# CLASS B-1 RESPONSE ACTION OUTCOME REPORT

# Former Morningside Fire Station 235 Tyler Street Pittsfield, Massachusetts Release Tracking Number (RTN) 1-17533

**Prepared** for:

City of Pittsfield 70 Allen Street Pittsfield, MA 01201

Prepared by:

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**August 2009** 

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# **1.0 INTRODUCTION**

TRC Environmental Corporation (TRC) has prepared this Response Action Outcome (RAO) Statement to support a Class B-1 RAO for Parcel H110007003 of the former Morningside Fire Station located at 235 Tyler Street in Pittsfield, Massachusetts (the "Site"). TRC prepared this RAO on behalf of our client, the City of Pittsfield, Massachusetts (the "Client" and the "City"), in accordance with the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000). Copies of the Release Notification Form (RNF; BWSC-103) and RAO Statement transmittal form (BWSC-104) are included in Appendix A.

Site investigation activities were undertaken at the Site to assess potential impacts to soil and groundwater from historical Site uses and from two underground storage tanks (USTs) which have subsequently been removed from the Site. The City of Pittsfield currently owns the Site.

The City submitted a RNF to MassDEP on August 4, 2009 for the detection of petroleum-related compounds identified above the Reportable Concentration (RC) for S-1 soils, which triggered a 120-day reporting obligation under the MCP. Release Tracking Number (RTN) 1-17533 was subsequently assigned to the Site. The RAO is being submitted within 120 days of the Site owner obtaining knowledge of the 120-day reporting condition under the MCP.

The responsible party and the Licensed Site Professional for the response actions at this Site are listed below.

Responsible Party:	The City of Pittsfield
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Licensed Site Professional:	Mr. Matthew E. Robbins, PG, LSP
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# 2.0 SITE LOCATION AND DESCRIPTION

# 2.1 Site Location and Description

The Site consists of one parcel of land measuring 0.376 acres located at 235 Tyler Street in Pittsfield, Massachusetts. The Site includes a three-story, red brick building identified as the former Morningside Fire Station. The approximate latitude and longitude coordinates of the Site are  $42^{\circ}$  27' 29.2" North, 73°, 14', 40.6" West. A Site Location Map is provided as Figure 1. A Site Plan showing the locations of the Site buildings, sampling locations, and other relevant Site features is provided as Figure 2.

The Site operated as the Morningside Fire Station from approximately 1905 until 1970. Since 1970, the Site has been used by the City's Emergency Management Operations, Police, and other City of Pittsfield entities. Currently, the Site functions as a storage facility for Fire and Emergency Management with emergency management volunteers visiting the building roughly once a week.

# 2.2 Site Vicinity & Surrounding Receptors

Land in the immediate vicinity of the Site is developed primarily with a mix of commercial and residential properties. The Site is bordered to the north by residential properties, a former real estate office building (currently vacant) to the east, a seasonal ice cream store and single-family residential houses to the west, and Tyler Street to the south. Several commercial entities are located across Tyler Street further to the south. Morningside Community School serving grades K-5 is located less than 500 feet south from the Site. The nearest standing body of water, Silver Lake, is located approximately ½-mile southeast of the Site. The West Branch of the Housatonic River is located approximately ¾-mile southeast of the Site. Topography in the area rises slightly west along Tyler Street until the land crests and then dips to First Street. Topography dips gently east along Tyler Street, towards the Morningside Community School.

#### 2.3 Natural Resource Areas

Based on a review of the Massachusetts Geographic Information Systems (MassGIS) Massachusetts Department of Environmental Protection (*MassDEP*) Priority Resource Map, none of the following features are present with 500 feet of the Site:

- Wetlands;
- Vernal Pools;
- Ponds;
- Lakes;
- Rivers;
- Streams;
- Reservoirs;
- Zone II Areas;
- Interim Wellhead Protection Areas;

- Zone A Areas;
- Potentially Productive Aquifers,
- Sole Source Aquifers;
- Areas of Critical Environmental Concern; or
- Fish Habitats; or
- Habitats for Species of Special Concern or Threatened or Endangered Species.

A copy of the *MassDEP Priority Resource Map*, depicting natural resource area information, is provided as Figure 3.

# 2.4 Regulatory Status

RTN 1-17533 was assigned to petroleum-related compounds identified in the soil above RCS-1 values, as a 120-day reporting condition under the MCP. This RTN will be closed after the submission of this Class B-1 RAO report.

# 2.5 Release History and Previous Investigations

Based upon the subsurface investigation activities performed by TRC in February and March 2009, RTN 1-17533 was assigned to the petroleum-related compounds identified in the soil above RCS-1 values. No additional known environmental investigations have been performed at this Site.

# 3.0 SITE INVESTIGATION APPROACH

This section describes the activities performed as part of TRC's Site investigation.

# 3.1 Phase I Environmental Site Assessment

TRC performed a Phase I Environmental Site Assessment (ESA) in March 2007 for Berkshire Regional Planning Commission (BRPC) under the Brownfields Assessment Grant Program funded by the Environmental Protection Agency (EPA). TRC's Phase I ESA revealed the current and historic use of USTs on the Site. TRC documented the use of a 1,000-gallon No. 2 oil fuel UST at the Site on the east side of the building. According to fire department personnel, a former gasoline UST was located on the southwest corner of the building where TRC observed a fill pipe. In addition TRC observed another possible fill pipe inside the building on the first floor in the west bay. No UST closure documentation was available for review. TRC concluded that the potential for soil and groundwater contamination from the current and historical use of USTs located on the Site represented a *Recognized Environmental Condition* (REC) in connection with the Site.

# 3.2 Geophysical Survey

On March 18, 2008, Hager Geoscience, Inc. (HGI) conducted a geophysical survey of the Site to investigate the presence of potential USTs or other buried objects. HGI employed ground penetrating radar (GPR) survey techniques in all accessible areas of the Site including two areas suspected to contain USTs. Electromagnetic (EM) terrain conductivity was used to supplement the GPR survey. Two USTs were identified - one located along the eastern side of the building, and the other off the southwest corner of the Site building. Several suspected utilities were also identified at the Site. A copy of the geophysical survey report is provided in Appendix B.

# **3.3** Excavation and Removal of Underground Storage Tanks

The City of Pittsfield procured Miller's Petroleum Systems, Inc. (MPSI) of Pittsfield, Massachusetts to excavate, remove, and transport the 750-gallon UST and the 1000-gallon No. 2 fuel oil UST to George Apkin & Sons, Inc. in North Adams, Massachusetts, a permitted tank disposal/recycling facility. Prior to excavation, MPSI secured two permits from the City of Pittsfield Fire Department to remove and transport both USTs to an approved tank disposal yard. A copy of the UST permits is provided in Appendix C. On February 25, 2009, during the UST removals, soil surrounding the tanks was screened by TRC for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID). A summary of the excavation and removal of the USTs and associated piping is provided below.

# 750-gallon UST

An internal inspection of the 750-gallon UST revealed the presence of approximately five inches of oily liquid remaining within the tank. Absorbent materials were used to remove the liquid from the tank. The UST was subsequently excavated and removed from the subsurface. Groundwater was not encountered during excavation activities. The excavation area measured

approximately 10 feet long by 10 feet wide by 6.5 feet deep. No holes were visually observed in the UST and no product was visually observed in the excavation. The UST excavation was subsequently backfilled to existing grade by MPSI with excavated material followed by clean fill.

The contents of the 750-gallon UST was not clearly identified. The permit that MPSI secured from the City to remove and transport the UST to an approved tank disposal yard did not specify the type of UST. TRC field staff on-site during the tank removals observed an odor similar to gasoline coming from the tank. However, analyses performed of the soil associated with the 750-gallon UST excavation are sufficient regardless of whether the contents were gasoline or diesel (Table 2). Both volatile petroleum hydrocarbon (VPH) and extractable petroleum hydrocarbon (EPH) were analyzed of the base of the excavation and EPH was analyzed of the sidewall samples because no PID readings were observed above background levels of the excavation sidewalls.

