRC has determined that the Site data are sufficiently representative of actual Site conditions and may be used to support this RAO.

5.0 RESPONSE ACTION OUTCOME

A Class A-1 Response Action Outcome has been achieved at the Site, based on, and in accordance with, the following (310 CMR 40.1035 & 40.1036 (1)):

- The source of OHM at the Site which led to the release to the environment, has been eliminated;
- The concentrations of OHM in the environment have been reduced to background, and;
- An AUL is not required to maintain a level of No Significant Risk.

Note that this RAO Statement addresses the drum spill-related release tracked under RTN 4-22269 only.

6.0 PUBLIC INVOLVEMENT

The public involvement and/or notification activities to which the City of New Bedford is obligated with regard to this Site under 310 CMR 40.1403(3)(f) include notification regarding the availability of the RAO Statement filed for this Site, which must be submitted to the Chief Municipal Officer and Board of Health in the Town of New Bedford. This notification must be made in writing, and will be made concurrently with the filing of the RAO Statement with the MassDEP Southeast Regional Office.

Copies of the public notification letters are provided in Appendix D.

7.0 REFERENCES

DHCD, 2007. Commonwealth of Massachusetts Department of Housing and Community Development. Community Profile for the City of New Bedford. <http://www.mass.gov/dhcd/iprofile/205.pdf>

MassDEP, 1995. Guidance for Disposal Site Risk Characterization. BWSC/ORS-95-141. July.

TABLES

TABLE 1
Summary of EPH and target PAH Analytical Results for Soil Samples
Liberty Street City Yard Release
Across from 230 Hathaway Boulevard
New Bedford, Massachusetts

Analysis	Analyte	Sample ID:	BTM-1	BTM-2	BTM-3	ESW	Under Stockpile
		Sample Depth(ft.): Sample Date:	1 11/3/2009	1 11/3/2009	0.5 11/3/2009	0-1 11/3/2009	Surface 11/3/2009
		S-1/GW-3					
EPH (mg/kg)	C9-C18 Aliphatics	1,000	35 U	36 U	35	35 U	35 U
	C19-C36 Aliphatics	3,000	35 U	73	110	69	280
	C11-C22 Aromatics	1,000	64	52	150	100	280
	Naphthalene	500	0.59 U	0.60 U	0.56 U	0.58 U	0.58 U
	2-Methylnaphthalene	300	0.59 U	0.60 U	0.56 U	0.58 U	0.58 U
	Phenanthrene	500	0.92	0.83	1.9	2.0	1.5
	Acenaphthene	1,000	0.59 U	0.60 U	0.56 U	0.58 U	0.58 U
	Acenaphthylene	10	0.59 U	0.60 U	0.56 U	0.58 U	0.58 U
	Fluorene	1,000	0.59 U	0.60 U	0.56 U	0.58 U	0.58 U
	Anthracene	1,000	0.59 U	0.60 U	0.56 U	0.58 U	0.58 U
	Fluoranthene	1,000	1.6	1.2	2.7	3.9	2.2
	Pyrene	1,000	1.5	1.1	2.2	3.4	2.0
	Benzo(a)anthracene	7	0.60	0.60 U	1.1	1.4	0.95
	Chrysene	70	0.81	0.71	1.4	1.7	1.3
	Benzo(b)fluoranthene	7	0.70	0.63	1.4	1.7	1.1
	Benzo(k)fluoranthene	70	0.65	0.60 U	0.91	1.4	0.77
	Benzo(a)pyrene	2	0.82	0.72	1.3	1.9	1.0
	Indeno(1,2,3-cd)pyrene	7	0.59 U	0.60 U	0.88	1.3	0.58 U
Dibenz(a,h)anthracene	0.7	0.59 U	0.60 U	0.56 U	0.58 U	0.58 U	
Benzo(g,h,i)perylene	1,000	0.65	0.66	0.65	1.6	0.87	

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NS - No MassDEP standards exist for this compound.

U - Compound was not detected at specified quantitation limit.

Values in **Bold** indicate the compound was detected.

EPH - Extractable Petroleum Hydrocarbons.

Background - Background Concentration for natural soil.

TABLE 2
Summary of VOC Analytical Results for Soil Samples
Liberty Street City Yard Release
New Bedford, Massachusetts

Analysis	Analyte	Sample ID: Sample Date: S-1/GW-3	TRC-BTM-1	TRC-BTM-2	TRC-BTM-22	TRC-BTM-3	TRC-ESW
			12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009
VOCs (mg/kg)	Acetone	400	0.082 U	0.069 U	0.070 U	0.067 U	0.076 U
	tert-Amyl Methyl Ether (TAME)	NS	0.00082 U	0.00069 U	0.00070 U	0.00067 U	0.00076 U
	Benzene	30	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	Bromobenzene	NS	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	Bromochloromethane	NS	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	Bromodichloromethane	20	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	Bromoform	200	0.0082 U	0.0069 U	0.0070 U	0.0067 U	0.0076 U
	Bromomethane	30	0.0082 U	0.0069 U	0.0070 U	0.0067 U	0.0076 U
	2-Butanone (MEK)	400	0.033 U	0.028 U	0.028 U	0.027 U	0.030 U
	n-Butylbenzene	100 ⁽¹⁾	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	sec-Butylbenzene	100 ⁽¹⁾	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	tert-Butylbenzene	100 ⁽¹⁾	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	tert-Butyl Ethyl Ether (TBEE)	NS	0.00082 U	0.00069 U	0.00070 U	0.00067 U	0.00076 U
	Carbon Disulfide	NS	0.0049 U	0.0042 U	0.0042 U	0.0040 U	0.0046 U
	Carbon Tetrachloride	10	0.0082 U	0.0069 U	0.0070 U	0.0067 U	0.0076 U
	Chlorobenzene	100	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	Chlorodibromomethane	20	0.00082 U	0.00069 U	0.00070 U	0.00067 U	0.00076 U
	Chloroethane	NS	0.016 U	0.014 U	0.014 U	0.013 U	0.015 U
	Chloroform	400	0.0033 U	0.0028 U	0.0028 U	0.0027 U	0.0030 U
	Chloromethane	NS	0.0082 U	0.0069 U	0.0070 U	0.0067 U	0.0076 U
	2-Chlorotoluene	NS	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	4-Chlorotoluene	NS	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	1,2-Dibromo-3-chloropropane (DBCP)	NS	0.0082 U	0.0069 U	0.0070 U	0.0067 U	0.0076 U
	1,2-Dibromoethane (EDB)	0.7	0.00082 U	0.00069 U	0.00070 U	0.00067 U	0.00076 U
	Dibromomethane	NS	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	1,2-Dichlorobenzene	300	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	1,3-Dichlorobenzene	100	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	1,4-Dichlorobenzene	50	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	Dichlorodifluoromethane (Freon 12)	NS	0.016 U	0.014 U	0.014 U	0.013 U	0.015 U
	1,1-Dichloroethane	500	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	1,2-Dichloroethane	10	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	1,1-Dichloroethylene	500	0.0033 U	0.0028 U	0.0028 U	0.0027 U	0.0030 U
	cis-1,2-Dichloroethylene	100	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	trans-1,2-Dichloroethylene	500	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	1,2-Dichloropropane	10	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	1,3-Dichloropropane	NS	0.00082 U	0.00069 U	0.00070 U	0.00067 U	0.00076 U
	2,2-Dichloropropane	NS	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	1,1-Dichloropropene	NS	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	cis-1,3-Dichloropropene	9 ⁽²⁾	0.00082 U	0.00069 U	0.00070 U	0.00067 U	0.00076 U
	trans-1,3-Dichloropropene	9 ⁽²⁾	0.00082 U	0.00069 U	0.00070 U	0.00067 U	0.00076 U
	Diethyl Ether	NS	0.016 U	0.014 U	0.014 U	0.013 U	0.015 U
	Diisopropyl Ether (DIPE)	NS	0.00082 U	0.00069 U	0.00070 U	0.00067 U	0.00076 U
	1,4-Dioxane	70	0.082 U	0.069 U	0.070 U	0.067 U	0.076 U
	Ethylbenzene	500	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	Hexachlorobutadiene	6	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	2-Hexanone (MBK)	NS	0.016 U	0.014 U	0.014 U	0.013 U	0.015 U
	Isopropylbenzene (Cumene)	100 ⁽¹⁾	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	p-Isopropyltoluene (p-Cymene)	100 ⁽¹⁾	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U
	Methyl tert-Butyl Ether (MTBE)	100	0.0033 U	0.0028 U	0.0028 U	0.0027 U	0.0030 U
	Methylene Chloride	200	0.016 U	0.014 U	0.014 U	0.013 U	0.015 U
4-Methyl-2-pentanone (MIBK)	400	0.016 U	0.014 U	0.014 U	0.013 U	0.015 U	
Naphthalene	500	0.0033 U	0.0028 U	0.0028 U	0.0027 U	0.0030 U	
n-Propylbenzene	100 ⁽¹⁾	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
Styrene	30	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
1,1,1,2-Tetrachloroethane	7	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
1,1,2,2-Tetrachloroethane	0.8	0.00082 U	0.00069 U	0.00070 U	0.00067 U	0.00076 U	
Tetrachloroethylene	30	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
Tetrahydrofuran	NS	0.0082 U	0.0069 U	0.0070 U	0.0067 U	0.0076 U	
Toluene	500	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
1,2,3-Trichlorobenzene	NS	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
1,2,4-Trichlorobenzene	500	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
1,1,1-Trichloroethane	500	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
1,1,2-Trichloroethane	4	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
Trichloroethylene	90	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
Trichlorofluoromethane (Freon 11)	NS	0.0082 U	0.0069 U	0.0070 U	0.0067 U	0.0076 U	
1,2,3-Trichloropropane	NS	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
1,2,4-Trimethylbenzene	100 ⁽¹⁾	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
1,3,5-Trimethylbenzene	100 ⁽¹⁾	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	
Vinyl Chloride	0.6	0.0082 U	0.0069 U	0.0070 U	0.0067 U	0.0076 U	
m+p Xylene	500	0.0033 U	0.0028 U	0.0028 U	0.0027 U	0.0030 U	
o-Xylene	500	0.0016 U	0.0014 U	0.0014 U	0.0013 U	0.0015 U	

Notes:

mg/kg - milligrams per kilogram (dry weight) or parts per million (ppm).

NS - No MassDEP standards exist for this compound.

U - Compound was not detected at specified quantitation limit.

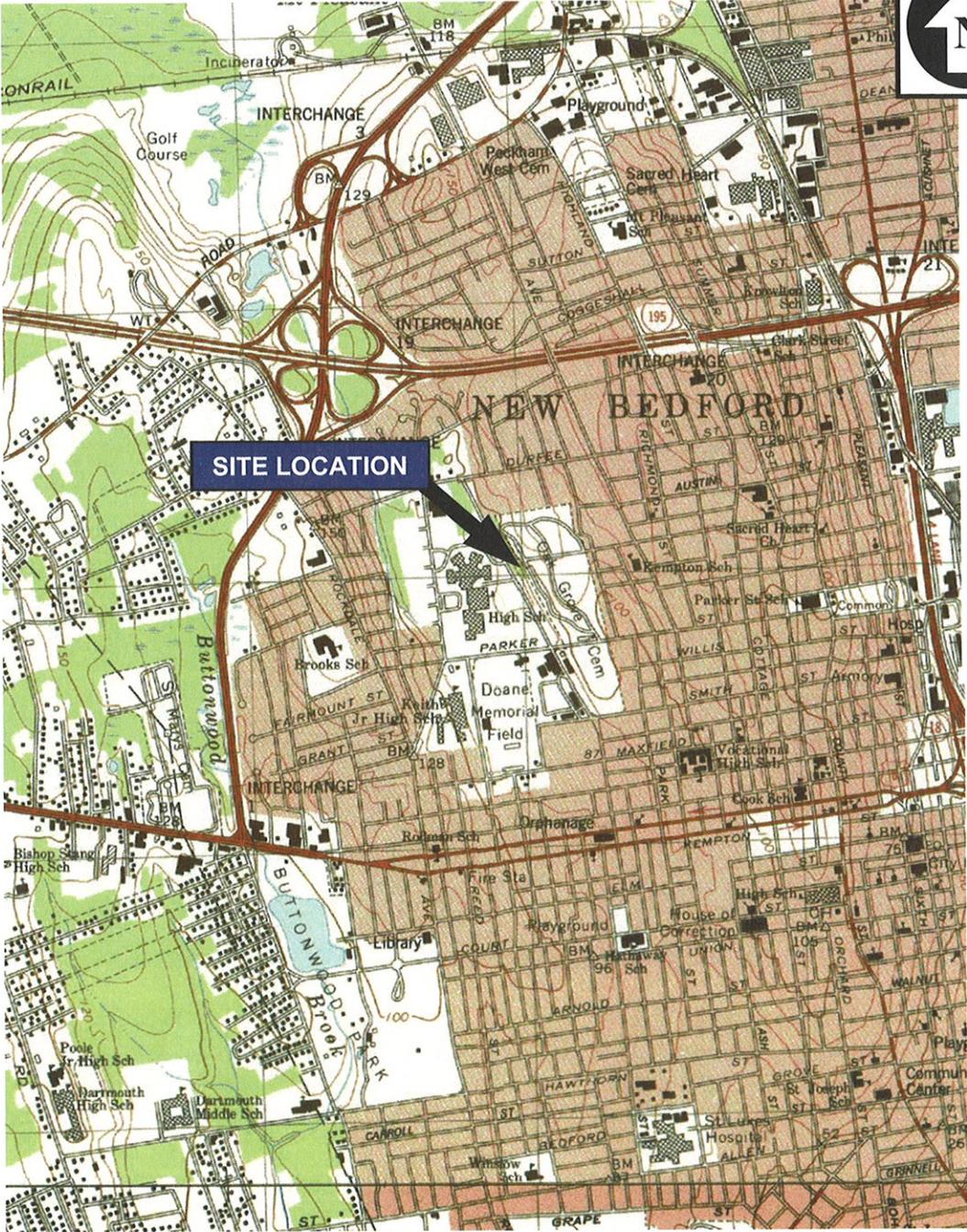
VOCs - Volatile Organic Compounds.

(1) - MassDEP Method 1 standards for C9-C10 aromatics used.

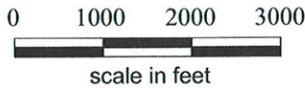
(2) - MassDEP Method 1 standards for 1,3-Dichloropropene used.