# 1,000-gallon No. 2 Fuel Oil UST

The 1,000-gallon UST did not contain any measurable product when it was gauged prior to excavation activities. The UST was subsequently excavated and removed from the subsurface. Groundwater was not encountered during excavation activities. No petroleum was released during the tank removal and no product was observed in the excavation. The excavation area measured approximately 15 feet long by 8 feet wide by 8 feet deep. No holes were visually observed in the UST and no product was visually observed in the excavation. The UST excavation was subsequently backfilled to existing grade by MPSI with excavated material followed by clean fill.

# 3.4 Post Excavation Soil Sampling

During and following excavation activities, no soil headspace testing exhibited PID readings greater than 100 parts per million by volume (ppmv) and no visual signs of contamination in soil was identified. Following the UST removals and soil excavation, composite soil samples were collected from the four sidewalls of each tank excavation for EPH analysis. Discrete soil samples were then collected from the floors of each tank excavation for EPH and VPH analyses. The samples were then field screened using a PID and the MassDEP jar headspace analytical screening method. Samples were collected from areas exhibiting staining, petroleum odors, and/or highest PID readings. At locations where VPH analysis was performed, each VPH grab sample was immediately and carefully placed (in a manner to minimize volatilization) in preserved vials upon collection, and then immediately placed on ice. Soil recovered from each location for EPH analysis was placed into stainless steel bowls using decontaminated stainless steel spoons, and subsequently homogenized. These homogenized samples were then transferred to containers with a stainless steel spoon for each location for EPH analysis, and immediately placed on ice. A summary of analytical parameters for soil samples is presented in Table 1.

# 3.5 Soil Boring and Monitoring Well Installation

On March 23, 2009, under the supervision of TRC, Geosearch, Inc. of Fitchburg, Massachusetts advanced four soil borings (B-1 through B-4) throughout the Site, using hollow stem auger

(HSA) drilling methods. Borings were generally collected for logging purposes continuously from the ground surface to the completion depths. Final completion depths ranged from approximately 14 feet below ground surface (bgs) at B-4 to approximately 26 feet bgs at B-3. Soil boring, B-4, was installed as a contingency boring to the southeast of soil boring B-3 due to detectable concentrations of VOCs in soil (through field screening) at soil boring B-3. Soil boring and monitoring well locations are shown in Figure 2. Soil boring logs are included in Appendix E.

Three soil borings, B-1 through B-3, were completed as groundwater monitoring wells, MW-1 through MW-3, respectively. The monitoring wells were constructed of 2-inch diameter flush threaded 0.010-inch slot Schedule 40 polyvinyl chloride (PVC) well screen, solid PVC riser, and a well cap. Graded washed sand was used to fill the annulus around the well screen to approximately two feet above the top of the well screen, where possible. A minimum of a 1-foot bentonite seal was placed above the sand. Any remaining space in the annulus around the well was backfilled with native soil cuttings. The monitoring wells were completed at surface grade with six-inch flush-mounted protective road boxes. Monitoring well locations are shown in Figure 2, and monitoring well construction diagrams are included in Appendix E.

# 3.6 Soil Sampling and Field Screening

Continuous soil samples from the borings were collected using 24-inch long, 2-inch diameter stainless steel split spoons. Prior to sample collection, each soil sample was evaluated for physical characteristics and inspected for visual and/or olfactory evidence of contamination. Samples were then screened in the field for the presence of VOCs using a PID in accordance with the MassDEP jar headspace field screening procedure. Elevated PID readings and any visual or olfactory indications of contamination were used as a guide for the selection of soil samples for laboratory analysis. If no evidence of contamination was observed during boring advancement, a soil sample was collected from immediately above the observed groundwater table for analysis. Screening results are documented in the soil boring logs which are provided in Appendix E.

A total of eight soil samples were collected, preserved in the field, stored on ice, and transported under Chain-of-Custody protocol to Con-test Analytical Laboratory (Contest) of East Longmeadow, Massachusetts for analysis of EPH, VPH, and polychlorinated biphenyls (PCBs). A summary of the samples collected for laboratory analysis is provided in Table 1. The analyses were selected for each location in accordance with MassDEP UST closure assessment guidelines (DEP Policy #WSC-402-96).

# 3.7 Groundwater Development and Sampling

Following installation, monitoring wells were developed using a submersible centrifugal (whale) pump to remove fine particles from around the sand pack and well screen on March 24, 2009. Wells were purged until the discharge water was clear or until the well was pumped dry three times. After development, monitoring wells were allowed to stabilize for seven days before groundwater samples were collected.

TRC collected groundwater samples from the newly-installed monitoring wells (MW1 through MW3) on March 31, 2009. Prior to sampling groundwater, TRC screened for non-aqueous phase liquid (NAPL) using an oil/water interface probe. NAPL was not detected during groundwater sampling at the Site. Groundwater samples were collected by TRC using EPA low-flow sampling methodology. Dedicated, disposable tubing was placed down each well so that it was entirely in the screened section of the wells. Water was then pumped by means of mechanical peristalsis through a flow through cell where water quality parameters were recorded using a YSI© 600XL water quality meter. Parameters recorded included temperature, conductivity, pH, dissolved oxygen (DO), and oxidation reduction potential (ORP). A separate turbidity meter was used for turbidity measurements. Groundwater samples were collected upon stabilization of water quality parameters. A summary of the groundwater samples collected for laboratory analysis is provided in Table 1.

Collected groundwater samples were submitted for laboratory analysis of VPH, EPH, total lead as shown on Table 1. Samples for dissolved lead analysis were collected at each monitoring well by using an in-line 0.45-micron ( $\mu$ m) filter. Analysis of the dissolved MCP metals, lead and zinc from one groundwater sample (MW3) was deemed necessary by TRC based on total MCP metals results. Groundwater sample logs are included in Appendix E, and groundwater sample analytical results are summarized in Table 4.

# 3.8 Groundwater Elevation Survey and Oil Thickness Measurements

On March 31, 2009, a relative elevation survey of the three newly-installed groundwater monitoring wells was then performed via rod and level methodology. Elevations were surveyed to an arbitrary datum of 100 feet above mean sea level (amsl) and measurements were recorded in tenths of a foot. Depth to groundwater was measured within each of the three Site monitoring wells from the top of PVC risers. Monitoring well gauging activities were conducted using a 100-foot Solinst<sup>™</sup> Oil/Water Interface Probe (IP). Data from these activities were used to estimate the elevation of the groundwater table at each monitoring well location and estimate groundwater flow direction. The IP was also used to detect the potential presence of light non-aqueous phase liquid (LNAPL) on the groundwater table. The locations of Site monitoring wells are presented on Figure 2. A Groundwater Contour Plan is presented as Figure 4. Elevation and groundwater depth gauging data are provided in Table 2.

# 3.9 Underground Storage Tank and Investigation Derived Waste Management

The following sections document the management of the USTs, UST contents, soil and groundwater pursuant to the MCP and with MassDEP UST closure assessment guidelines (DEP Policy #WSC-402-96).

# 3.9.1 Underground Storage Tanks and Contents

As described in Section 3.3, absorbent material was used to remove the oily liquids observed within the 750-gallon former UST. The spent absorbent materials were removed by MPSI and transported off-site for disposal. On February 24, 2009 MPSI transported the USTs and associated piping to the George Apkin & Sons facility for steel recycling.

# 3.9.2 Soil

Soil cuttings generated at the Site as part of HSA drilling activities were reused as backfill during the well construction process. No soil was generated which required off-Site disposal.

# 3.9.3 Groundwater

Purge water collected during groundwater monitoring wells during well development or sampling was recharged to the ground surface in accordance with 310 CMR 40.0045(7).

# 3.10 Applicable Soil and Groundwater Reporting and Cleanup Categories

In order to compare the soil and groundwater concentrations to the appropriate numerical standards, the applicable soil and groundwater categories were determined for the Site based on current and reasonably foreseeable future Site activities and uses. Rational for determining these comparison standards is detailed below.

#### <u>Soil Criteria</u>

**Reporting** – In accordance with 310 CMR 40.0361(1)(a)(1) of the MCP, the applicable reporting category for soils collected at the Site is RC S-1 (RCS-1) because soil samples were generally collected within 500 feet of a residential dwelling.

Because Site soils contained coal and coal ash, analytical results were also compared to MassDEP's background levels in soil containing coal ash and wood ash associated with fill material as discussed in the MassDEP May 2002 guidance document entitled *Technical Update* – *Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil (MassDEP, 2002).* 

**Cleanup** – Under current conditions, the frequency and intensity of use for both adults and children are considered low. No one resides at the Site; however, the Site is currently used infrequently by the City's emergency response personnel. Also, the potential exists for children to visit the Site as infrequent trespassers. Therefore, surface soils (i.e., 0-3 feet) at the Site are considered S-2 and subsurface soils (i.e., > 3 feet) are considered S-3 because they are considered to be "potentially accessible" pursuant to 310 CMR 40.0933(4)(c)(2) of the MCP and the both the intensity and frequency of use are considered low. The future use of the Site has not been fully determined; therefore, TRC has conservatively assumed that surface and subsurface soil at the Site under foreseeable future use would be S-1. Therefore, soils will be compared to S-1/GW-2 and S-1/GW-3 cleanup standards as a conservative measure based upon potential future-use Site conditions.

#### Groundwater Criteria

**Reporting** – In accordance with 310 CMR 40.0362(1)(b) of the MCP, the applicable reporting category for groundwater collected at the Site is RCGW-2 because groundwater samples were not collected within a Current or Potential Drinking Water Source Area..

**Cleanup** – The applicable groundwater classification for the Site is MCP category GW-2/GW-3 as explained below.

Groundwater is categorized based upon the current and/or future use as a drinking water source (GW-1), its potential to act as a source of volatile material to indoor air (GW-2), and the potential to discharge material to surface water (GW-3). The MCP describes six criteria used for determining if disposal site groundwater is categorized as GW-1. These criteria include the following.

<b>GW-1 Selection Criteria</b>	Applicable
he groundwater is within a Zone II	(Yes or No)
The groundwater is within a Zone II	NO

GW-1 Selection Criteria	Applicable (Yes or No)
The groundwater is within an Interim Wellhead Protection Area	NO
The groundwater is within a Potentially Productive Aquifer	NO
The groundwater is within Zone A of a Class A Surface Water Body	NO
The groundwater is located greater than 500 feet from a public water system distribution pipeline	NO
The groundwater is located within 500 feet of a private water supply well that was in use at the time of notification pursuant to 310 CMR 40.0300 and was installed in conformance with an applicable laws, by-laws, or regulations	NO
Notes: Information Source - MassGIS MassDEP Priority Resource Map provided	l as Figure 3.

The groundwater at the disposal site does not meet any of the above criteria, and is therefore not categorized as GW-1.

The MCP indicates that groundwater is categorized as GW-2 when it is located within 30 feet of an occupied building or structure and the average annual depth to groundwater in the area is fifteen feet or less. During investigation activities, average depth to groundwater across the Site ranged from approximately 9 feet to 17 feet below grade. Although there is a building located on Site, it is currently not occupied. Therefore, based on the requirements of the MCP, groundwater would be not be classified as GW-2. However, in the future, should the existing Site building become occupied or the Site be redeveloped with a building which becomes occupied, a GW-2 groundwater classification will apply. Finally, in accordance with 310 CMR 40.0932(2) of the MCP, all groundwater within the Commonwealth is classified as GW-3.

Therefore, as a summary of the above discussion, based upon current and foreseeable future Site conditions, the appropriate groundwater classification for the disposal site is MCP category GW-2 and also GW-3

# 4.0 **RESULTS OF INVESTIGATION**

# 4.1 Geophysical Survey Results

Based upon the results of the geophysical survey, one 1,000-gallon UST and one 750-gallon UST were identified at the Site on the eastern and southwestern sides of the Site building, respectively. A copy of the geophysical survey report is provided in Appendix B.

# 4.2 Site Soil Conditions

Based on the boring logs for soil borings advanced on March 23, 2009 by TRC, the soil stratigraphy at the Site generally consists of fine sand with varying amounts of gravel and some urban fill consisting of ash and bricks. Boring logs are provided in Appendix E.

# 4.3 Soil Analytical Results

A summary of the soil analytical results from the soil samples collected at the Site is presented in Table 3. As stated above in Section 3.8, the laboratory results of the soil samples collected from borings completed on-Site were compared to MCP RCS-1 values and Method 1 S-1/GW-2, S-1/GW-3, S-2/GW-2, and S-2/GW-3 cleanup standards. Analytical results from the post excavation samples revealed exceedances of RCS-1 and Method 1 S-1/GW-2 and S-1/GW-3 standards for several EPH constituents. Consequently, additional soil borings and monitoring wells were installed on March 23, 2009. Copies of the laboratory analytical results from samples collected following UST excavation activities and during soil boring advancement activities are provided below.

# 4.3.1 Volatile Petroleum Hydrocarbons

Several target and fraction range VPH compounds were identified at concentrations above the laboratory detection limits but below the RCS-1 standard and applicable cleanup standards.

# 4.3.2 Extractable Petroleum Hydrocarbons

Several exceedances were observed in the sample collected on February 25, 2009 from the bottom of the 1,000-gallon UST excavation at a depth of approximately eight feet bgs. EPH fractional constituent, C9-C18 aliphatics, was detected above the RCS-1 and Method 1 S-1/GW-2 and S-1/GW-3 standards at a concentration of 1,390 mg/kg. EPH target constituents, acenaphthylene (2.1 mg/kg) and 2-methylnaphthalene (4.5 mg/kg), were detected in excess of the RCS-1 standards but below the Method 1 S-1/GW-2 and S-2/GW-3 standards.

During the soil boring program completed on March 23, 2009, EPH target constituents benzo(a)pyrene and dibenzo(a,h)anthracene were detected at MW-1 at a depth of 8 to 10 feet bgs, at concentrations of 3.5 mg/kg and 0.9 mg/kg, respectively. While these concentrations exceed the RCS-1 standard, they are below the applicable cleanup standards.

# 4.3.3 Polychlorinated Biphenyls

Concentrations of PCBs were not detected above the laboratory detection limits.

# 4.3.4 Metals

Lead was detected at the Site, but at concentrations below the RCS-1 and Method 1 S-1/GW-2 and S-2/GW-3 cleanup standards.

# 4.4 Groundwater Analytical Results

A summary of the groundwater analytical results from the groundwater samples collected at the Site is presented in Table 4. As stated above in Section 3.8, the laboratory results of the groundwater samples collected on-Site were compared to MCP RCGW-2 and Method 1 GW-2/GW-3 cleanup standards. Copies of the laboratory analytical data reports are provided in Appendix D. The results of the groundwater analyses indicated that concentrations of VPH, EPH and lead, from samples collected at the three on-Site wells (MW-1, MW-2 and MW-3), were below laboratory detection limits.

# 4.5 Groundwater Level Measurement Results

During the relative elevation survey, groundwater depths at the Site ranged from approximately 9.3 feet to 17.1 feet below top of PVC riser (approximately 9.5 feet to 17.7 feet below grade, respectively). LNAPL was not detected in the newly-installed groundwater monitoring wells. Based on the limited elevation data acquired during the March 31, 2009 survey, topography, the groundwater table slopes to the southeast at an average gradient of approximately 0.002 feet/foot.