* - Background Concentration for natural soil.

FIGURES



BASE MAP IS A PORTION OF THE FOLLOWING 7.5' X 15' USGS
 TOPOGRAPHIC QUADRANGLES: NEW BEDFORD NORTH, MA, 1979;
 NEW BEDFORD SOUTH, MA 1977



QUADRANGLE
 LOCATION

**LIBERTY STREET RELEASE SITE
 NEW BEDFORD, MASSACHUSETTS**

SITE LOCATION MAP



Wannalancit Mills
 650 Suffolk Street
 Lowell, MA 01854
 978-970-5600

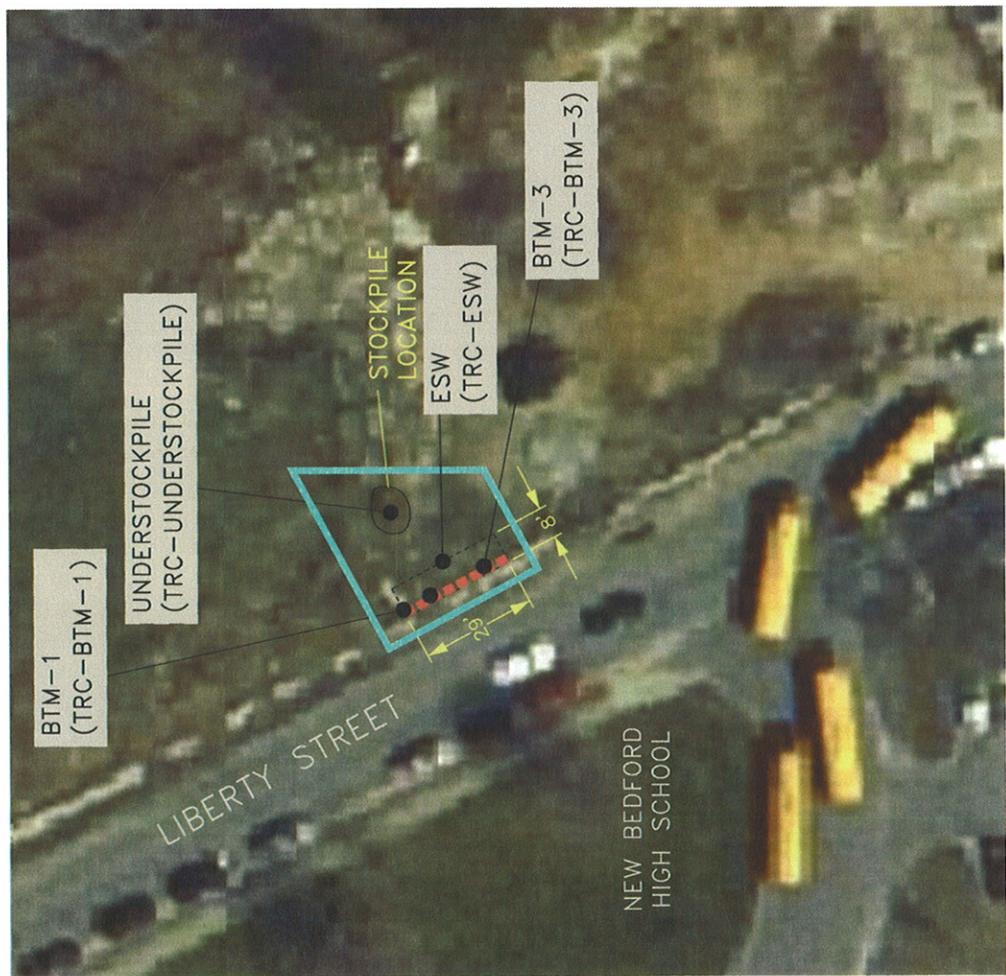
**FIGURE
 1**

Drawn: HWB
 Checked: JS

SCALE: AS SHOWN
 Date: DEC 2009

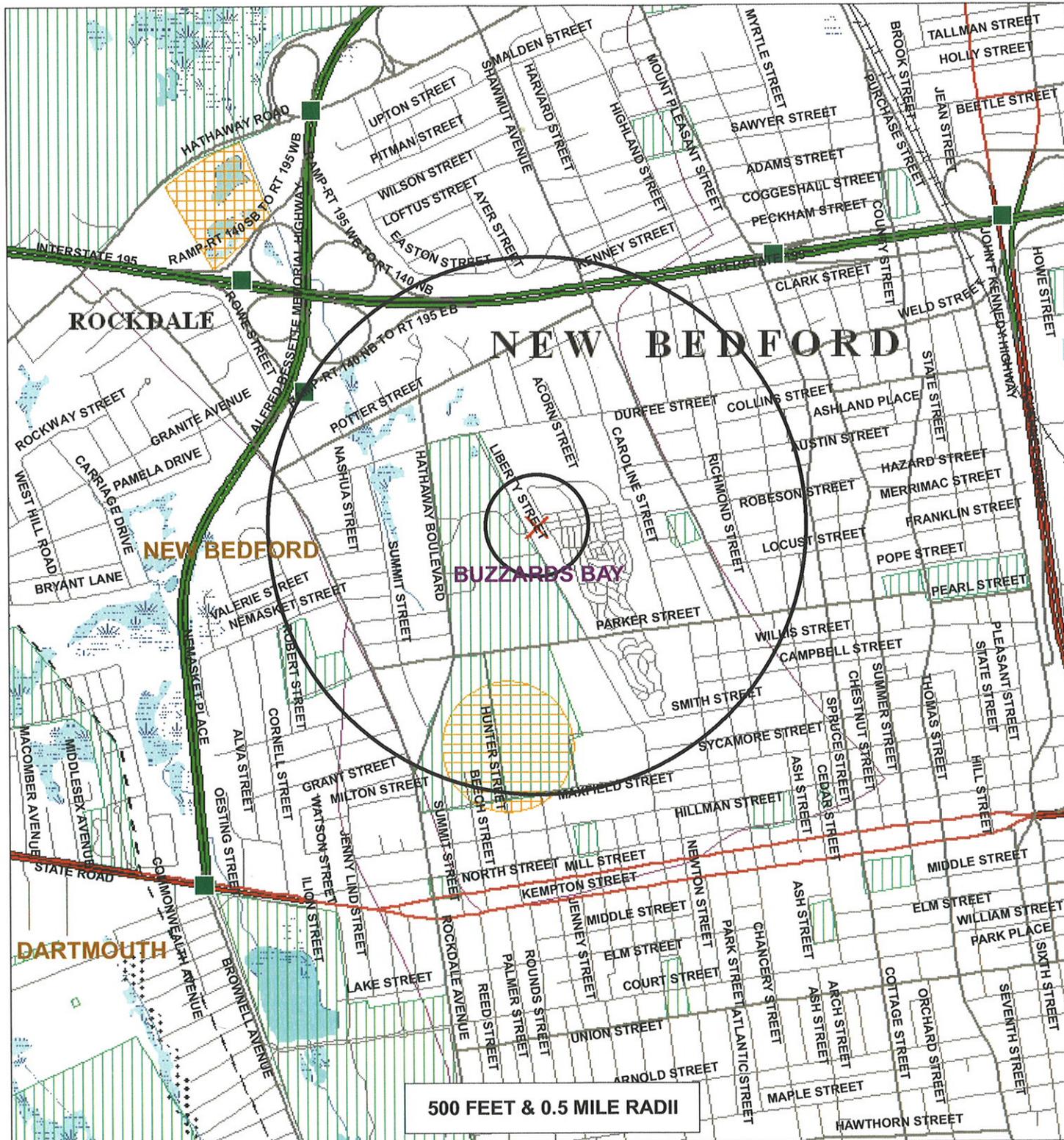
LEGEND:

- LOIHERSTEIN ENVIRONMENTAL ENGINEERING, INC.
SAMPLE IDENTIFICATION
(TRC SAMPLE IDENTIFICATION)
- BTM-1 (TRC-BTM-1)
- CONCRETE BLOCKS
- EXCAVATION AREA
- SITE BOUNDARY



ENVIRONMENTAL INVESTIGATION AND RELATED ENVIRONMENTAL CONSULTING SERVICES NEW BEDFORD HIGH SCHOOL & SURROUNDING NEIGHBORHOOD NEW BEDFORD, MASSACHUSETTS	
RELEASE SITE MAP LIBERTY STREET RELEASE	
TRC Wamsley Mill 650 South Main Street Weymouth, MA 01984 (978) 970-5660	FIGURE 2
DRAWN BY: HWB CHECKED BY: DNP	DATE: DEC 2009

NOTE:
AERIAL SOURCE: MASSGIS 2005

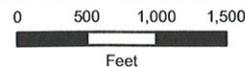


Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

FIGURE 3

MA DEP PRIORITY RESOURCES MAP

LIBERTY STREET CITY YARD RELEASE
ACROSS FROM 230 HATHAWAY BOULEVARD
NEW BEDFORD, MA



- Roads: Limited Access, Multi-Lane, Major/Minor, Track, Trail
 - Railroad, Pipeline, Powerline
 - Major Basin, Sub Basin, Perennial Stream, Intermittent Stream, Shoreline, Man made Shore, Dam, Aqueduct
 - Wetland, Salt Wetland, Submerged Wetland, Open Water, Reservoir, Tidal Flat/Shoal
 - Potentially Productive Aquifers: Medium, High Yield
 - Non-Potential Drinking Water Source Area: Medium, High Yield
 - EPA Sole Source Aquifer, FEMA 100 Yr. Floodplain, DEP Solid Waste Facility
 - Approved Zone II, IWPA, Surface Water Supply Zone A
 - Protected Open Space, ACEC
 - Priority Habitat 2008, Certified Vernal Pool 2009
 - Boundaries: County and Town
 - Public Water Supplies: Ground, Surface, Non-Community (NTNC, TNC)
- Source: MassGIS/EOEA

APPENDIX A

LIMITATIONS

LIMITATIONS

1. TRC Environmental Corporation's (TRC's) study was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and TRC observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. TRC's findings and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered during the course of the study. No other warranty, express or implied is made. Specifically, TRC does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by TRC during its study. Additionally, TRC makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a Massachusetts Department of Environmental Protection (MassDEP) audit.
2. This study and report have been prepared on behalf of and for the exclusive use of the MassDEP and the City of New Bedford, solely for use in an environmental response action at the Site in New Bedford, Massachusetts ("Site") under the Massachusetts Contingency Plan (MCP - 310 CMR 40.0000). This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of TRC.
3. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in this report was carried out in accordance with the Terms and Conditions referenced in our proposal.
4. In preparing this report, TRC has relied on certain information provided by state and local officials and other parties referenced therein, and on information contained in the files of state and/or local agencies available to TRC at the time of the study. Although there may have been some degree of overlap in the information provided by these various sources, TRC did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this evaluation.
5. In the event that the Client or others authorized to use this report obtain information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to TRC's attention forthwith. TRC will evaluate such information and, on the basis of that evaluation, may modify the conclusions stated in this report.
6. The purpose of this report was to assess the Site with respect to the requirements of the MCP. No specific attempt was made to check on the compliance of present or past owners or operators of the Site with federal, state, or local laws and regulations, environmental or otherwise.
7. The conclusions and recommendations contained in this report are based in part upon the data obtained from a limited number of soil samples obtained from widely spread subsurface explorations. The nature and extent of variations between these explorations may not become evident until further exploration. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the conclusions and recommendations of this report.

8. Where quantitative laboratory analyses have been conducted by an outside laboratory, TRC has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.
9. The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. It should be noted that variations in the types and concentrations of analytical constituents and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by TRC and the conclusions and recommendations presented herein modified accordingly.
10. Chemical analyses have been performed for specific parameters during the course of this Site assessment, as described in the text. However, it should be noted that additional chemical constituents not searched for during the current study may be present at the Site.
11. TRC's risk evaluation was performed in accordance with generally accepted practices of the Massachusetts Department of Environmental Protection and other consultants undertaking similar studies. The findings of the risk evaluation are dependent on numerous assumptions and uncertainties inherent in the risk assessment process. Sources of uncertainty may include the description of Site conditions and the nature and extent of chemical distribution and the use of toxicity information. Consequently, the findings of the risk assessment are not an absolute characterization of actual risks, but rather serve to highlight potential sources of risk at the Site. Although the range of uncertainties has not been quantified, the use of conservative assumptions and parameters throughout the assessment would be expected to err on the side of protection of human health and the environment.

APPENDIX B

UNMANIFESTED WASTE REPORT

General Chemical Corporation



December 10, 2009

Responsive Environmental Management Services

Ms. Anna Stern
MA DEP
One Winter Street
Boston, MA 02108

RECEIVED

DEC 14 2009

DEPT. OF PUBLIC FACILITIES
NEW BEDFORD, MA

Re: Unmanifested Waste Report

Dear Ms. Stern:

This Unmanifested Waste Report is being submitted pursuant to Massachusetts Hazardous Waste Regulations at 310 CMR 30.534(2). The following information responds to paragraphs a. through g. of the cited regulation.

a. Receiving Facility: General Chemical Corporation
133 Leland St., Framingham, MA 01702
MAD 019371079

b. Date received: December 1, 2009

c. Generator: City of New Bedford
294 Liberty St., New Bedford, MA 02740
MAR000501155

Transporter: Clean Venture, Inc.
138 Leland St., Framingham, MA 01702
NJ0000027193

d. Description and quantity of waste received:

Two of three drums of liquid asphalt (110 gallons total), documented on line a. of non-hazardous waste manifest number 09438, were found to contain regulated concentrations of trichloroethylene.

e. Method of treatment, storage, use or disposal of the waste:

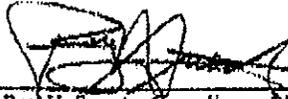
The material will be placed into facility inventory for later shipment to a licensed TSD/DF for incineration.

f. Explanation of why waste was unmanifested:

The material resulted from a cleanup of spilled liquid asphalt. This is normally non-hazardous material and was therefore transported via a non-hazardous waste manifest.

g. Certification:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment.