# 5.0 METHOD 1 RISK CHARACTERIZATION

TRC performed a MCP Method 1 Risk Characterization for the Site because contamination at the Site was limited to soil. The MCP Method 1 risk characterization included a comparison of the Exposure Point Concentrations (EPCs) for contaminants in soil to the Method 1 cleanup standards.

# 5.1 Applicable MCP Soil and Groundwater Categories

In order to compare the soil and groundwater concentrations to the appropriate numerical standards, the applicable soil and groundwater categories were determined for the Site based on current and reasonably foreseeable future Site activities and uses. The Site is located within a commercial and residential area of Pittsfield. The Site is currently used infrequently by the City's emergency response personnel and access to the Site is unrestricted. Under current conditions, the frequency and intensity of use for both adults and children are considered low. No one resides at the Site; however, the Site is currently used infrequently by the City's emergency response personnel. Also, the potential exists for children to visit the Site as infrequent trespassers. Therefore, surface soils (i.e., 0-3 feet) at the Site may be considered S-2 and subsurface soils (i.e., > 3 feet) are considered S-3 because they are considered to be "potentially accessible" pursuant to 310 CMR 40.0933(4)(c)(2) of the MCP and the both the intensity and frequency of use are considered low. However, because the future use of the property has not been fully determined, TRC has conservatively assumed that surface and subsurface soil at the Site under foreseeable future use would be S-1. Therefore, soils will be compared to RCS-1 standards as a conservative measure based upon potential unrestricted future-use Site conditions. For the purposes of evaluating if cleanup is warranted at the Site, the soil results will also be compared to S-1/GW-2 and S-1/GW-3

Groundwater at the Site is not used as a drinking water source and does not otherwise meet the definition of GW-1 per 310 CMR 40.0932 of the MCP. The MCP indicates that groundwater is categorized as GW-2 when it is located within 30 feet of an occupied building or structure and the average annual depth to groundwater in the area is fifteen feet or less. There is one building currently located on Site, and is currently infrequently used by the City of Pittsfield. Therefore, based on the requirements of the MCP, groundwater would be classified as GW-2.

Based on the above discussion, the applicable conservative soil categories for the Site are S-1/GW-2 and S-1/GW-3. The applicable groundwater categories for this Site are GW-2 and GW-3.

# 5.2 Identification of Exposure Point Concentrations and Evaluation to Applicable MCP Method 1 Standards

# 5.2.1 Soil EPCs

Table 3 contains a summary of the soil concentrations at the Site. As shown in Table 3, none of the detected concentrations in soil were identified above the applicable MCP Method 1 S-1/GW-2 and S-1/GW-3 soil standards. EPCs are generally established as the arithmetic mean concentrations of the detected compounds in soil, and are considered to be a conservative estimate of the true mean concentration (i.e., the EPC) for soil given that at least 75% of the samples are either at or below the applicable MCP Method 1, S-1/GW-2 and S-1/GW-3 standard, and no one sample result exceeded ten times the MCP Method 1, S-1/GW-2 and S-1/GW-3 standards. Because all soil samples collected at the Site were below Method 1 S-1/GW-2 and S-2/GW-3 standards, establishing the EPC for Site soil was deemed unnecessary.

# 5.2.2 Groundwater EPCs

Table 4 contains a summary of the groundwater concentrations at the Site. As shown in Table 4, none of the detected concentrations in groundwater were identified above the applicable MCP Method 1 GW-2 and GW-3 groundwater standards.

# 5.2.3 Results

Based on the above comparisons of EPCs in soil to the MCP Method 1, S-1/GW-2 and S-1/GW-3 soil standards, and a comparison of concentrations in groundwater to MCP Method 1 GW-2 and GW-3 groundwater standards, a condition of no significant risk to health, public welfare and the environment exists at the Site for current and reasonably foreseeable future Site activities and uses.

# 5.3 Characterization of Risk to Safety

TRC performed a separate evaluation of the risk of harm to safety posed by the Site pursuant to 310 CMR 40.0960 of the MCP. Current and reasonably foreseeable future conditions at the Site were compared to applicable or suitably analogous safety standards to evaluate whether there is a risk of harm to safety. Conditions that could pose a risk to harm to safety include the following:

- Presence of rusted or corroded drums, containers, open pits, or lagoons;
- Threat of fire or explosion or presence of explosive vapors; and,
- Uncontained materials exhibiting characteristics of corrosivity, reactivity, or flammability.

There are no rusted or corroded drums or containers, open pits, lagoons or other dangerous structures present at the Site. No release-related materials exhibiting the characteristics of corrosivity, reactivity, or flammability were identified. Additionally, conditions at the Site do not pose a threat of fire or explosion. Based on this evaluation, no release-related conditions

were identified which may pose a threat of physical harm or bodily injury to people. Therefore, a condition of no significant risk to safety exists at this Site.

# 5.3.1 Environmental Risk Characterization

An environmental risk characterization is intended to characterize the potential risks to Site biota and habitats. According to Figure 3, there is no such potential risk located on-Site. Therefore, a MCP Method 1 risk characterization is the appropriate approach and a Stage I Environmental Screening is not warranted.

# 5.4 Conclusions of the Risk Characterization [310 CMR 40.0973 (8)]

Based on the Method 1 Risk Characterization conducted above, TRC concludes that a condition of No Significant Risk of harm to health, safety, public welfare and the environment has been achieved for current and foreseeable future Site conditions.

# 6.0 DATA USABILITY ASSESSMENT AND REPRESENTATIVENESS EVALUATION

The following subsections presents a discussion of the Site investigation results used to support a Class B-1 RAO pursuant to 310 CMR 40.1056(2)(k) of the MCP and MassDEP Policy WSC-07-350.

# 6.1 Data Usability Assessment

The data associated with soil and groundwater samples collected in February and March 2009 were reviewed. In general, data are usable for MCP decisions based on a review of accuracy, precision, and sensitivity of the data, and 100% analytical completeness was achieved from all Site data.

Details on the data usability assessment are provided in Appendix F.

# 6.1.1 Rejection of Analytical Data

Appendix II of the MCP Representativeness Evaluations and Data Usability Assessments (September 2007) was used to evaluate whether gross failures of quality control existed in the TRC Site data set. 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.

# 6.2 Achievement of Data Quality Objectives

Data Quality Objectives for the Site program were as follows:

- To assess the potential presence of petroleum-related constituents in soil and groundwater at the Site;
- To evaluate the potential risks posed by Site constituents to human health, safety, public welfare and the environment; and
- To evaluate the results of the Site investigation activities in achieving a condition of No Significant Risk as defined by the MCP.

The data usability assessment determined that the data were usable to achieve project objectives. Any cautions or limitations on the data which could affect the achievement of these objectives or the decision-making process were highlighted.

# 6.3 **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 Policy #WSC-07-350 (MCP Representativeness Evaluations and

Data Usability Assessments, September 2007). The precision, accuracy and sensitivity of the Site data used in this Representativeness Evaluation were discussed in the Data Usability Assessment section (Section 6.1) of this RAO. As stated in the Data Usability Assessment, the data are valid as reported and may be used for decision-making purposes.

# 6.4 Conceptual Site Model

The Site was the former Morningside Fire Station. The Site operated from approximately 1905 through 1970. After 1970 the Site has been used by the City's emergency response personnel and other City of Pittsfield entities.

As a result of Site investigation activities completed by TRC, contaminants typically associated with USTs containing fuel oil and gasoline, including EPH constituents  $C_9$ - $C_{18}$  aliphatic hydrocarbons, acenaphthylene, benzo(a)pyrene, dibenzo(a,h)anthrancene, and 2-methylnaphthalene, were identified in soil above applicable RC's but below MCP Method 1 cleanup standards. Concentrations of VPH and EPH in groundwater were below laboratory detection limits in all Site monitoring wells. A summary of soil and groundwater analytical results are provided on Tables 3 and 4, respectively.