By: 
Roy H. Swartz, Compliance Manager

Date: 12/10/09

If you have any questions, please contact me at (508) 782-4129

cc:
Ed Pawlowski - DEP NERO
Steve Ganley
Craig Bezano
Larry Worden, New Bedford

133 Leland Street • Framingham, MA 01702
508-872-5000 • FAX: 508-875-5271
www.cyclechem.com

Corporate Office:
201 South First Street
Elizabeth, NJ 07206
908-355-5800
FAX: 908-355-3495

North Jersey Office:
201 South First Street
Elizabeth, NJ 07206
908-354-0210
FAX: 908-354-0731

New Jersey TSDP:
217 South First Street
Elizabeth, NJ 07208
908-355-5800
FAX: 908-355-0562

South Jersey Office:
1800 Carman Street
Camden, NJ 08105
856-385-9544
FAX: 856-385-0801

Maryland Office:
2031 Inverness Avenue
Baltimore, MD 21230
410-388-9170
FAX: 410-388-9171

Connecticut Office:
One Dock Street
Stamford, CT 06902
203-869-2800
FAX: 203-869-2264

Pennsylvania TSDP:
350 Industrial Drive
Lewisberry, PA 17339
717-938-4700
FAX: 717-938-3301

APPENDIX C

MASS DEP TRANSMITTAL FORM

SUBMITTED IN HARD COPY ONLY

APPENDIX D

PUBLIC NOTIFICATION LETTERS



Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854

978.970.5600 PHONE
978.453.1995 FAX

www.TRCsolutions.com

TRC Reference Number: 115058

March 19, 2010

Board of Health
City of New Bedford
133 William Street
New Bedford, Massachusetts 02740

Re: Notice of Availability
Response Action Outcome Report
Liberty Street City Yard Release
Across from 230 Hathaway Boulevard
New Bedford, Massachusetts

Release Tracking Number (RTN) 4-22269

To Whom It May Concern:

TRC has prepared this notification letter on behalf of the City of New Bedford (the City), to inform you of the availability of a Response Action Outcome (RAO) Statement Report for the above-referenced Site in New Bedford, Massachusetts. This notification is being submitted to you in accordance with the Massachusetts Contingency Plan, 310 CMR 40.1403(3)(f).

The RAO Report for the above-referenced property can be reviewed at the Massachusetts Department of Environmental Protection, Southeast Regional Office, located at 20 Riverside Drive in Lakeville, Massachusetts.

Sincerely,

TRC Environmental Corporation

David M. Sullivan, LSP, CHMM
Sr. Project Manager

cc: MassDEP Southeast Regional Office
Mayor, City of New Bedford



Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854

978.970.5600 PHONE
978.453.1995 FAX

www.TRCSolutions.com

TRC Reference Number: 115058

March 19, 2010

Mayor Scott W. Lang
City of New Bedford
133 William Street
New Bedford, Massachusetts 02740

Re: Notice of Availability
Response Action Outcome Report
Liberty Street City Yard Release
Across from 230 Hathaway Boulevard
New Bedford, Massachusetts

Release Tracking Number (RTN) 4-22269

Dear Mayor Lang:

TRC has prepared this notification letter on behalf of the City of New Bedford (the City), to inform you of the availability of a Response Action Outcome (RAO) Statement Report for the above-referenced Site in New Bedford, Massachusetts. This notification is being submitted to you in accordance with the Massachusetts Contingency Plan, 310 CMR 40.1403(3)(f).

The RAO Report for the above-referenced property can be reviewed at the Massachusetts Department of Environmental Protection, Southeast Regional Office, located at 20 Riverside Drive in Lakeville, Massachusetts.

Sincerely,

TRC Environmental Corporation

David M. Sullivan, LSP, CHMM
Sr. Project Manager

cc: MassDEP Southeast Regional Office
Board of Health, Town of New Bedford

APPENDIX E

DATA USABILITY ASSESSMENT

Data Usability Assessment: Liberty Street Spill, New Bedford, MA

<p>1: Discuss appropriateness of selected analytical methods to quantitatively support disposal site's RAO. Discuss any impacts to the data used to support the RAO if generated with non-CAM methods. Justify that the data used to support the RAO is adequate in spite of the use of non-CAM methods.</p>	<p>Appropriateness of Analytical Methods Used</p> <ul style="list-style-type: none">• The following methods were utilized to respond to all contaminants of concern in soil: EPH and VOCs.• Table DUA-1 summarizes all samples used for the RAO and included in this data usability assessment.• All soil sample analyses were performed using the CAM.
<p>2: Discuss appropriateness of selected analytical methods' Reporting Limits (RL) to quantitatively support the disposal site's RAO.</p>	<p>Analytical reporting limits, as documented by the laboratory, meet or exceed sensitivity requirements required to assess level of risk and cleanup standards for contaminants of concern previously identified for this response action for soil, with the following exceptions:</p> <p><u>Exception #1:</u> The following nondetect results exceed the Natural Background standards:</p> <ul style="list-style-type: none">• naphthalene, 2-methylnaphthalene, acenaphthene, acenaphthylene, and dibenz(a,h)anthracene in soil samples BTM-1, BTM-2, BTM-3, ESW, and Under Stockpile Surface. <p>Because the nondetect results ranging from 0.56 mg/kg to 0.60 mg/kg for these compounds slightly exceed the natural background soil concentrations of 0.5 mg/kg at and were well below MCP Method 1 S-1/GW-2 and S-1/GW-3 standards, these compounds are not considered to be compounds of potential concern. Thus, this exception has no affect on the outcome or conclusions of this RAO.</p>

Data Usability Assessment: Liberty Street Spill, New Bedford, MA

3: Discuss laboratory performance criteria and data quality indicators utilized to assess overall Analytical Accuracy (continuing calibration, laboratory control spikes, etc.) and Analytical Precision (laboratory duplicates, laboratory control spike duplicates, etc.)

CAM Data: Review Certification Form and discuss data quality issues noted in narrative. Non-CAM Data: Discuss data quality indicators used to assess data and any data quality issues noted.

- () *Meets all CAM requirements and performance standards without qualification.*
- (√) *Does not meet all CAM requirements and performance standards without qualification. If NO, discuss data usability implications*

Issues associated with the CAM data are summarized below.

Data usability was not adversely affected for the remaining issues listed below as these issues would not cause a significant bias to the reported values.

Accuracy and Precision:

- Response factor was less than method specified minimum value for 1,4-dioxane, 2-butanone, acetone, and tetrahydrofuran, resulting in reduced precision and accuracy for reported results: soil samples TB, TRC-BTM-1, TRC-BTM-2, TRC-BTM-3, TRC-BTM-22, TRC-ESW. Although potential uncertainty exists with respect to the 1,4-dioxane, 2-butanone, acetone, and tetrahydrofuran concentrations, all sample results were orders of magnitude below applicable MCP Method 1 Standards and were undetected.

Accuracy:

Low Biases:

- Low recovery of dichlorodifluoromethane in continuing calibration: soil samples TB, TRC-BTM-1, TRC-BTM-2, TRC-BTM-3, TRC-BTM-22, TRC-ESW.

High Biases:

- High recovery of carbon disulfide and diethyl ether in LCS Duplicate: soil samples TB, TRC-BTM-1, TRC-BTM-2, TRC-BTM-3, TRC-BTM-22, TRC-ESW.

Precision:

None.

Data Usability Assessment: Liberty Street Spill, New Bedford, MA

4: Discuss laboratory performance criteria and data quality indicators utilized to assess overall Field Data Usability (sample preservation compliance, sample subsampling/compositing, field QC samples, etc.)

Sample Preservation:

Sample preservation procedures performed as per required methods for all soil sampling.

Field QC:

Accuracy: soil data assessed using MS analyses, trip blanks for VOCs. EPH soil analyses could not be evaluated for overall field data usability as no field QC samples were collected.

Precision: soil data assessed using field duplicates and MS analyses for VOCs. EPH soil analyses could not be evaluated for overall field data usability as no field QC samples were collected.

- ◆ Soil Field Duplicates: TRC-BTM-22 (field duplicate of TRC-BTM-2).
- ◆ Soil MS: TRC-BTM-22

Data usability not adversely affected as the issues listed below would not cause a significant bias to the reported values.

Accuracy of Field QC:

Low Biases:

None.

High Biases:

None.

Precision of Field QC (Field duplicate criteria: RPD ≤30 for aqueous and ≤50 for soils):

- No issues noted.

5: Analytical Completeness of Data Used to Support the RAO: Discuss any data rejected pursuant to Appendix II, Rejection Criteria – Analytical Data Usability Assessments

- 100% analytical completeness achieved for all site data.

Although EPH soil analyses could not be evaluated for overall field data usability, as no field QC samples were collected by Loitherstein Environmental Engineering, Inc. personnel, laboratory quality control performance criteria were within specified limits and all concentrations were well below applicable MCP Method 1 Standards, and this does not affect the conclusions of this RAO.

**Table DUA-1
 Summary of Soil Samples and Parameters Included in RAO and Data Usability Assessment
 Liberty Street Spill, New Bedford, MA**

Sample Location	VOC	EPH
November 2009 Soil Samples		
Btm-1		X
Btm-2		X
Btm-3		X
ESW		X
Under Stockpile Surface		X
December 2009 Soil Samples		
TRC-BTM-1	X	
TRC-BTM-2	X	
TRC-BTM-3	X	
TRC-ESW	X	

APPENDIX F

ANALYTICAL LABORATORY DATA REPORTS

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475
www.groundwateranalytical.com

November 11, 2009

Mr. Derek McClellan
Loitherstein Environmental Engineering, Inc
45 Beulah Street
Framingham, MA 01701-5243

LABORATORY REPORT

Project: **Lot 256/29086**
Lab ID: **129220**
Received: **11-04-09**

Dear Derek:

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

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

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

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

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

Sincerely,



Karyn E. Raymond
Project Manager

KER/elm
Enclosures

Sample Receipt Report

Project: Lot 256/29086

Delivery: GWA Courier

Temperature: 2.8°C

Client: Loitherstein Environmental Engineering, Inc

Airbill: n/a

Chain of Custody: Present

Lab ID: 129220

Lab Receipt: 11-04-09

Custody Seal(s): n/a

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
129220-1	Under Stockpile	Soil	11/3/09 10:00	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C415547	250 mL Amber Glass	Proline	BX34133	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
129220-2	ESW (0-1')	Soil	11/3/09 11:15	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C415541	250 mL Amber Glass	Proline	BX34133	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
129220-3	Btm-1 (1')	Soil	11/3/09 11:30	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C415542	250 mL Amber Glass	Proline	BX34133	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
129220-4	Btm-2 (1')	Soil	11/3/09 11:40	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C415548	250 mL Amber Glass	Proline	BX34133	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
129220-5	Btm-3 (6")	Soil	11/3/09 11:50	MA DEP EPH with PAHs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C415545	250 mL Amber Glass	Proline	BX34133	None	n/a	n/a	n/a	

Data Certification

Project: Lot 256/29086
 Client: Loitherstein Environmental Engineering, Inc

Lab ID: 129220
 Received: 11-04-09 16:15

MA DEP Compendium of Analytical Methods					
Project Location:		n/a		MA DEP RTN: n/a	
This Form provides certifications for the following data set:					
MA DEP EPH:		129220-1,-2,-3,-4,-5			
Sample Matrices:		Groundwater ()	Soil/Sediment (X)	Drinking Water ()	Other ()
MCP SW-846	8260B ()	8151A ()	8330 ()	6010B ()	7470A/1A ()
Methods Used	8270C ()	8081A ()	VPH ()	6020A ()	9012A ² ()
As specified in MA DEP Compendium of Analytical Methods.	8082 ()	8021B ()	EPH (X)	7000 S ³ ()	Other ()
(check all that apply)	1. List Release Tracking Number (RTN), if known. 2. SW-846 Method 9012A (Equivalent to 9014) or MA DEP Physiologically Available Cyanide (PAC) Method 3. S - SW-846 Methods 7000 Series. List individual method and analyte.				
An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status.					
A.	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?				Yes
B.	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?				Yes
C.	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty," as described in Section 2.0 of the MA DEP document CAM VII A, <i>Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data</i> ?				Yes
D.	<u>VPH and EPH methods only</u> : Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?				Yes
A response to questions E and F below is required for "Presumptive Certainty" status.					
E.	Were all QC performance standards and recommendations for the specified methods achieved?				Yes
F.	Were results for all analyte-list compounds/elements for the specified method(s) reported?				Yes
All No answers are addressed in the attached Project 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:	Karyn E. Raymond			Date:	11-11-09

Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	Under Stockpile	Matrix:	Soil
Project:	Lot 256/29086	Container:	250 mL Amber Glass
Client:	Loitherstein Environmental Engineering, Inc	Preservation:	Cool
Laboratory ID:	129220-1	QC Batch ID:	EP-3040-M
Sampled:	11-03-09 10:00	Instrument ID:	GC-12 Agilent 6890
Received:	11-04-09 16:15	Sample Weight:	15 g
Extracted:	11-05-09 13:00	Final Volume:	1 mL
Analyzed (AL):	11-10-09 06:04	% Solids:	86
Analyzed (AR):	11-10-09 06:50	Aliphatic Dilution Factor:	1
Analyst:	KMC	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †		BRL	mg/Kg	35
n-C19 to n-C36 Aliphatic Hydrocarbons †	280		mg/Kg	35
n-C11 to n-C22 Aromatic Hydrocarbons †,‡	280		mg/Kg	35

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	290		mg/Kg	35
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene		BRL	mg/Kg	0.58
91-57-6	2-Methylnaphthalene		BRL	mg/Kg	0.58
85-01-8	Phenanthrene	1.5		mg/Kg	0.58
83-32-9	Acenaphthene		BRL	mg/Kg	0.58
208-96-8	Acenaphthylene		BRL	mg/Kg	0.58
86-73-7	Fluorene		BRL	mg/Kg	0.58
120-12-7	Anthracene		BRL	mg/Kg	0.58
206-44-0	Fluoranthene	2.2		mg/Kg	0.58
129-00-0	Pyrene	2.0		mg/Kg	0.58
56-55-3	Benzo[a]anthracene	0.95		mg/Kg	0.58
218-01-9	Chrysene	1.3		mg/Kg	0.58
205-99-2	Benzo[b]fluoranthene	1.1		mg/Kg	0.58
207-08-9	Benzo[k]fluoranthene	0.77		mg/Kg	0.58
50-32-8	Benzo[a]pyrene	1.0		mg/Kg	0.58
193-39-5	Indeno[1,2,3-c,d]pyrene		BRL	mg/Kg	0.58
53-70-3	Dibenzo[a,h]anthracene		BRL	mg/Kg	0.58
191-24-2	Benzo[g,h,i]perylene	0.87		mg/Kg	0.58

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.1	2.8	89 %	40 - 140 %
	2-Bromonaphthalene	3.1	2.9	92 %	
Extraction:	Chloro-octadecane	3.1	1.4	45 %	40 - 140 %
	ortho-Terphenyl	3.1	3.1	100 %	

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

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

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

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

Field ID: ESW (0-1)
 Project: Lot 256/29086
 Client: Loitherstein Environmental Engineering, Inc
 Laboratory ID: 129220-2
 Sampled: 11-03-09 11:15
 Received: 11-04-09 16:15
 Extracted: 11-05-09 13:00
 Analyzed (AL): 11-10-09 15:45
 Analyzed (AR): 11-10-09 16:32
 Analyst: KMC

Matrix: Soil
 Container: 250 mL Amber Glass
 Preservation: Cool
 QC Batch ID: EP-3040-M
 Instrument ID: GC-12 Agilent 6890
 Sample Weight: 15 g
 Final Volume: 1 mL
 % Solids: 84
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †		BRL	mg/Kg	35
n-C19 to n-C36 Aliphatic Hydrocarbons †	69		mg/Kg	35
n-C11 to n-C22 Aromatic Hydrocarbons † ^o	100		mg/Kg	35

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	120		mg/Kg	35
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene		BRL	mg/Kg	0.58
91-57-6	2-Methylnaphthalene		BRL	mg/Kg	0.58
85-01-8	Phenanthrene	2.0		mg/Kg	0.58
83-32-9	Acenaphthene		BRL	mg/Kg	0.58
208-96-8	Acenaphthylene		BRL	mg/Kg	0.58
86-73-7	Fluorene		BRL	mg/Kg	0.58
120-12-7	Anthracene		BRL	mg/Kg	0.58
206-44-0	Fluoranthene	3.9		mg/Kg	0.58
129-00-0	Pyrene	3.4		mg/Kg	0.58
56-55-3	Benzo[a]anthracene	1.4		mg/Kg	0.58
218-01-9	Chrysene	1.7		mg/Kg	0.58
205-99-2	Benzo[b]fluoranthene	1.7		mg/Kg	0.58
207-08-9	Benzo[k]fluoranthene	1.4		mg/Kg	0.58
50-32-8	Benzo[a]pyrene	1.9		mg/Kg	0.58
193-39-5	Indeno[1,2,3-c,d]pyrene	1.3		mg/Kg	0.58
53-70-3	Dibenzo[a,h]anthracene		BRL	mg/Kg	0.58
191-24-2	Benzo[g,h,i]perylene	1.6		mg/Kg	0.58

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.1	2.8	91 %	40 - 140 %
	2-Bromonaphthalene	3.1	2.8	89 %	
Extraction:	Chloro-octadecane	3.1	2.1	69 %	40 - 140 %
	ortho-Terphenyl	3.1	3.1	100 %	

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

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

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

Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	Btm-1 (1')	Matrix:	Soil
Project:	Lot 256/29086	Container:	250 mL Amber Glass
Client:	Loitherstein Environmental Engineering, Inc	Preservation:	Cool
Laboratory ID:	129220-3	QC Batch ID:	EP-3040-M
Sampled:	11-03-09 11:30	Instrument ID:	GC-12 Agilent 6890
Received:	11-04-09 16:15	Sample Weight:	15 g
Extracted:	11-05-09 13:00	Final Volume:	1 mL
Analyzed (AL):	11-10-09 17:10	% Solids:	84
Analyzed (AR):	11-10-09 17:56	Aliphatic Dilution Factor:	1
Analyst:	KMC	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †		BRL	mg/Kg	35
n-C19 to n-C36 Aliphatic Hydrocarbons †		BRL	mg/Kg	35
n-C11 to n-C22 Aromatic Hydrocarbons †‡	64		mg/Kg	35

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	73		mg/Kg	35
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene		BRL	mg/Kg	0.59
91-57-6	2-Methylnaphthalene		BRL	mg/Kg	0.59
85-01-8	Phenanthrene	0.92		mg/Kg	0.59
83-32-9	Acenaphthene		BRL	mg/Kg	0.59
208-96-8	Acenaphthylene		BRL	mg/Kg	0.59
86-73-7	Fluorene		BRL	mg/Kg	0.59
120-12-7	Anthracene		BRL	mg/Kg	0.59
206-44-0	Fluoranthene	1.6		mg/Kg	0.59
129-00-0	Pyrene	1.5		mg/Kg	0.59
56-55-3	Benzo[a]anthracene	0.60		mg/Kg	0.59
218-01-9	Chrysene	0.81		mg/Kg	0.59
205-99-2	Benzo[b]fluoranthene	0.70		mg/Kg	0.59
207-08-9	Benzo[k]fluoranthene	0.65		mg/Kg	0.59
50-32-8	Benzo[a]pyrene	0.82		mg/Kg	0.59
193-39-5	Indeno[1,2,3-c,d]pyrene		BRL	mg/Kg	0.59
53-70-3	Dibenzo[a,h]anthracene		BRL	mg/Kg	0.59
191-24-2	Benzo[g,h,i]perylene	0.65		mg/Kg	0.59

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.1	2.7	86 %	40 - 140 %
	2-Bromonaphthalene	3.1	2.7	84 %	
Extraction:	Chloro-octadecane	3.1	2.1	65 %	40 - 140 %
	ortho-Terphenyl	3.1	3.0	97 %	

QA/QC Certification

- | | |
|---------------------------------------------------------------------------------------------|-----|
| 1. Were all QA/QC procedures required by the method followed? | Yes |
| 2. Were all performance/acceptance standards for the required QA/QC procedures achieved? | Yes |
| 3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? | No |

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

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

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

Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID: Btm-2 (1')
 Project: Lot 256/29086
 Client: Loitherstein Environmental Engineering, Inc
 Laboratory ID: 129220-4
 Sampled: 11-03-09 11:40
 Received: 11-04-09 16:15
 Extracted: 11-05-09 13:00
 Analyzed (AL): 11-10-09 02:51
 Analyzed (AR): 11-10-09 03:37
 Analyst: KMC

Matrix: Soil
 Container: 250 mL Amber Glass
 Preservation: Cool
 QC Batch ID: EP-3040-M
 Instrument ID: GC-12 Agilent 6890
 Sample Weight: 15 g
 Final Volume: 1 mL
 % Solids: 83
 Aliphatic Dilution Factor: 1
 Aromatic Dilution Factor: 1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †		BRL	mg/Kg	36
n-C19 to n-C36 Aliphatic Hydrocarbons †	73		mg/Kg	36
n-C11 to n-C22 Aromatic Hydrocarbons †‡	52		mg/Kg	36

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	60		mg/Kg	36
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene		BRL	mg/Kg	0.60
91-57-6	2-Methylnaphthalene		BRL	mg/Kg	0.60
85-01-8	Phenanthrene	0.83		mg/Kg	0.60
83-32-9	Acenaphthene		BRL	mg/Kg	0.60
208-96-8	Acenaphthylene		BRL	mg/Kg	0.60
86-73-7	Fluorene		BRL	mg/Kg	0.60
120-12-7	Anthracene		BRL	mg/Kg	0.60
206-44-0	Fluoranthene	1.2		mg/Kg	0.60
129-00-0	Pyrene	1.1		mg/Kg	0.60
56-55-3	Benzo[a]anthracene		BRL	mg/Kg	0.60
218-01-9	Chrysene	0.71		mg/Kg	0.60
205-99-2	Benzo[b]fluoranthene	0.63		mg/Kg	0.60
207-08-9	Benzo[k]fluoranthene		BRL	mg/Kg	0.60
50-32-8	Benzo[a]pyrene	0.72		mg/Kg	0.60
193-39-5	Indeno[1,2,3-c,d]pyrene		BRL	mg/Kg	0.60
53-70-3	Dibenzo[a,h]anthracene		BRL	mg/Kg	0.60
191-24-2	Benzo[g,h,i]perylene	0.66		mg/Kg	0.60

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.2	2.9	89 %	40 - 140 %
	2-Bromonaphthalene	3.2	2.8	88 %	
Extraction:	Chloro-octadecane	3.2	2.4	73 %	40 - 140 %
	ortho-Terphenyl	3.2	3.1	95 %	

QA/QC Certification	
1. Were all QA/QC procedures required by the method followed?	Yes
2. Were all performance/acceptance standards for the required QA/QC procedures achieved?	Yes
3. Were any significant modifications made to the method, as specified in Section 11.3.1.1?	No
Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.	

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

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

Massachusetts DEP EPH Method Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	Btm-3 (6")	Matrix:	Soil
Project:	Lot 256/29086	Container:	250 mL Amber Glass
Client:	Loitherstein Environmental Engineering, Inc	Preservation:	Cool
Laboratory ID:	129220-5	QC Batch ID:	EP-3040-M
Sampled:	11-03-09 11:50	Instrument ID:	GC-12 Agilent 6890
Received:	11-04-09 16:15	Sample Weight:	16 g
Extracted:	11-05-09 13:00	Final Volume:	1 mL
Analyzed (AL):	11-10-09 18:50	% Solids:	84
Analyzed (AR):	11-10-09 19:37	Aliphatic Dilution Factor:	1
Analyst:	KMC	Aromatic Dilution Factor:	1

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	35		mg/Kg	33
n-C19 to n-C36 Aliphatic Hydrocarbons †	110		mg/Kg	33
n-C11 to n-C22 Aromatic Hydrocarbons † ‡	150		mg/Kg	33

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	170		mg/Kg	33
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.56
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.56
85-01-8	Phenanthrene	1.9		mg/Kg	0.56
83-32-9	Acenaphthene	BRL		mg/Kg	0.56
208-96-8	Acenaphthylene	BRL		mg/Kg	0.56
86-73-7	Fluorene	BRL		mg/Kg	0.56
120-12-7	Anthracene	BRL		mg/Kg	0.56
206-44-0	Fluoranthene	2.7		mg/Kg	0.56
129-00-0	Pyrene	2.2		mg/Kg	0.56
56-55-3	Benzo[a]anthracene	1.1		mg/Kg	0.56
218-01-9	Chrysene	1.4		mg/Kg	0.56
205-99-2	Benzo[b]fluoranthene	1.4		mg/Kg	0.56
207-08-9	Benzo[k]fluoranthene	0.91		mg/Kg	0.56
50-32-8	Benzo[a]pyrene	1.3		mg/Kg	0.56
193-39-5	Indeno[1,2,3-c,d]pyrene	0.88		mg/Kg	0.56
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.56
191-24-2	Benzo[g,h,i]perylene	0.65		mg/Kg	0.56

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	3.0	2.4	82 %	40 - 140 %
	2-Bromonaphthalene	3.0	2.4	81 %	
Extraction:	Chloro-octadecane	3.0	1.8	59 %	40 - 140 %
	ortho-Terphenyl	3.0	2.8	93 %	

QA/QC Certification

- | | |
|---------------------------------------------------------------------------------------------|-----|
| 1. Were all QA/QC procedures required by the method followed? | Yes |
| 2. Were all performance/acceptance standards for the required QA/QC procedures achieved? | Yes |
| 3. Were any significant modifications made to the method, as specified in Section 11.3.1.1? | No |

Method non-conformances indicated above are detailed below on this data report, or in the accompanying project narrative and project quality control report. Release of this data is authorized by the accompanying signed project cover letter. The accompanying cover letter, project narrative and quality control report are considered part of this data report.

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

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

Project Narrative

Project: Lot 256/29086
Client: Loitherstein Environmental Engineering, Inc

Lab ID: 129220
Received: 11-04-09 16:15

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. No method modifications, non-conformances or analytical issues were noted.

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Samples**

Category:	MA DEP EPH Method	LCS	Instrument ID:	GC-12 Agilent 6890	LCSD	Instrument ID:	GC-12 Agilent 6890
QC Batch ID:	EP-3040-M	Extracted:	11-05-09 13:00	Extracted:	11-05-09 13:00	Analyzed (AL):	11-09-09 14:39
Matrix:	Soil	Analyzed (AR):	11-09-09 13:07	Analyzed (AR):	11-09-09 15:25	Analyst:	KMC
Units:	mg/Kg	Analyst:	KMC	Analyst:	KMC		