Based on the results of the Site investigation activities undertaken by TRC, a Class B-1 RAO has been achieved for the Site, which implies that remedial actions were not necessary to achieve a level of No Significant Risk, and that an AUL is not necessary to ensure the existence or maintenance of a level of No Significant Risk.

# 6.5 Work Plan, Data Quality Objectives and Data Collection Approach

# 6.5.1 Site Testing

TRC was retained by the City of Pittsfield through BRPC to excavate USTs and to evaluate the soil and groundwater quality at the Site associated with potential impacts from historical Site uses and USTs. A discussion of TRC's Site investigation activities and sampling rationale are presented in Section 3.0 of this report.

The Data Quality Objectives for TRC's Site testing program were to collect data that could be used to assess the potential presence of petroleum constituents in soil and groundwater; evaluate the potential risks posed by Site constituents to human health, safety, public welfare and the environment; and support Site closure, if appropriate.

# 6.5.2 Use of Field/Screening Data

During TRC's field investigations, TRC used field screening data to aid in the collection of soil samples for laboratory analyses. Field screening for soil samples included use of a PID and the MassDEP Jar Headspace Analytical Screening Procedure to evaluate relative levels of VOCs at various depths during the UST removals and at each soil boring location to guide the selection of samples collected for laboratory analysis. PID readings were recorded on the field boring logs, which have been included in Appendix E. PID headspace readings ranged from non-detect to a

maximum of 7 ppmv recorded from the soil sample collected from boring B-3 at 10-12 ft. Consequently, TRC collected a soil sample at this boring and interval. Field screening also included visual observations for the presence of anthropogenic fill materials (urban fill) including ash, bricks, etc. Urban fill was observed in soil borings B-1, B-2 and B-3.

# 6.5.3 Selection of Sampling Locations and Depths

Summaries of the sampling locations, depths, and chemical analyses for the investigative samples collected at the Site are provided in Table 1 of this report. A summary of TRC's soil analytical results are provided in Table 3.

# 6.5.4 Number and Spatial Distribution of Sampling Locations

TRC's post excavation soil sampling program was targeted within the tank graves of the two USTs removed from the Site. Based on the dimensions of the UST excavations and MassDEP's UST Closure Assessment Manual (MassDEP, 1996), the number and spatial distribution of post-excavation sampling at the Site is sufficiently representative of Site conditions surrounding the USTs.

TRC's soil boring and sampling program was targeted to areas of known or former USTs and/or biased toward areas of significant historical Site use. Based on historical information, the number and spatial distribution of sampling at the Site is sufficiently representative of Site conditions.

# 6.5.5 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. Analyzed constituents were not identified in groundwater above the applicable GW-2/GW-3 standards. Non-Aqueous Phase Liquid (NAPL) was not observed in the UST excavation pits or the monitoring wells installed by TRC. No soil concentration exceeded the upper concentration limit (UCL).

# 6.5.6 Critical Samples

Critical soil samples are identified as those samples used in the calculation of EPCs for the Method 1 risk characterization presented in Section 3.0, which include all soil boring samples collected by TRC. The sample results for these critical samples are provided in Table 5.

# 6.5.7 Completeness

No Site data were rejected as a result of the Data Usability Assessment presented in Section 5.1 of this RAO. Therefore, 100% completeness was achieved for the Site data.

# 6.5.8 Uncertainty and Inconsistency

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

# 6.6 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 6.1 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 Compendium of Analytical Methods (CAM) requirements;
- The number of samples, sample depths, spatial and temporal distribution of the samples is sufficient to identify releases from the suspected source areas and to delineate the extent of oil and/or hazardous materials contamination at the Site; and
- No significant discrepancies between Site history information, field screening results, 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 Class B-1 RAO.

# 7.0 FEASIBILITY OF ACHIEVING BACKGROUND LEVELS

The MCP requires that at Sites where cleanup up to a level of No Significant Risk has been performed, an evaluation of the feasibility to achieve or approach background conditions be performed. TRC evaluated the feasibility of achieving or approaching background conditions at the Site using the guidance contained in the July 16, 2004 DEP guidance, "*Conducting Feasibility Evaluations Under the MCP*." Because response actions were not necessary to achieve a condition of No Significant Risk, an evaluation of the feasibility of achieving background is not required.

# 8.0 PUBLIC NOTIFICATION

Pursuant to 310 CMR 40.1403, notification of the submittal of this RAO was made to the City of Pittsfield Mayor and Department of Health and Human Services. Refer to Appendix A for copies of the public notification letters.

# 9.0 **RESPONSE ACTION OUTCOME STATEMENT**

The following summarizes the findings of this Class B-1 RAO:

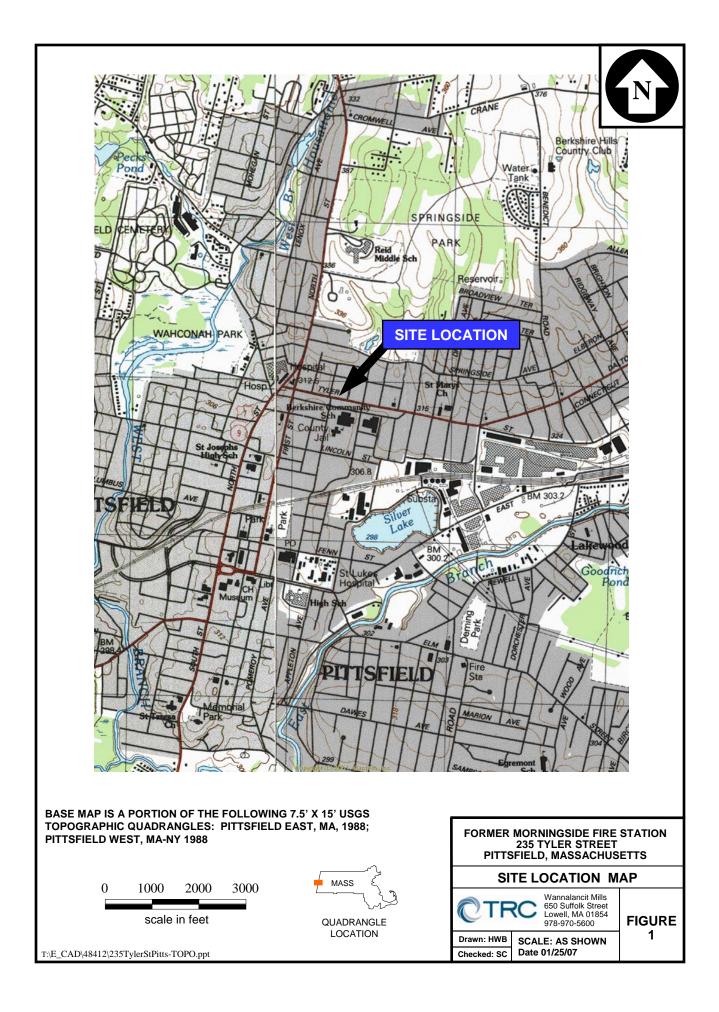
- A condition of No Significant Risk to health, safety, public welfare and the environment for all current and foreseeable future Site activities and uses exists at this Site based upon TRC's investigation activities;
- An Activity and Use Limitation (AUL) is not necessary to maintain a level of No Significant Risk; and
- No UCL exceedances are present at the Site.