CAS Number	Analyte	LCS			LCS Duplicate			QC Limits		
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
111-84-2	n-Nonane (C ₉)	3.3	1.6	48 %	3.3	1.6	48 %	1 %	30 - 140 %	25%
124-18-5	n-Decane (C ₁₀)	3.3	1.8	55 %	3.3	1.8	55 %	1 %	40 - 140 %	25%
112-40-3	n-Dodecane (C ₁₂)	3.3	2.1	62 %	3.3	2.1	64 %	2 %	40 - 140 %	25%
629-59-4	n-Tetradecane (C ₁₄)	3.3	2.0	61 %	3.3	2.1	62 %	2 %	40 - 140 %	25%
544-76-3	n-Hexadecane (C ₁₆)	3.3	2.2	67 %	3.3	2.2	68 %	2 %	40 - 140 %	25%
593-45-3	n-Octadecane (C ₁₈)	3.3	2.4	74 %	3.3	2.6	78 %	5 %	40 - 140 %	25%
n/a	n-C9 to n-C18 Group	20	12	61 %	20	12	63 %	2 %	40 - 140 %	25%
629-92-5	n-Nonadecane (C ₁₉)	3.3	2.5	75 %	3.3	2.6	78 %	4 %	40 - 140 %	25%
112-95-8	n-Eicosane (C ₂₀)	3.3	2.4	73 %	3.3	2.5	77 %	5 %	40 - 140 %	25%
629-97-0	n-Docosane (C ₂₂)	3.3	2.4	74 %	3.3	2.6	77 %	5 %	40 - 140 %	25%
646-31-1	n-Tetracosane (C ₂₄)	3.3	2.5	75 %	3.3	2.6	78 %	4 %	40 - 140 %	25%
630-01-3	n-Hexacosane (C ₂₆)	3.3	2.3	71 %	3.3	2.5	74 %	5 %	40 - 140 %	25%
630-02-4	n-Octacosane (C ₂₈)	3.3	2.3	70 %	3.3	2.4	74 %	5 %	40 - 140 %	25%
638-68-6	n-Triacontane (C ₃₀)	3.3	2.3	70 %	3.3	2.5	74 %	5 %	40 - 140 %	25%
630-06-8	n-Hexatriacontane (C ₃₆)	3.3	2.0	61 %	3.3	2.1	64 %	6 %	40 - 140 %	25%
n/a	n-C19 to n-C36 Group	26	19	71 %	26	20	75 %	5 %	40 - 140 %	25%
91-20-3	Naphthalene	3.3	2.1	63 %	3.3	2.2	65 %	3 %	40 - 140 %	25%
91-57-6	2-Methylnaphthalene	3.3	2.3	70 %	3.3	2.4	73 %	5 %	40 - 140 %	25%
208-96-8	Acenaphthylene	3.3	2.3	70 %	3.3	2.4	73 %	4 %	40 - 140 %	25%
83-32-9	Acenaphthene	3.3	2.3	71 %	3.3	2.4	74 %	4 %	40 - 140 %	25%
86-73-7	Fluorene	3.3	2.4	74 %	3.3	2.5	76 %	3 %	40 - 140 %	25%
85-01-8	Phenanthrene	3.3	2.7	81 %	3.3	2.8	84 %	3 %	40 - 140 %	25%
120-12-7	Anthracene	3.3	2.5	75 %	3.3	2.5	76 %	2 %	40 - 140 %	25%
206-44-0	Fluoranthene	3.3	3.1	93 %	3.3	3.1	95 %	3 %	40 - 140 %	25%
129-00-0	Pyrene	3.3	3.0	92 %	3.3	3.1	95 %	3 %	40 - 140 %	25%
56-55-3	Benzo[a]anthracene	3.3	2.6	79 %	3.3	2.7	82 %	3 %	40 - 140 %	25%
218-01-9	Chrysene	3.3	3.0	91 %	3.3	3.1	93 %	2 %	40 - 140 %	25%
205-99-2	Benzo[b]fluoranthene	3.3	2.7	82 %	3.3	2.8	84 %	3 %	40 - 140 %	25%
207-08-9	Benzo[k]fluoranthene	3.3	2.8	85 %	3.3	2.9	88 %	3 %	40 - 140 %	25%
50-32-8	Benzo[a]pyrene	3.3	2.9	89 %	3.3	3.0	91 %	3 %	40 - 140 %	25%
193-39-5	Indeno[1,2,3-c,d]pyrene	3.3	3.0	89 %	3.3	3.1	93 %	4 %	40 - 140 %	25%
53-70-3	Dibenzo[a,h]anthracene	3.3	3.0	92 %	3.3	3.1	94 %	3 %	40 - 140 %	25%
191-24-2	Benzo[g,h,i]perylene	3.3	2.8	83 %	3.3	2.8	86 %	3 %	40 - 140 %	25%
n/a	PAH Group	56	46	81 %	56	47	84 %	3 %	40 - 140 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Fractionation: 2-Fluorobiphenyl	2.7	2.4	89 %	2.7	2.5	93 %	40 - 140 %
2-Bromonaphthalene	2.7	2.3	85 %	2.7	2.1	78 %	40 - 140 %
Extraction: Chloro-octadecane	2.7	1.8	67 %	2.7	1.9	70 %	40 - 140 %
ortho-Terphenyl	2.7	2.5	93 %	2.7	2.6	96 %	40 - 140 %

Fractionation Breakthrough Evaluation						QC Limits
91-20-3	Naphthalene	LCS	0 %	LCSD	2 %	5%
91-57-6	2-Methylnaphthalene	LCS	0 %	LCSD	1 %	5%

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004). Method modified by use of microwave accelerated solvent extraction technique.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units. The LCS and LCSD are prepared from separate source standards than those used for calibration.

**Quality Control Report
Method Blank**

Category: MA DEP EPH
QC Batch ID: EP-3040-M
Matrix: Soil

Instrument ID: GC-12 Agilent 6890
Extracted: 11-05-09 13:00
Analyzed (AL): 11-09-09 16:12
Analyzed (AR): 11-09-09 16:58
Analyst: KMC

EPH Ranges	Concentration	Notes	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL		mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL		mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons † ^o	BRL		mg/Kg	30

Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL		mg/Kg	30
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CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL		mg/Kg	0.50
85-01-8	Phenanthrene	BRL		mg/Kg	0.50
83-32-9	Acenaphthene	BRL		mg/Kg	0.50
208-96-8	Acenaphthylene	BRL		mg/Kg	0.50
86-73-7	Fluorene	BRL		mg/Kg	0.50
120-12-7	Anthracene	BRL		mg/Kg	0.50
206-44-0	Fluoranthene	BRL		mg/Kg	0.50
129-00-0	Pyrene	BRL		mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL		mg/Kg	0.50
218-01-9	Chrysene	BRL		mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL		mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL		mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL		mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL		mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL		mg/Kg	0.50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
Fractionation:	2-Fluorobiphenyl	2.7	2.4	90 %	40 - 140 %
	2-Bromonaphthalene	2.7	2.3	88 %	40 - 140 %
Extraction:	Chloro-octadecane	2.7	2.0	76 %	40 - 140 %
	ortho-Terphenyl	2.7	2.6	99 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (Revision 1.1, 2004).
Sample extraction performed by microwave accelerated solvent extraction technique.

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

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

o n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states.

Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

RHODE ISLAND

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)		Non-Potable Water (Wastewater)	
Analyte	Method	Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1	Ammonia-N	Lachat 10-107-06-1-B
1,2-Dibromoethane	EPA 504.1	Antimony	EPA 200.7
Alkalinity, Total	SM 2320-B	Antimony	EPA 200.8
Antimony	EPA 200.8	Arsenic	EPA 200.7
Arsenic	EPA 200.8	Arsenic	EPA 200.8
Barium	EPA 200.7	Beryllium	EPA 200.7
Barium	EPA 200.8	Beryllium	EPA 200.8
Beryllium	EPA 200.7	Beta-BHC	EPA 608
Beryllium	EPA 200.8	Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7	Cadmium	EPA 200.7
Cadmium	EPA 200.8	Cadmium	EPA 200.8
Calcium	EPA 200.7	Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G	Chemical Oxygen Demand	SM 5220-D
Chromium	EPA 200.7	Chlordane	EPA 608
Copper	EPA 200.7	Chloride	EPA 300.0
Copper	EPA 200.8	Chlorine, Total Residual	SM 4500-CL-G
Cyanide, Total	Lachat 10-204-00-1-A	Chromium	EPA 200.7
E. Coli (Treatment and Distribution)	EC-MUG SM 9221-F	Chromium	EPA 200.8
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223	Cobalt	EPA 200.7
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G	Cobalt	EPA 200.8
Fecal Coliform (Source Water)	MF SM 9222-D	Copper	EPA 200.7
Fluoride	EPA 300.0	Copper	EPA 200.8
Fluoride	SM 4500-F-C	Cyanide, Total	Lachat 10-204-00-1-A
Heterotrophic Plate Count	SM 9215-B	DDD	EPA 608
Lead	EPA 200.8	DDE	EPA 608
Mercury	EPA 245.1	DDT	EPA 608
Nickel	EPA 200.7	Delta-BHC	EPA 608
Nickel	EPA 200.8	Dieldrin	EPA 608
Nitrate-N	EPA 300.0	Endosulfan I	EPA 608
Nitrate-N	Lachat 10-107-04-1-C	Endosulfan II	EPA 608
Nitrite-N	EPA 300.0	Endosulfan Sulfate	EPA 608
Nitrite-N	Lachat 10-107-04-1-C	Endrin	EPA 608
pH	SM 4500-H-B	Endrin Aldehyde	EPA 608
Selenium	EPA 200.8	Fluoride	EPA 300.0
Silver	EPA 200.7	Gamma-BHC	EPA 608
Silver	EPA 200.8	Hardness (CaCO ₃), Total	EPA 200.7
Sodium	EPA 200.7	Hardness (CaCO ₃), Total	SM 2340-B
Sulfate	EPA 300.0	Heptachlor	EPA 608
Thallium	EPA 200.8	Heptachlor Epoxide	EPA 608
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223	Iron	EPA 200.7
Total Coliform (Treatment and Distribution)	MF SM 9222-B	Kjeldahl-N	Lachat 10-107-06-02-D
Total Dissolved Solids	SM 2540-C	Lead	EPA 200.7
Trihalomethanes	EPA 524.2	Magnesium	EPA 200.7
Turbidity	SM 2130-B	Manganese	EPA 200.7
Volatile Organic Compounds	EPA 524.2	Manganese	EPA 200.8
		Mercury	EPA 245.1
		Molybdenum	EPA 200.7
		Molybdenum	EPA 200.8
		Nickel	EPA 200.7
		Nickel	EPA 200.8
		Nitrate-N	EPA 300.0
		Nitrate-N	Lachat 10-107-04-1-C
		Non-Filterable Residue	SM 2540-D
		Oil and Grease	EPA 1664

Certifications and Approvals**MASSACHUSETTS****Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater) Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8



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

December 23, 2009

David Sullivan
TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852

Project Location: City Of New Bedford
Client Job Number:
Project Number: 115058
Laboratory Work Order Number: 09L0487

Enclosed are results of analyses for samples received by the laboratory on December 17, 2009. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager



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

TRC Solutions - Lowell
650 Suffolk Street
Lowell, MA 01852
ATTN: David Sullivan

REPORT DATE: 12/23/2009

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 115058

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 09L0487

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

PROJECT LOCATION: City Of New Bedford

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
TB	09L0487-01	Trip Blank Soil		SM 2540G SW-846 8260B	
TRC-BTM-1	09L0487-02	Soil		SM 2540G SW-846 8260B	
TRC-BTM-2	09L0487-03	Soil		SM 2540G SW-846 8260B	
TRC-BTM-22	09L0487-04	Soil		SM 2540G SW-846 8260B	
TRC-BTM-3	09L0487-05	Soil		SM 2540G SW-846 8260B	
TRC-ESW	09L0487-06	Soil		SM 2540G SW-846 8260B	

CASE NARRATIVE SUMMARY

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

SW-846 8260B

Qualifications:

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

Analyte & Samples(s) Qualified:

Carbon Disulfide, Diethyl Ether

B008548-BSD1

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Significant uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Dichlorodifluoromethane (Freon 12)

09L0487-01[TB], 09L0487-02[TRC-BTM-1], 09L0487-03[TRC-BTM-2], 09L0487-04[TRC-BTM-22], 09L0487-05[TRC-BTM-3], 09L0487-06[TRC-ESW], B008548-BLK1, B008548-BS1, B008548-BSD1, B008548-MS1

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

Analyte & Samples(s) Qualified:

1,4-Dioxane, 2-Butanone (MEK), Acetone, Tetrahydrofuran

09L0487-01[TB], 09L0487-02[TRC-BTM-1], 09L0487-03[TRC-BTM-2], 09L0487-04[TRC-BTM-22], 09L0487-05[TRC-BTM-3], 09L0487-06[TRC-ESW], B008548-BLK1, B008548-BS1, B008548-BSD1, B008548-MS1

SW-846 8260B

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 somewhere between 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, tert-butyl alcohol, acetone, 1,4-dioxane, vinyl chloride, chloromethane, dichlorodifluoromethane, 2-hexanone, naphthalene, acrylonitrile, 1,2,3-trichloropropane, methylene chloride, n-butylbenzene, and tert-butylbenzene, bromomethane

Duplicate laboratory fortified blank RPDs were all within control limits specified by the method except for "difficult analytes" where RPDs of 50% are used and/or unless otherwise listed in this narrative. Difficult analyte: 1,4-dioxane

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Michael A. Erickson
Laboratory Director



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TB

Sampled: 12/17/2009 00:00

Sample ID: 09L0487-01

Sample Matrix: Trio Blank Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RI	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.10	mg/Kg wet	1	V-16	SW-846 8260B	12/18/09	12/18/09 8:37	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Benzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Bromobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Bromochloromethane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Bromodichloromethane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Bromoform	ND	0.010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Bromomethane	ND	0.010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
2-Butanone (MEK)	ND	0.040	mg/Kg wet	1	V-16	SW-846 8260B	12/18/09	12/18/09 8:37	MFF
n-Butylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
sec-Butylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
tert-Butylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Carbon Disulfide	ND	0.0060	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Carbon Tetrachloride	ND	0.010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Chlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Chlorodibromomethane	ND	0.0010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Chloroethane	ND	0.020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Chloroform	ND	0.0040	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Chloromethane	ND	0.010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
2-Chlorotoluene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
4-Chlorotoluene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Dibromomethane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.020	mg/Kg wet	1	V-05	SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,1-Dichloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,2-Dichloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,2-Dichloropropane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,3-Dichloropropane	ND	0.0010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
2,2-Dichloropropane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,1-Dichloropropene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Diethyl Ether	ND	0.020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,4-Dioxane	ND	0.10	mg/Kg wet	1	V-16	SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Ethylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TB

Sampled: 12/17/2009 00:00

Sample ID: 09L0487-01

Sample Matrix: Trin Blank Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
2-Hexanone (MBK)	ND	0.020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Methylene Chloride	ND	0.020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Naphthalene	ND	0.0040	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
n-Propylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Styrene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Tetrachloroethylene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Tetrahydrofuran	ND	0.010	mg/Kg wet	1	V-16	SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Toluene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Trichloroethylene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
Vinyl Chloride	ND	0.010	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
m+p Xylene	ND	0.0040	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF
o-Xylene	ND	0.0020	mg/Kg wet	1		SW-846 8260B	12/18/09	12/18/09 8:37	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	103	70-130	12/18/09 8:37
Toluene-d8	101	70-130	12/18/09 8:37
4-Bromofluorobenzene	97.3	70-130	12/18/09 8:37



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-1

Sampled: 12/17/2009 10:10

Sample ID: 09L0487-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.082	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 7:43	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Benzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Bromobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Bromochloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Bromodichloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Bromoform	ND	0.0082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Bromomethane	ND	0.0082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
2-Butanone (MEK)	ND	0.033	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 7:43	MFF
n-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
sec-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
tert-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Carbon Disulfide	ND	0.0049	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Carbon Tetrachloride	ND	0.0082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Chlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Chlorodibromomethane	ND	0.00082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Chloroethane	ND	0.016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Chloroform	ND	0.0033	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Chloromethane	ND	0.0082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
2-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
4-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,2-Dibromoethane (EDB)	ND	0.00082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Dibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,2-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,3-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,4-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.016	mg/Kg dry	1	V-05	SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,1-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,2-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,1-Dichloroethylene	ND	0.0033	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
cis-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
trans-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,3-Dichloropropane	ND	0.00082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
2,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,1-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
cis-1,3-Dichloropropene	ND	0.00082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
trans-1,3-Dichloropropene	ND	0.00082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Diethyl Ether	ND	0.016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Diisopropyl Ether (DIPE)	ND	0.00082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,4-Dioxane	ND	0.082	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Ethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-1

Sampled: 12/17/2009 10:10

Sample ID: 09L0487-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RI	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
2-Hexanone (MBK)	ND	0.016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Isopropylbenzene (Cumene)	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
p-isopropyltoluene (p-Cymene)	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0033	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Methylene Chloride	ND	0.016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Naphthalene	ND	0.0033	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
n-Propylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Styrene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,1,1,2-Tetrachloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,1,2,2-Tetrachloroethane	ND	0.00082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Tetrachloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Tetrahydrofuran	ND	0.0082	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Toluene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,2,3-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,2,4-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,1,1-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,1,2-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Trichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,2,3-Trichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,2,4-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
1,3,5-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
Vinyl Chloride	ND	0.0082	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
m+p Xylene	ND	0.0033	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF
o-Xylene	ND	0.0016	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 7:43	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	108	70-130	12/18/09 7:43
Toluene-d8	102	70-130	12/18/09 7:43
4-Bromofluorobenzene	98.9	70-130	12/18/09 7:43



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-1

Sampled: 12/17/2009 10:10

Sample ID: 09L0487-02

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.6		% Wt	1		SM 2540G	12/21/09	12/21/09 15:21	FWD

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-2

Sampled: 12/17/2009 10:15

Sample ID: 09L0487-03

Sample Matrix: Soil

Volatle Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.069	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 8:10	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Benzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Bromobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Bromochloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Bromodichloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Bromoform	ND	0.0069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Bromomethane	ND	0.0069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
2-Butanone (MEK)	ND	0.028	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 8:10	MFF
n-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
sec-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
tert-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Carbon Disulfide	ND	0.0042	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Carbon Tetrachloride	ND	0.0069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Chlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Chlorodibromomethane	ND	0.00069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Chloroethane	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Chloroform	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Chloromethane	ND	0.0069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
2-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
4-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,2-Dibromoethane (EDB)	ND	0.00069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Dibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,2-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,3-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,4-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.014	mg/Kg dry	1	V-05	SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,1-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,2-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,1-Dichloroethylene	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
cis-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
trans-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,3-Dichloropropane	ND	0.00069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
2,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,1-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
cis-1,3-Dichloropropene	ND	0.00069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
trans-1,3-Dichloropropene	ND	0.00069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Diethyl Ether	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Diisopropyl Ether (DIPE)	ND	0.00069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,4-Dioxane	ND	0.069	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Ethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-2

Sampled: 12/17/2009 10:15

Sample ID: 09L0487-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
2-Hexanone (MBK)	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Isopropylbenzene (Cumene)	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Methylene Chloride	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Naphthalene	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
n-Propylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Styrene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,1,1,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,1,2,2-Tetrachloroethane	ND	0.00069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Tetrachloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Tetrahydrofuran	ND	0.0069	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Toluene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,2,3-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,2,4-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,1,1-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,1,2-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Trichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,2,3-Trichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,2,4-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
1,3,5-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
Vinyl Chloride	ND	0.0069	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
m+p Xylene	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF
o-Xylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 8:10	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	108	70-130	12/18/09 8:10
Toluene-d8	103	70-130	12/18/09 8:10
4-Bromofluorobenzene	97.9	70-130	12/18/09 8:10



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-2

Sampled: 12/17/2009 10:15

Sample ID: 09L0487-03

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.6		% Wt	1		SM 2540G	12/21/09	12/21/09 15:21	FWD



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-22

Sampled: 12/17/2009 10:20

Sample ID: 09L0487-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.070	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 9:03	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Benzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Bromobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Bromochloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Bromodichloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Bromoform	ND	0.0070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Bromomethane	ND	0.0070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
2-Butanone (MEK)	ND	0.028	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 9:03	MFF
n-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
sec-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
tert-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Carbon Disulfide	ND	0.0042	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Carbon Tetrachloride	ND	0.0070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Chlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Chlorodibromomethane	ND	0.00070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Chloroethane	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Chloroform	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Chloromethane	ND	0.0070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
2-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
4-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,2-Dibromoethane (EDB)	ND	0.00070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Dibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,2-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,3-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,4-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.014	mg/Kg dry	1	V-05	SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,1-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,2-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,1-Dichloroethylene	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
cis-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
trans-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,3-Dichloropropane	ND	0.00070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
2,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,1-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
cis-1,3-Dichloropropene	ND	0.00070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
trans-1,3-Dichloropropene	ND	0.00070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Diethyl Ether	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Diisopropyl Ether (DIPE)	ND	0.00070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,4-Dioxane	ND	0.070	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Ethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-22

Sampled: 12/17/2009 10:20

Sample ID: 09L0487-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
2-Hexanone (MBK)	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Isopropylbenzene (Cumene)	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Methylene Chloride	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Naphthalene	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
n-Propylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Styrene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,1,1,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,1,2,2-Tetrachloroethane	ND	0.00070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Tetrachloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Tetrahydrofuran	ND	0.0070	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Toluene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,2,3-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,2,4-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,1,1-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,1,2-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Trichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,2,3-Trichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,2,4-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
1,3,5-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
Vinyl Chloride	ND	0.0070	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
m+p Xylene	ND	0.0028	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF
o-Xylene	ND	0.0014	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:03	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	106	70-130	12/18/09 9:03
Toluene-d8	102	70-130	12/18/09 9:03
4-Bromofluorobenzene	101	70-130	12/18/09 9:03



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-22

Sampled: 12/17/2009 10:20

Sample ID: 09L0487-04

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.8		% Wt	1		SM 2540G	12/21/09	12/21/09 15:21	FWD



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-3

Sampled: 12/17/2009 10:30

Sample ID: 09L0487-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.067	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 9:56	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Benzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Bromobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Bromochloromethane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Bromodichloromethane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Bromoform	ND	0.0067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Bromomethane	ND	0.0067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
2-Butanone (MEK)	ND	0.027	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 9:56	MFF
n-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
sec-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
tert-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Carbon Disulfide	ND	0.0040	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Carbon Tetrachloride	ND	0.0067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Chlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Chlorodibromomethane	ND	0.00067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Chloroethane	ND	0.013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Chloroform	ND	0.0027	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Chloromethane	ND	0.0067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
2-Chlorotoluene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
4-Chlorotoluene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,2-Dibromoethane (EDB)	ND	0.00067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Dibromomethane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,2-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,3-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,4-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.013	mg/Kg dry	1	V-05	SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,1-Dichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,2-Dichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,1-Dichloroethylene	ND	0.0027	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
cis-1,2-Dichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
trans-1,2-Dichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,2-Dichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,3-Dichloropropane	ND	0.00067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
2,2-Dichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,1-Dichloropropene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
cis-1,3-Dichloropropene	ND	0.00067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
trans-1,3-Dichloropropene	ND	0.00067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Diethyl Ether	ND	0.013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Diisopropyl Ether (DIPE)	ND	0.00067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,4-Dioxane	ND	0.067	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Ethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-3

Sampled: 12/17/2009 10:30

Sample ID: 09L0487-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RI	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
2-Hexanone (MBK)	ND	0.013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Isopropylbenzene (Cumene)	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0027	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Methylene Chloride	ND	0.013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Naphthalene	ND	0.0027	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
n-Propylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Styrene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,1,1,2-Tetrachloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,1,2,2-Tetrachloroethane	ND	0.00067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Tetrachloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Tetrahydrofuran	ND	0.0067	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Toluene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,2,3-Trichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,2,4-Trichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,1,1-Trichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,1,2-Trichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Trichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,2,3-Trichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,2,4-Trimethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
1,3,5-Trimethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
Vinyl Chloride	ND	0.0067	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
m+p Xylene	ND	0.0027	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF
o-Xylene	ND	0.0013	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 9:56	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	106	70-130	12/18/09 9:56
Toluene-d8	104	70-130	12/18/09 9:56
4-Bromofluorobenzene	97.0	70-130	12/18/09 9:56



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-BTM-3

Sampled: 12/17/2009 10:30

Sample ID: 09L0487-05

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.7		% Wt	1		SM 2540G	12/21/09	12/21/09 15:21	FWD



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-ESW

Sampled: 12/17/2009 10:40

Sample ID: 09L0487-06

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.076	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 10:23	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Bromoform	ND	0.0076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Bromomethane	ND	0.0076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
2-Butanone (MEK)	ND	0.030	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 10:23	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Carbon Disulfide	ND	0.0046	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Carbon Tetrachloride	ND	0.0076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Chlorodibromomethane	ND	0.00076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Chloroethane	ND	0.015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Chloroform	ND	0.0030	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Chloromethane	ND	0.0076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,2-Dibromoethane (EDB)	ND	0.00076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.015	mg/Kg dry	1	V-05	SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,1-Dichloroethylene	ND	0.0030	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,3-Dichloropropane	ND	0.00076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
cis-1,3-Dichloropropene	ND	0.00076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
trans-1,3-Dichloropropene	ND	0.00076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Diethyl Ether	ND	0.015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Diisopropyl Ether (DIPE)	ND	0.00076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,4-Dioxane	ND	0.076	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-ESW

Sampled: 12/17/2009 10:40

Sample ID: 09L0487-06

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0030	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Methylene Chloride	ND	0.015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Naphthalene	ND	0.0030	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,1,2,2-Tetrachloroethane	ND	0.00076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Tetrahydrofuran	ND	0.0076	mg/Kg dry	1	V-16	SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,2,3-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,2,4-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
Vinyl Chloride	ND	0.0076	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
m+p Xylene	ND	0.0030	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260B	12/18/09	12/18/09 10:23	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	103	70-130	12/18/09 10:23
Toluene-d8	102	70-130	12/18/09 10:23
4-Bromofluorobenzene	97.8	70-130	12/18/09 10:23



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

Project Location: City Of New Bedford

Sample Description:

Work Order: 09L0487

Date Received: 12/17/2009

Field Sample #: TRC-ESW

Sampled: 12/17/2009 10:40

Sample ID: 09L0487-06

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.5		% Wt	1		SM 2540G	12/21/09	12/21/09 15:21	FWD

Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
09L0487-02 [TRC-BTM-1]	B008593	12/21/09
09L0487-03 [TRC-BTM-2]	B008593	12/21/09
09L0487-04 [TRC-BTM-22]	B008593	12/21/09
09L0487-05 [TRC-BTM-3]	B008593	12/21/09
09L0487-06 [TRC-ESW]	B008593	12/21/09

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
09L0487-01 [TB]	B008548	5	10	12/18/09
09L0487-02 [TRC-BTM-1]	B008548	7.1	10	12/18/09
09L0487-03 [TRC-BTM-2]	B008548	7.8	10	12/18/09
09L0487-04 [TRC-BTM-22]	B008548	7.8	10	12/18/09
09L0487-05 [TRC-BTM-3]	B008548	8.1	10	12/18/09
09L0487-06 [TRC-ESW]	B008548	7.1	10	12/18/09

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 B008548 - SW-846 5035										
Blank (B008548-BL.K1) Prepared & Analyzed: 12/18/09										
Acetone	ND	0.10	mg/Kg wet							V-16
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	0.010	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							V-16
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	0.010	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.020	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	0.010	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	0.020	mg/Kg wet							V-05
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	0.020	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	0.020	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							