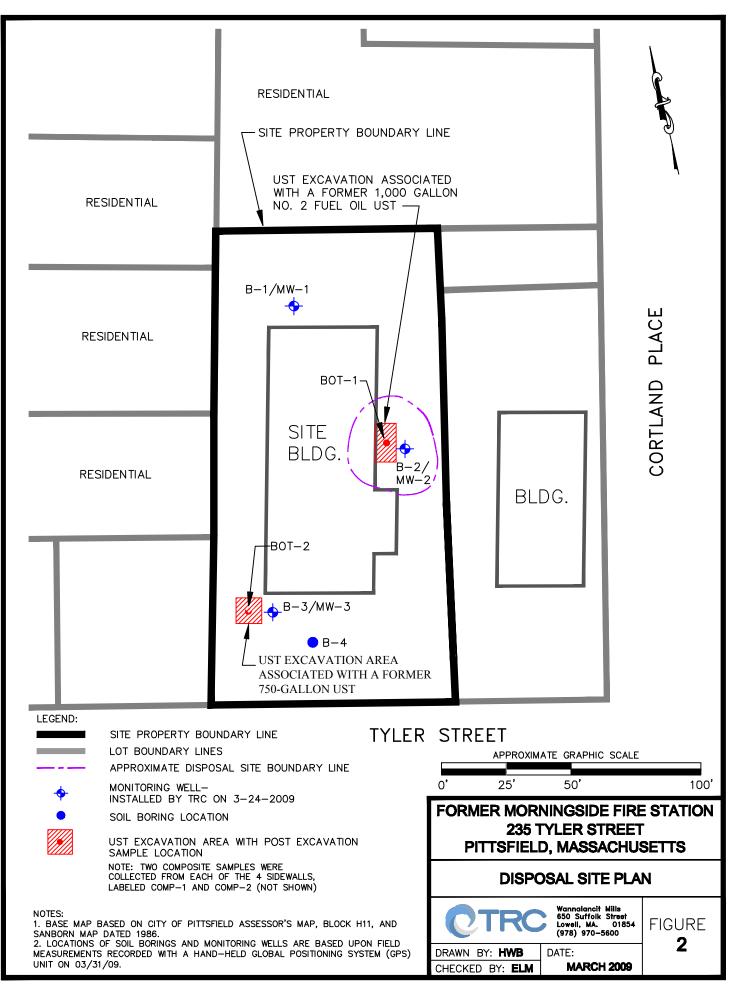
It is TRC's opinion that the actions described in this report have been performed in accordance with the MCP. Based on the analytical results from samples collected during TRC's Site investigation activities, TRC concludes that the Site meets the requirements of a Class B-1 RAO per 310 CMR 40.1046(1) of the MCP. A copy of the RAO transmittal form (BWSC-104) is provided in Appendix A. This work has been performed in accordance with the Limitations listed in Appendix G.

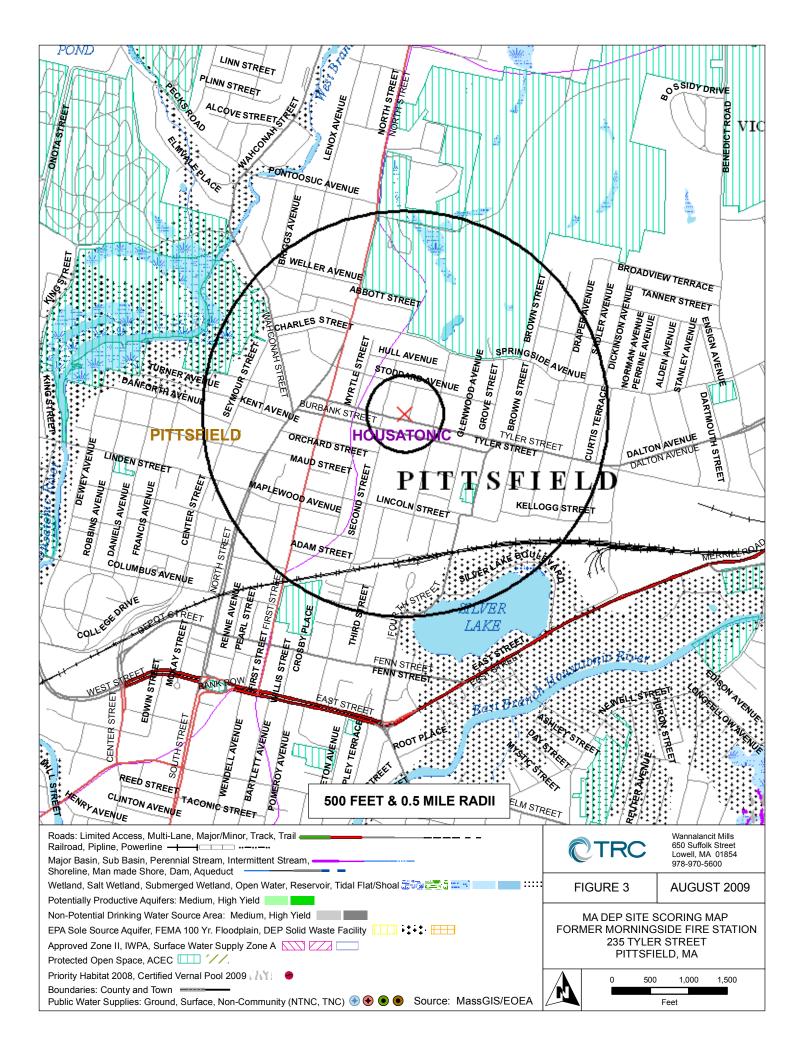
# **10.0 REFERENCES**

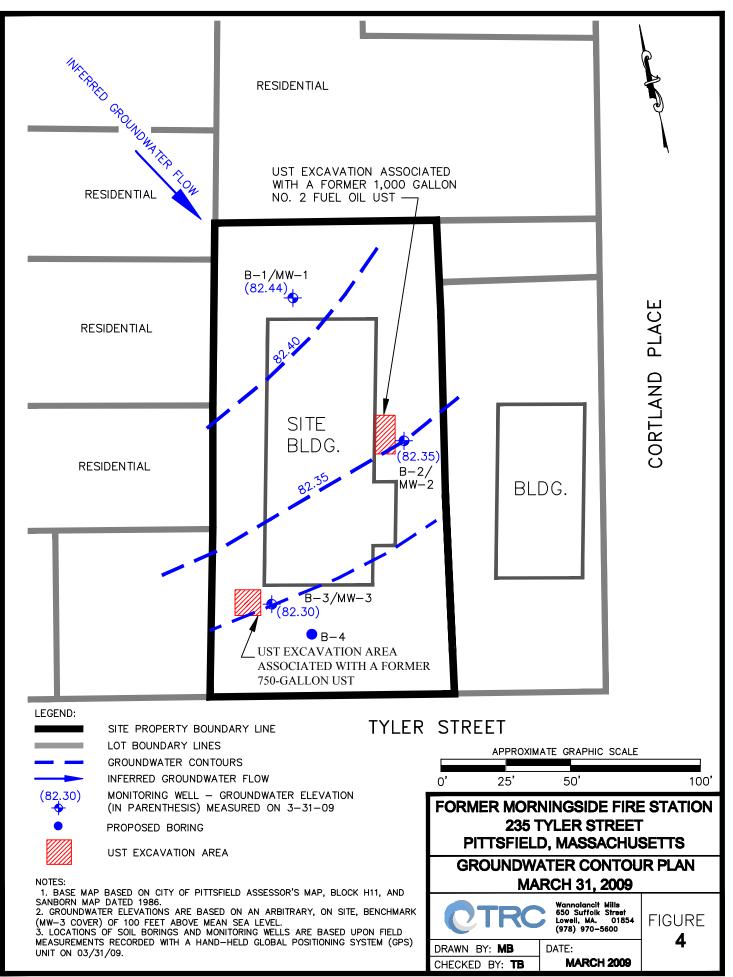
- MassDEP, 1996. *Guidance for Disposal Site Risk Characterization*. Interim Final Policy WSC/ORS-95-141. April.
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- MassDEP, 2002a. Technical Update: Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil – In Support of the Massachusetts Contingency Plan (DEP, 1995). May 23.
- MassDEP, 2002b. Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of the MassDEP VPH/EPH Approach – Final Policy, Policy # WSC-02-411, October 31, 2002.
- MassDEP, 2004. *Conducting Feasibility Evaluations Under the MCP*, Policy # WSC-04-160, July 16, 2004.
- MassDEP, 2007a. *MCP Representativeness Evaluations and Data Usability Assessments*, Policy #WSC-07-350, September 19, 2007.
- MassDEP, 2007b. Massachusetts Contingency Plan, 310 CMR 40.0000, Effective December 14, 2007.
- MassDEP, 2008. Background Documentation for the Development of MCP Numerical Standards. Effective February 14, 2008.
- TRC, 2007. Phase I Environmental Site Assessment Former Morningside Fire Station, Pittsfield, Massachusetts, December 21, 2007.