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 B008548 - SW-846 5035										
Blank (B008548-BLK1)										
Prepared & Analyzed: 12/18/09										
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							V-16
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	0.0539		mg/Kg wet	0.0500		108	70-130			
Surrogate: Toluene-d8	0.0510		mg/Kg wet	0.0500		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.0499		mg/Kg wet	0.0500		99.8	70-130			
LCS (B008548-BS1)										
Prepared & Analyzed: 12/18/09										
Acetone	0.222	0.10	mg/Kg wet	0.200		111	70-160			V-16 †
tert-Amyl Methyl Ether (TAME)	0.0192	0.0010	mg/Kg wet	0.0200		96.1	70-130			
Benzene	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130			
Bromobenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.6	70-130			
Bromochloromethane	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
Bromodichloromethane	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130			
Bromoform	0.0185	0.010	mg/Kg wet	0.0200		92.5	70-130			
Bromomethane	0.0209	0.010	mg/Kg wet	0.0200		104	40-130			†
2-Butanone (MEK)	0.210	0.040	mg/Kg wet	0.200		105	70-160			V-16 †
n-Butylbenzene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130			
sec-Butylbenzene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130			
tert-Butylbenzene	0.0211	0.0020	mg/Kg wet	0.0200		106	70-160			†
tert-Butyl Ethyl Ether (TBEE)	0.0203	0.0010	mg/Kg wet	0.0200		102	70-130			
Carbon Disulfide	0.0256	0.0060	mg/Kg wet	0.0200		128	70-130			
Carbon Tetrachloride	0.0181	0.010	mg/Kg wet	0.0200		90.5	70-130			
Chlorobenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130			
Chlorodibromomethane	0.0234	0.0010	mg/Kg wet	0.0200		117	70-130			
Chloroethane	0.0248	0.020	mg/Kg wet	0.0200		124	70-130			
Chloroform	0.0224	0.0040	mg/Kg wet	0.0200		112	70-130			
Chloromethane	0.0196	0.010	mg/Kg wet	0.0200		98.1	70-130			
2-Chlorotoluene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130			
4-Chlorotoluene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0176	0.010	mg/Kg wet	0.0200		88.0	70-130			
1,2-Dibromoethane (EDB)	0.0201	0.0010	mg/Kg wet	0.0200		101	70-130			
Dibromomethane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130			
1,2-Dichlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130			
1,3-Dichlorobenzene	0.0196	0.0020	mg/Kg wet	0.0200		97.8	70-130			
1,4-Dichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.4	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 B008548 - SW-846 5035										
LCS (B008548-BS1)				Prepared & Analyzed: 12/18/09						
Dichlorodifluoromethane (Freon 12)	0.0160	0.020	mg/Kg wet	0.0200		80.2	40-160			V-05 †
1,1-Dichloroethane	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130			
1,2-Dichloroethane	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
1,1-Dichloroethylene	0.0246	0.0040	mg/Kg wet	0.0200		123	70-130			
cis-1,2-Dichloroethylene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130			
trans-1,2-Dichloroethylene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130			
1,2-Dichloropropane	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130			
1,3-Dichloropropane	0.0205	0.0010	mg/Kg wet	0.0200		103	70-130			
2,2-Dichloropropane	0.0166	0.0020	mg/Kg wet	0.0200		83.1	70-130			
1,1-Dichloropropene	0.0227	0.0020	mg/Kg wet	0.0200		113	70-130			
cis-1,3-Dichloropropene	0.0183	0.0010	mg/Kg wet	0.0200		91.7	70-130			
trans-1,3-Dichloropropene	0.0188	0.0010	mg/Kg wet	0.0200		94.2	70-130			
Diethyl Ether	0.0256	0.020	mg/Kg wet	0.0200		128	70-130			
Diisopropyl Ether (DIPE)	0.0226	0.0010	mg/Kg wet	0.0200		113	70-130			
1,4-Dioxane	0.190	0.10	mg/Kg wet	0.200		95.0	40-160			V-16 †
Ethylbenzene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130			
Hexachlorobutadiene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-160			
2-Hexanone (MBK)	0.197	0.020	mg/Kg wet	0.200		98.5	70-160			†
Isopropylbenzene (Cumene)	0.0242	0.0020	mg/Kg wet	0.0200		121	70-130			
p-Isopropyltoluene (p-Cymene)	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0204	0.0040	mg/Kg wet	0.0200		102	70-130			
Methylene Chloride	0.0205	0.020	mg/Kg wet	0.0200		102	40-160			†
4-Methyl-2-pentanone (MIBK)	0.199	0.020	mg/Kg wet	0.200		99.3	70-160			†
Naphthalene	0.0192	0.0040	mg/Kg wet	0.0200		96.1	40-130			†
n-Propylbenzene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130			
Styrene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130			
1,1,1,2-Tetrachloroethane	0.0179	0.0020	mg/Kg wet	0.0200		89.4	70-130			
1,1,2,2-Tetrachloroethane	0.0207	0.0010	mg/Kg wet	0.0200		103	70-130			
Tetrachloroethylene	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130			
Tetrahydrofuran	0.0188	0.010	mg/Kg wet	0.0200		94.1	70-130			V-16
Toluene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130			
1,2,3-Trichlorobenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.3	70-130			
1,2,4-Trichlorobenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.5	70-130			
1,1,1-Trichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
1,1,2-Trichloroethane	0.0199	0.0020	mg/Kg wet	0.0200		99.6	70-130			
Trichloroethylene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
Trichlorofluoromethane (Freon 11)	0.0237	0.010	mg/Kg wet	0.0200		118	70-130			
1,2,3-Trichloropropane	0.0158	0.0020	mg/Kg wet	0.0200		79.2	70-130			
1,2,4-Trimethylbenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130			
1,3,5-Trimethylbenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130			
Vinyl Chloride	0.0181	0.010	mg/Kg wet	0.0200		90.4	40-130			†
m+p Xylene	0.0411	0.0040	mg/Kg wet	0.0400		103	70-130			
o-Xylene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0537		mg/Kg wet	0.0500		107	70-130			
Surrogate: Toluene-d8	0.0516		mg/Kg wet	0.0500		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.0497		mg/Kg wet	0.0500		99.4	70-130			

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 B008548 - SW-846 5035										
I.C.S Dup (B008548-BSD1) Prepared & Analyzed: 12/18/09										
Acetone	0.244	0.10	mg/Kg wet	0.200		122	70-160	9.39	25	V-16 †
tert-Amyl Methyl Ether (TAME)	0.0207	0.0010	mg/Kg wet	0.0200		103	70-130	7.22	25	
Benzene	0.0227	0.0020	mg/Kg wet	0.0200		114	70-130	4.68	25	
Bromobenzene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130	3.92	25	
Bromochloromethane	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	2.81	25	
Bromodichloromethane	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	4.16	25	
Bromoform	0.0191	0.010	mg/Kg wet	0.0200		95.7	70-130	3.40	25	
Bromomethane	0.0227	0.010	mg/Kg wet	0.0200		114	40-130	8.44	25	†
2-Butanone (MEK)	0.231	0.040	mg/Kg wet	0.200		115	70-160	9.38	25	V-16 †
n-Butylbenzene	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	1.80	25	
sec-Butylbenzene	0.0223	0.0020	mg/Kg wet	0.0200		112	70-130	0.809	25	
tert-Butylbenzene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-160	0.849	25	†
tert-Butyl Ethyl Ether (TBEE)	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130	4.53	25	
Carbon Disulfide	0.0262	0.0060	mg/Kg wet	0.0200		131 *	70-130	2.40	25	L-07
Carbon Tetrachloride	0.0181	0.010	mg/Kg wet	0.0200		90.6	70-130	0.110	25	
Chlorobenzene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	2.78	25	
Chlorodibromomethane	0.0240	0.0010	mg/Kg wet	0.0200		120	70-130	2.45	25	
Chloroethane	0.0260	0.020	mg/Kg wet	0.0200		130	70-130	4.73	25	
Chloroform	0.0228	0.0040	mg/Kg wet	0.0200		114	70-130	1.77	25	
Chloromethane	0.0206	0.010	mg/Kg wet	0.0200		103	70-130	4.68	25	
2-Chlorotoluene	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130	3.66	25	
4-Chlorotoluene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	2.73	25	
1,2-Dibromo-3-chloropropane (DBCP)	0.0188	0.010	mg/Kg wet	0.0200		94.2	70-130	6.81	25	
1,2-Dibromoethane (EDB)	0.0214	0.0010	mg/Kg wet	0.0200		107	70-130	5.88	25	
Dibromomethane	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	7.04	25	
1,2-Dichlorobenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	2.82	25	
1,3-Dichlorobenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.7	70-130	1.92	25	
1,4-Dichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		99.0	70-130	0.608	25	
Dichlorodifluoromethane (Freon 12)	0.0167	0.020	mg/Kg wet	0.0200		83.6	40-160	4.15	25	V-05 †
1,1-Dichloroethane	0.0234	0.0020	mg/Kg wet	0.0200		117	70-130	4.63	25	
1,2-Dichloroethane	0.0223	0.0020	mg/Kg wet	0.0200		112	70-130	6.37	25	
1,1-Dichloroethylene	0.0253	0.0040	mg/Kg wet	0.0200		127	70-130	2.88	25	
cis-1,2-Dichloroethylene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	3.20	25	
trans-1,2-Dichloroethylene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130	5.23	25	
1,2-Dichloropropane	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130	3.66	25	
1,3-Dichloropropane	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130	3.07	25	
2,2-Dichloropropane	0.0170	0.0020	mg/Kg wet	0.0200		85.1	70-130	2.38	25	
1,1-Dichloropropene	0.0232	0.0020	mg/Kg wet	0.0200		116	70-130	2.09	25	
cis-1,3-Dichloropropene	0.0195	0.0010	mg/Kg wet	0.0200		97.5	70-130	6.13	25	
trans-1,3-Dichloropropene	0.0195	0.0010	mg/Kg wet	0.0200		97.3	70-130	3.24	25	
Diethyl Ether	0.0263	0.020	mg/Kg wet	0.0200		131 *	70-130	2.70	25	L-07
Diisopropyl Ether (DIPE)	0.0237	0.0010	mg/Kg wet	0.0200		118	70-130	4.41	25	
1,4-Dioxane	0.193	0.10	mg/Kg wet	0.200		96.4	40-160	1.51	50	V-16 † †
Ethylbenzene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	2.76	25	
Hexachlorobutadiene	0.0215	0.0020	mg/Kg wet	0.0200		107	70-160	3.03	25	
2-Hexanone (MBK)	0.216	0.020	mg/Kg wet	0.200		108	70-160	9.08	25	†
Isopropylbenzene (Cumene)	0.0247	0.0020	mg/Kg wet	0.0200		124	70-130	2.13	25	
p-Isopropyltoluene (p-Cymene)	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	1.22	25	
Methyl tert-Butyl Ether (MTBE)	0.0223	0.0040	mg/Kg wet	0.0200		112	70-130	8.80	25	
Methylene Chloride	0.0213	0.020	mg/Kg wet	0.0200		106	40-160	3.83	25	†
4-Methyl-2-pentanone (MIBK)	0.220	0.020	mg/Kg wet	0.200		110	70-160	10.1	25	†
Naphthalene	0.0222	0.0040	mg/Kg wet	0.0200		111	40-130	14.2	25	†

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 B008548 - SW-846 5035										
LCS Dup (B008548-BSD1)				Prepared & Analyzed: 12/18/09						
n-Propylbenzene	0.0225	0.0020	mg/Kg wet	0.0200		112	70-130	2.16	25	
Styrene	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	3.08	25	
1,1,1,2-Tetrachloroethane	0.0184	0.0020	mg/Kg wet	0.0200		92.1	70-130	2.98	25	
1,1,2,2-Tetrachloroethane	0.0220	0.0010	mg/Kg wet	0.0200		110	70-130	6.37	25	
Tetrachloroethylene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130	3.57	25	
Tetrahydrofuran	0.0211	0.010	mg/Kg wet	0.0200		106	70-130	11.6	25	V-16
Toluene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	2.14	25	
1,2,3-Trichlorobenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	5.71	25	
1,2,4-Trichlorobenzene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	3.56	25	
1,1,1-Trichloroethane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	2.73	25	
1,1,2-Trichloroethane	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130	4.99	25	
Trichloroethylene	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130	5.11	25	
Trichlorofluoromethane (Freon 11)	0.0246	0.010	mg/Kg wet	0.0200		123	70-130	3.81	25	
1,2,3-Trichloropropane	0.0177	0.0020	mg/Kg wet	0.0200		88.7	70-130	11.3	25	
1,2,4-Trimethylbenzene	0.0200	0.0020	mg/Kg wet	0.0200		99.8	70-130	0.301	25	
1,3,5-Trimethylbenzene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	3.58	25	
Vinyl Chloride	0.0192	0.010	mg/Kg wet	0.0200		96.1	40-130	6.11	25	†
m+p Xylene	0.0426	0.0040	mg/Kg wet	0.0400		106	70-130	3.54	25	
o-Xylene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	3.22	25	
Surrogate: 1,2-Dichloroethane-d4	0.0540		mg/Kg wet	0.0500		108	70-130			
Surrogate: Toluene-d8	0.0520		mg/Kg wet	0.0500		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.0507		mg/Kg wet	0.0500		101	70-130			
Matrix Spike (B008548-MS1)				Source: 09L0487-03 Prepared & Analyzed: 12/18/09						
Acetone	0.163	0.072	mg/Kg dry	0.144	ND	113	70-130			V-16
tert-Amyl Methyl Ether (TAME)	0.0140	0.00072	mg/Kg dry	0.0144	ND	97.1	70-130			
Benzene	0.0151	0.0014	mg/Kg dry	0.0144	ND	105	70-130			
Bromobenzene	0.0134	0.0014	mg/Kg dry	0.0144	ND	93.3	70-130			
Bromochloromethane	0.0152	0.0014	mg/Kg dry	0.0144	ND	105	70-130			
Bromodichloromethane	0.0133	0.0014	mg/Kg dry	0.0144	ND	92.1	70-130			
Bromoform	0.0121	0.0072	mg/Kg dry	0.0144	ND	84.3	70-130			
Bromomethane	0.0154	0.0072	mg/Kg dry	0.0144	ND	107	70-130			
2-Butanone (MEK)	0.153	0.029	mg/Kg dry	0.144	ND	106	70-130			V-16
n-Butylbenzene	0.0142	0.0014	mg/Kg dry	0.0144	ND	98.4	70-130			
sec-Butylbenzene	0.0146	0.0014	mg/Kg dry	0.0144	ND	101	70-130			
tert-Butylbenzene	0.0140	0.0014	mg/Kg dry	0.0144	ND	97.3	70-130			
tert-Butyl Ethyl Ether (TBEE)	0.0141	0.00072	mg/Kg dry	0.0144	ND	98.0	70-130			
Carbon Disulfide	0.0158	0.0043	mg/Kg dry	0.0144	ND	109	70-130			
Carbon Tetrachloride	0.0106	0.0072	mg/Kg dry	0.0144	ND	73.8	70-130			
Chlorobenzene	0.0138	0.0014	mg/Kg dry	0.0144	ND	95.9	70-130			
Chlorodibromomethane	0.0155	0.00072	mg/Kg dry	0.0144	ND	108	70-130			
Chloroethane	0.0166	0.014	mg/Kg dry	0.0144	ND	115	70-130			
Chloroform	0.0158	0.0029	mg/Kg dry	0.0144	ND	110	70-130			
Chloromethane	0.0132	0.0072	mg/Kg dry	0.0144	ND	91.7	70-130			
2-Chlorotoluene	0.0143	0.0014	mg/Kg dry	0.0144	ND	99.0	70-130			
4-Chlorotoluene	0.0143	0.0014	mg/Kg dry	0.0144	ND	99.0	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0116	0.0072	mg/Kg dry	0.0144	ND	80.9	70-130			
1,2-Dibromoethane (EDB)	0.0147	0.00072	mg/Kg dry	0.0144	ND	102	70-130			
Dibromomethane	0.0153	0.0014	mg/Kg dry	0.0144	ND	106	70-130			
1,2-Dichlorobenzene	0.0135	0.0014	mg/Kg dry	0.0144	ND	93.9	70-130			
1,3-Dichlorobenzene	0.0131	0.0014	mg/Kg dry	0.0144	ND	90.9	70-130			
1,4-Dichlorobenzene	0.0131	0.0014	mg/Kg dry	0.0144	ND	90.7	70-130			

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 B008548 - SW-846 5035										
Matrix Spike (B008548-MS1)										
Source: 09L0487-03										
Prepared & Analyzed: 12/18/09										
Dichlorodifluoromethane (Freon 12)	0.0107	0.014	mg/Kg dry	0.0144	ND	74.3	70-130			V-05
1,1-Dichloroethane	0.0158	0.0014	mg/Kg dry	0.0144	ND	109	70-130			
1,2-Dichloroethane	0.0153	0.0014	mg/Kg dry	0.0144	ND	106	70-130			
1,1-Dichloroethylene	0.0162	0.0029	mg/Kg dry	0.0144	ND	113	70-130			
cis-1,2-Dichloroethylene	0.0144	0.0014	mg/Kg dry	0.0144	ND	100	70-130			
trans-1,2-Dichloroethylene	0.0142	0.0014	mg/Kg dry	0.0144	ND	98.8	70-130			
1,2-Dichloropropane	0.0149	0.0014	mg/Kg dry	0.0144	ND	104	70-130			
1,3-Dichloropropane	0.0150	0.00072	mg/Kg dry	0.0144	ND	104	70-130			
2,2-Dichloropropane	0.0102	0.0014	mg/Kg dry	0.0144	ND	70.5	70-130			
1,1-Dichloropropene	0.0152	0.0014	mg/Kg dry	0.0144	ND	106	70-130			
cis-1,3-Dichloropropene	0.0126	0.00072	mg/Kg dry	0.0144	ND	87.4	70-130			
trans-1,3-Dichloropropene	0.0120	0.00072	mg/Kg dry	0.0144	ND	83.4	70-130			
Diethyl Ether	0.0173	0.014	mg/Kg dry	0.0144	ND	120	70-130			
Diisopropyl Ether (DIPE)	0.0160	0.00072	mg/Kg dry	0.0144	ND	111	70-130			
1,4-Dioxane	0.178	0.072	mg/Kg dry	0.144	ND	123	70-130			V-16
Ethylbenzene	0.0143	0.0014	mg/Kg dry	0.0144	ND	99.3	70-130			
Hexachlorobutadiene	0.0123	0.0014	mg/Kg dry	0.0144	ND	85.2	70-130			
2-Hexanone (MBK)	0.153	0.014	mg/Kg dry	0.144	ND	107	70-130			
Isopropylbenzene (Cumene)	0.0161	0.0014	mg/Kg dry	0.0144	ND	112	70-130			
p-Isopropyltoluene (p-Cymene)	0.0138	0.0014	mg/Kg dry	0.0144	ND	95.8	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0147	0.0029	mg/Kg dry	0.0144	ND	102	70-130			
Methylene Chloride	0.0145	0.014	mg/Kg dry	0.0144	7.20E-4	96.0	70-130			
4-Methyl-2-pentanone (MIBK)	0.156	0.014	mg/Kg dry	0.144	ND	108	70-130			
Naphthalene	0.0113	0.0029	mg/Kg dry	0.0144	ND	78.2	70-130			
n-Propylbenzene	0.0148	0.0014	mg/Kg dry	0.0144	ND	102	70-130			
Styrene	0.0139	0.0014	mg/Kg dry	0.0144	ND	96.4	70-130			
1,1,1,2-Tetrachloroethane	0.0117	0.0014	mg/Kg dry	0.0144	ND	81.3	70-130			
1,1,2,2-Tetrachloroethane	0.0156	0.00072	mg/Kg dry	0.0144	ND	108	70-130			
Tetrachloroethylene	0.0146	0.0014	mg/Kg dry	0.0144	ND	102	70-130			
Tetrahydrofuran	0.0152	0.0072	mg/Kg dry	0.0144	ND	106	70-130			V-16
Toluene	0.0148	0.0014	mg/Kg dry	0.0144	ND	103	70-130			
1,2,3-Trichlorobenzene	0.0116	0.0014	mg/Kg dry	0.0144	ND	80.5	70-130			
1,2,4-Trichlorobenzene	0.0122	0.0014	mg/Kg dry	0.0144	ND	84.5	70-130			
1,1,1-Trichloroethane	0.0128	0.0014	mg/Kg dry	0.0144	ND	88.8	70-130			
1,1,2-Trichloroethane	0.0148	0.0014	mg/Kg dry	0.0144	ND	103	70-130			
Trichloroethylene	0.0148	0.0014	mg/Kg dry	0.0144	ND	103	70-130			
Trichlorofluoromethane (Freon 11)	0.0159	0.0072	mg/Kg dry	0.0144	ND	110	70-130			
1,2,3-Trichloropropane	0.0128	0.0014	mg/Kg dry	0.0144	ND	88.6	70-130			
1,2,4-Trimethylbenzene	0.0133	0.0014	mg/Kg dry	0.0144	ND	92.4	70-130			
1,3,5-Trimethylbenzene	0.0141	0.0014	mg/Kg dry	0.0144	ND	97.9	70-130			
Vinyl Chloride	0.0121	0.0072	mg/Kg dry	0.0144	ND	84.3	70-130			
m+p Xylene	0.0282	0.0029	mg/Kg dry	0.0288	ND	97.8	70-130			
o-Xylene	0.0145	0.0014	mg/Kg dry	0.0144	ND	100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0386		mg/Kg dry	0.0360		107	70-130			
Surrogate: Toluene-d8	0.0375		mg/Kg dry	0.0360		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.0359		mg/Kg dry	0.0360		99.7	70-130			

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
- L-07 Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
 - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Significant uncertainty is associated with the reported value which is likely to be biased on the low side.
 - V-16 Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy are associated with reported result.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260B in Soil</i>	
Acetone	CT,NH,NY
Benzene	CT,NH,NY
Bromobenzene	NH,NY
Bromochloromethane	NH,NY
Bromodichloromethane	CT,NH,NY
Bromoform	CT,NH,NY
Bromomethane	CT,NH,NY
2-Butanone (MEK)	CT,NH,NY
n-Butylbenzene	CT,NH,NY
sec-Butylbenzene	CT,NH,NY
tert-Butylbenzene	CT,NH,NY
Carbon Disulfide	CT,NH,NY
Carbon Tetrachloride	CT,NH,NY
Chlorobenzene	CT,NH,NY
Chlorodibromomethane	CT,NH,NY
Chloroethane	CT,NH,NY
Chloroform	CT,NH,NY
Chloromethane	CT,NH,NY
2-Chlorotoluene	CT,NH,NY
4-Chlorotoluene	CT,NH,NY
Dibromomethane	NH,NY
1,2-Dichlorobenzene	CT,NH,NY
1,3-Dichlorobenzene	CT,NH,NY
1,4-Dichlorobenzene	CT,NH,NY
Dichlorodifluoromethane (Freon 12)	NY
1,1-Dichloroethane	CT,NH,NY
1,2-Dichloroethane	CT,NH,NY
1,1-Dichloroethylene	CT,NH,NY
cis-1,2-Dichloroethylene	CT,NH,NY
trans-1,2-Dichloroethylene	CT,NH,NY
1,2-Dichloropropane	CT,NH,NY
1,3-Dichloropropane	NH,NY
2,2-Dichloropropane	NH,NY
1,1-Dichloropropene	NH,NY
cis-1,3-Dichloropropene	CT,NH,NY
trans-1,3-Dichloropropene	CT,NH,NY
Ethylbenzene	CT,NH,NY
Hexachlorobutadiene	NH,NY
2-Hexanone (MBK)	CT,NH,NY
Isopropylbenzene (Cumene)	CT,NH,NY
Methylene Chloride	CT,NH,NY
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY
Styrene	CT,NH,NY
1,1,1,2-Tetrachloroethane	CT,NH,NY
1,1,2,2-Tetrachloroethane	CT,NH,NY
Tetrachloroethylene	CT,NH,NY

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260B in Soil</i>	
Toluene	CT,NH,NY
1,2,4-Trichlorobenzene	NH,NY
1,1,1-Trichloroethane	CT,NH,NY
1,1,2-Trichloroethane	CT,NH,NY
Trichloroethylene	CT,NH,NY
Trichlorofluoromethane (Freon 11)	CT,NH,NY
1,2,3-Trichloropropane	NH,NY
1,2,4-Trimethylbenzene	CT,NH,NY
1,3,5-Trimethylbenzene	CT,NH,NY
Vinyl Chloride	CT,NH,NY
m+p Xylene	CT,NH,NY
o-Xylene	CT,NH,NY

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

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2010
CT	Connecticut Department of Public Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2010
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2010
RI	Rhode Island Department of Health	LAO00112	12/30/2010
NC	North Carolina Div. of Water Quality	652	12/31/2009
NJ	New Jersey DEP	MA007 NELAP	06/30/2010
FL	Florida Department of Health	E871027 NELAP	06/30/2010
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2010
WA	State of Washington Department of Ecology	C2065	03/23/2010

Sample Receipt Checklist

CLIENT NAME: TRC RECEIVED BY: JDP DATE: 12/17/09

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 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

Temperature °C by Temp blank 2⁺ Temperature °C by Temp gun _____

5) Are there Dissolved samples for the lab to filter? Yes No

Who was notified _____ Date _____ Time _____

6) Are there any samples "On Hold"? Yes No Stored where:

7) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified _____ Date _____ Time _____

8) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved

Client Signature: _____

Containers sent in to Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz clear jar	
500 mL Amber		4 oz clear jar	5
250 mL Amber (8oz amber)		2 oz clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below	18	Brass Sleeves	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Summa Cans	
Flashpoint bottle		Regulators	
Encore		Other	

Laboratory Comments:

DI VIALS / ENCORE

FROZEN AT:

40 mL vials: # HCl _____ # Methanol 6
Bisulfate _____ # DI Water 12
Thiosulfate _____ Unpreserved _____

Time and Date Frozen: 12-17-09 19:02 OUT

Do all samples have the proper pH: Yes No N/A

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 09L0487
Project Location: City Of New Bedford	MADEP RTN ¹ :

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
 09L0487-01 thru 09L0487-06

Sample Matrices: Soil

MCP SW-846 Methods Used	8260B (X)	8151A ()	8330 ()	6010B ()	7470A/1A ()
	8270C ()	8081A ()	VPH ()	6020 ()	9014M ² ()
As specified in MADEP Compendium of Analytical Methods. (check all that apply)	8082 ()	8021B ()	EPH ()	7000 S ³ ()	7196A ()

1 List Release Tracking Number (RTN), if known
 2 M -- SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
 3 S -- SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
C	Does the data included in this report meet all the analytical requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
D	VPH and EPH Methods only: Was the VPH or EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)?	<input type="checkbox"/> Yes <input type="checkbox"/> No ¹

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all analytical QC performance standards and recommendations for the specified methods achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

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

Signature: 	Position: Laboratory Director
Printed Name: Michael A. Erickson	Date: 12/23/09

APPENDIX G

HAZARDOUS WASTE MANIFESTS

1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1	
MAR 08 05 01 15 5		09 43 8		of	
3. Generator's Name and Mailing Address CITY OF NEW BEDFORD 281 LIBERTY STREET NEW BEDFORD, MA 02740 ATTN: LARRY WORDEN				A.	
4. Generator's Phone () (508) 958-8956				B. State Gen. ID SAME 281 LIBERTY ST NEW BEDFORD, MA 02740	
6. Transporter 1 Company Name CLEAN VENTURE, INC.		8. US EPA ID Number N 716 01 0 0 2 7 1 9 5		C. State Trans. ID	
7. Transporter 2 Company Name		9. US EPA ID Number		D. Transporter's Phone ()	
8. Designated Facility Name and Site Address GENERAL CHEMICAL CORP. 133 LELAND STREET FRAMINGHAM, MA 01701		10. US EPA ID Number		E. State Trans. ID	
11. US DOT Description (including Proper Shipping Name, Hazard Class and ID Number)		12. Container No.		F. Transporter's Phone ()	
a. NON RCRA NON DDT REGULATED MATERIAL (LIQUID ASPHALT) 49885-49887		KX3 DM 1165 G		G. State Facility's ID NOT REQUIRED	
b. NON RCRA NON DDT REGULATED MATERIAL (SOIL WITH ASPHALT) 49888-49893		KX6 DM 14200 P		H. Facility's Phone () (508) 872-5000	
c.				I. WASTE NO.	
d.					
J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)				K. Handling Codes for Wastes Listed Above	
a. 3x05 over pack.				a.	
b. 6x155				b.	
15. Special Handling Instructions and Additional Information 804209/801041/59438/13098 (1)BFL-1 ASPHALT (LIQUID) (2)OIS-2 SOIL WITH ASPHALT CVI Job # 351280703 24 Hour Emergency Number: (508) 872-5000					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to Federal Regulations for reporting proper disposal of hazardous waste.					
Printed/Typed Name DAVID FREDETTE				Signature 	
17. Transporter 1 Acknowledgement of Receipt of Materials				Date 11/18/09	
Printed/Typed Name Josh Richardson				Signature 	
18. Transporter 2 Acknowledgement of Receipt of Materials				Date 11/18/09	
Printed/Typed Name				Signature	
19. Discrepancy Indication Space line a. - 2 drums (49886 & 7) contain trichloroethylene - 0040					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19					
Printed/Typed Name Jon Yiquini				Signature 	
				Date 12/01/09	

GENERATOR

TRANSPORTER

FACILITY

TIB/DF COPY

1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1	
MA000000001155		59439		of 1	
3. Generator's Name and Mailing Address				A.	
CITY OF NEW BEDFORD 251 LIBERTY STREET NEW BEDFORD, MA 02740 4. Generator's Phone (508) 958-5956				B. State Gen. ID SAME	
5. Transporter 1 Company Name CLEAN VENTURE, INC.				6. US EPA ID Number N200000027173	
7. Transporter 2 Company Name				C. State Trans. ID	
8. US EPA ID Number				D. Transporter's Phone ()	
9. Designated Facility Name and Site Address				E. State Trans. ID	
GENERAL CHEMICAL CORP. 133 LELAND STREET FRAMINGHAM, MA 01701				F. Transporter's Phone ()	
10. US EPA ID Number MA00019371079				G. State Facility's ID NOT REQUIRED	
11. US DOT Description (including Proper Shipping Name, Hazard Class and ID Number)				H. Facility's Phone (508) 872-5000	
a. NON RCRA NON DOT REGULATED MATERIAL (SOIL WITH ASPHALT) 49905				12. Containers	
				No. Type	
				Total Quantity	
				WASTE NO.	
				18.78 TN MA99	
				001 CM 37560 P	
J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)				K. Handling Codes for Wastes Listed Above	
a.				a.	
b.				b.	
c.				c.	
d.				d.	
15. Special Handling Instructions and Additional Information 804209/801041/59439/13079 (1)OIS-2 SOIL WITH ASPHALT CVI Job # 351280703 24 Hour Emergency Number: (508) 872-5000					
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to Federal regulations for reporting proper disposal of hazardous waste.					
Printed/Typed Name DAVID FREDETE				Signature 	
				Date 11/25/09	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name DANA CALLAHAN				Signature 	
				Date 11/25/09	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name				Signature	
				Date	
				Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19					
Printed/Typed Name Jon Yalqmini				Signature 	
				Date 11/01/09	

GENERATOR

TRANSPORTER
FACILITY