# FIGURES









# TABLES

Summary of Soil a	Parameters	(excludin	ples Collecten ng QA/QC sa	mples)	al Analytical								
Former Morningside Fire Station Site 235 Tyler Street Pittsfield, Massachusetts													
Soil Samples		,	emical Analytic	al Parameters									
Sample I.D.	Sample Depth (feet bgs)*	VPH	ЕРН	PCBs	Lead								
Soil Samples				т т									
BOT-1	8	Х	X										
BOT-2	7	Х	X										
COMP-1	7-8		X										
COMP-2	6-7		X										
MW-1	1-3/2*	Х	X	X	Х								
WI W - 1	8-10/9*	Х	X	X	Х								
MW-2	1-3/2*	Х	Х	X	Х								
<b>WIW-</b> 2	8-10/9*	Х	X	X	Х								
	1-3/2*	Х	X	X	Х								
MW-3	10-12/11*	Х	X	X	Х								
	16-18/17*	Х	X	X	Х								
Groundwater Samples													
MW-1	NA	Х	X		Х								
MW-2	NA	Х	Х		Х								
MW-3	NA	Х	Х		Х								
TOTALS	NA	12	14	7	10								

\*Discrete sample depth for VPH analysis; otherwise the sample depth applies to all listed analyses.

VPH – Volatile petroleum hydrocarbons

EPH – Extractable petroleum hydrocarbons

PCBs - Polychlorinated biphenyls

Bgs - Below ground surface

BOT-1: Post-excavation soil sample collected from the base of the former 1,000-gallon No. 2 fuel oil tank excavation

BOT-2: Post-excavation soil sample collected from the base of the former 750-gallon tank excavation

COMP-1: Composite post-excavation soil sample collected from the four sidewalls of the former 1,000-gallon No. 2 fuel oil tank excavation

COMP-2: Composite post-excavation soil sample collected from the four sidewalls of the former 750-gallon tank excavation

# Table 2Monitoring Well Construction, Groundwater Elevation and Survey DataFormer Morningside Fire Station Site235 Tyler StreetPittsfield, MA

			Ground	Inner PVC	Outer Metal	March 31, 2009					
Well	Total Depth of Well (ft) bgs*	Screen Length (ft)	Surface Elevation (ft AMSL)	Casing Elevation (ft AMSL)	Casing Elevation (ft AMSL)	DTW (ft btor)	Depth to LNAPL (ft btor)	Groundwater Elevation (ft AMSL)			
MW-1	16.5	10	91.91	91.77	NA	9.33	-	82.44			
MW-2	17.2	10	92.89	92.62	NA	10.27	-	82.35			
MW-3	25.3	10	100	99.41	NA	17.11					

Notes: The top of well casing of MW-3 was used for benchmark purposes during the relative elevation survey. Elevations presented in this table are relative to the top of well casing of MW-3, not sea level.

ft bgs = feet below ground surface

ft btor = feet below top of inner PVC riser

DTW = Depth to Water

LNAPL = Light Non-aqueous Phase Liquid

\* Total depth of well measured on 3/24/09

#### Table 3: Summary of Soil Analytical Results Former Morningside Fire Station Site 235 Tyler Street Pittsfield, Massachusetts

								U	ST Post-Excava	tion Soil Sampl	es	Phase II Soil Boring Locations							
								1000-gallon	No. 2 fuel oil	750-gal	lon UST								
		Sample ID:					BOT-1	COMP-1 BOT-2		COMP-2	MW-1		MW-2		MW-3				
Analysis	Analyte	Sample Depth (ft.):		8	7-8	7	6-7	1-3/2*	8-10/9*	1-3/2*	8-10/9*	1-3/2*	1-3/2*	10-12/11*	16-18/17*				
							Sample Date:	2/25/2009	2/25/2009	2/25/2009	2/25/2009	3/23/2009	3/23/2009	3/23/2009	3/23/2009	3/23/2009	3/23/2009	3/23/2009	3/23/2009
			-	Iethod 1		RC		(base of	(4-sidewall	(base of	(4-sidewall						Field Dup		
		S-1/GW-2	S-1/GW-3	S-2/GW-2	S-2/GW-3	S-1	Background	excavation)	composite)	excavation)	composite)								
VPH																			
(mg/kg)	C5-C8 Aliphatics	100	100	500	500	100	NS	18.3 U	NA	10.2 U	NA	19.3 U	16.5 U	21.1 U	14.5 U	18.4 U	19.2 U	20.1 U	15.3 U
	C9-C12 Aliphatics	1,000	1,000	3,000	3,000	1,000	NS	37.9	NA	6.74 U	NA	12.9 U	11.0 U	14.1 U	9.65 U	12.3 U	12.8 U	13.4 U	10.2 U
	C9-C10 Aromatics	100	100	500	500	100	NS	72.8	NA	6.74 U	NA	12.9 U	11.0 U	14.1 U	9.65 U	12.3 U	12.8 U	13.4 U	10.2 U
	Benzene	30	30	200	200	2	NS	0.061 U	NA	0.034 U	NA	0.065 U	0.055 U	0.071 U	0.049 U	0.062 U	0.064 U	0.067 U	0.051 U
	Ethylbenzene	500	500	1000	1000	40	NS	0.061 U	NA	0.034 U	NA	0.065 U	0.055 U	0.071 U	0.049 U	0.062 U	0.064 U	0.067 U	0.051 U
	MTBE	100	100	100	500	0.1	NS	0.061 U	NA	0.034 U	NA	0.065 U	0.055 U	0.071 U	0.049 U	0.062 U	0.064 U	0.067 U	0.051 U
	Naphthalene	40	500	40	1000	4	1.0	3.83	NA	0.337 U	NA	0.641 U	0.550 U	0.701 U	0.483 U	0.614 U	0.639 U	0.668 U	0.509 U
	Toluene	500	500	1000	1000	30	NS	0.061 U	NA	0.034 U	NA	0.065 U	0.055 U	0.071 U	0.049 U	0.062 U	0.064 U	0.067 U	0.051 U
	m/p-Xylene	300	500	300	1000	300	NS	0.122 U	NA	0.068 U	NA	0.204	0.110 U	0.141 U	0.097 U	0.123 U	0.128 U	0.134 U	0.102 U
	o-Xylene	300	500	300	1000	300	NS	0.257	NA	0.034 U	NA	0.087	0.055 U	0.071 U	0.049 U	0.062 U	0.064 U	0.067 U	0.051 U
ЕРН	· ·											-							
(mg/kg)	C9-C18 Aliphatics	1,000	1.000	3.000	3,000	1.000	NS	1,390	34.0 U	32.6 U	32.1 U	34.5 U	165 U	35.3 U	31.3 U	33.5 U	33.4 U	32.7 U	31.6 U
	C19-C36 Aliphatics	3.000	3.000	5,000	5,000	3.000	NS	457	34.0 U	32.6 U	32.1 U	34.5 U	165 U	35.3 U	31.3 U	179	179	45.3	31.6 U
	C11-C22 Aromatics	1.000	1.000	3,000	3,000	1,000	NS	579	34.0 U	32.6 U	32.1 U	34.5 U	105 0	35.3 U	31.3 U	33.5 U	33.4 U	32.7 U	31.6 U
	Acenaphthene	1,000	1,000	3,000	3,000	4	2.0	1.8	0.2 U	0.2 U	0.2 U	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	Acenaphthylene	600	1,000	600	10	-+	1.0	2.1	0.2 U	0.2 U 0.2 U	0.2 U 0.2 U	0.2 U	0.6 U	0.2 U 0.2 U	0.2 U	0.2 U 0.2 U	0.2 U	0.2 U	0.2 U
	Anthracene	1,000	1,000	3,000	3,000	1,000	4.0	1.3	0.2 U 0.2 U	0.2 U 0.2 U	0.2 U 0.2 U	0.2 U 0.2 U	1.2	0.2 U 0.2 U					
	Benzo(a)anthracene	1,000	1,000	40	40	1,000	4.0 9.0	0.2 U	0.2 U 0.2 U	0.2 U 0.2 U	0.2 U 0.4	0.2 U 0.2 U	3.7	0.2 0	0.2 U 0.2 U				
		2	2	40	40	2	9.0 7.0	0.2 U 0.2 U		0.2 U 0.2 U		0.2 U 0.2 U	3.5	0.3	0.2 U 0.2 U	0.2 U 0.2 U	0.2 U 0.2 U		0.2 U 0.2 U
	Benzo(a)pyrene Benzo(b)fluoranthene	27	2 7	4 40	4 40	2			0.2 U		0.4 0.5		5.2					0.2 U	
		,	,	40 3.000		1.000	8.0	0.2 U	0.2 U	0.2	0.5 0.5	0.2 U		0.5	0.2 U	0.2 U	0.2 U 0.2 U	0.2 U	0.2 U
	Benzo(g,h,i)perylene	1,000	1,000	- ,	3,000	,	3.0	0.2 U	0.2 U	0.2 U		0.2 U	2.8	0.3	0.2 U	0.2 U		0.2 U	0.2 U
	Benzo(k)fluoranthene	70 70	70 70	400	400	70 70	4.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.9	0.2	0.2 U				
	Chrysene	70	70	400	400	70	7.0	0.2 U	0.2 U	0.2 U	0.4	0.2 U	4.1	0.4	0.2 U				
	Dibenzo(a,h)anthracene	0.7	0.7	4	4	0.7	1.0	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.9	0.2 U					
	Fluoranthene	1,000	1,000	3,000	3,000	1,000	10	0.5	0.2	0.2 U	0.5	0.2	8.4	0.5	0.2 U				
	Fluorene	1,000	1,000	3,000	3,000	1,000	2.0	3.9	0.2 U	0.2 U	0.2 U	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	Indeno(1,2,3-cd)pyrene	7	7	40	40	7	3.0	0.2 U	0.2 U	0.2 U	0.4	0.2 U	3.0	0.3	0.2 U				
	2-Methylnaphthalene	80	300	80	500	0.7	1.0	4.5	0.2 U	0.2 U	0.2 U	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	Naphthalene	40	500	40	1,000	4	1.0	1.3	0.2 U	0.2 U	0.2 U	0.2 U	0.6 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
	Phenanthrene	500	500	1,000	1,000	10	20	2.4	0.2 U	0.2 U	0.2 U	0.2 U	4.7	0.2	0.2 U				
	Pyrene	1,000	1,000	3,000	3,000	1,000	20	1.2	0.2	0.2 U	0.6	0.2	8.2	0.6	0.2 U				
PCBs																			
(mg/kg)	PCB 1016	2	2	3	3	2	NS	NA	NA	NA	NA	0.116 U	0.110 U	0.118 U	0.106 U	0.112 U	0.113 U	0.110 U	0.107 U
	PCB 1221	2	2	3	3	2	NS	NA	NA	NA	NA	0.116 U	0.110 U	0.118 U	0.106 U	0.112 U	0.113 U	0.110 U	0.107 U
	PCB 1232	2	2	3	3	2	NS	NA	NA	NA	NA	0.116 U	0.110 U	0.118 U	0.106 U	0.112 U	0.113 U	0.110 U	0.107 U
	PCB 1242	2	2	3	3	2	NS	NA	NA	NA	NA	0.116 U	0.110 U	0.118 U	0.106 U	0.112 U	0.113 U	0.110 U	0.107 U
	PCB 1248	2	2	3	3	2	NS	NA	NA	NA	NA	0.116 U	0.110 U	0.118 U	0.106 U	0.112 U	0.113 U	0.110 U	0.107 U
	PCB 1254	2	2	3	3	2	NS	NA	NA	NA	NA	0.116 U	0.110 U	0.118 U	0.106 U	0.112 U	0.113 U	0.110 U	0.107 U
	PCB 1260	2	2	3	3	2	NS	NA	NA	NA	NA	0.116 U	0.110 U	0.118 U	0.106 U	0.112 U	0.113 U	0.110 U	0.107 U
	PCB 1262	2	2	3	3	2	NS	NA	NA	NA	NA	0.116 U	0.110 U	0.118 U	0.106 U	0.112 U	0.113 U	0.110 U	0.107 U
	PCB 1268	2	2	3	3	2	NS	NA	NA	NA	NA	0.116 U	0.110 U	0.118 U	0.106 U	0.112 U	0.113 U	0.110 U	0.107 U
Metals, to																			
(mg/kg)	Lead	300	300	300	300	300	600	NA	NA	NA	NA	88.6	95.0	62.2	10.1	296	276	146	9.69
						Applica	ble Standards:	b	b	b	b	а	b	а	b	а	а	b	b

Notes:

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

NA - Sample not analyzed for the listed analyte.

U - Compound was not detected at specified quantitation limit.

Values in Bold indicate the compound was detected. Values in shaded type exceed the RCS-1 standards, but are below the MCP Method 1 standards

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

RC - Reportable Concentration.

Background - Background Concentration for soil containing coal ash/wood ash.

a - MCP Method 1 S-1/GW-2 and S-1/GW-3.

b - MCP Method 1 S-2/GW-2, S-2/GW-3 and RC S-1.

\* - Sample depth for VPH analysis; otherwise the sample depth applies to all listed analyses.

#### Table 4: Summary of Groundwater Analytical Results Former Morningside Fire Station Site 235 Tyler Street Pittsfield, Massachusetts

				Sample ID:	MW-1	MW-2	MV	W-3
Analysis	Analyte			Sample Date:	3/31/2009	3/31/2009	3/31/2009	3/31/2009
		MCP N	fethod 1	RC				Field Dup
		GW-2	GW-3	GW-2				
VPH								
(ug/L)	C5-C8 Aliphatics	3,000	50,000	3,000	100 U	100 U	100 U	100 U
	C9-C12 Aliphatics	5,000	50,000	5,000	100 U	100 U	100 U	100 U
	C9-C10 Aromatics	7,000	50,000	7,000	100 U	100 U	100 U	100 U
	Benzene	2,000	10,000	2,000	1.0 U	1.0 U	1.0 U	1.0 U
	Ethyl Benzene	20,000	5,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U
	MTBE	50,000	50,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U
	Naphthalene	1,000	20,000	1,000	10.0 U	10.0 U	10.0 U	10.0 U
	Toluene	50,000	40,000	40,000	1.0 U	1.0 U	1.0 U	1.0 U
	m/p-Xylene	9,000	5,000	5,000	2.0 U	2.0 U	2.0 U	2.0 U
	o-Xylene	9,000	5,000	5,000	1.0 U	1.0 U	1.0 U	1.0 U
EPH								
(ug/L)	C9-C18 Aliphatics	5,000	50,000	5,000	150 U	150 U	150 U	150 U
	C19-C36 Aliphatics	NS	50,000	50,000	150 U	150 U	150 U	150 U
	C11-C22 Aromatics	50,000	5,000	5,000	100 U	100 U	100 U	100 U
	Acenaphthene	NS	6,000	6,000	2.0 U	2.0 U	2.0 U	2.0 U
	Acenaphthylene	10,000	40	40	2.0 U	2.0 U	2.0 U	2.0 U
	Anthracene	NS	30	30	2.0 U	2.0 U	2.0 U	2.0 U
	Benzo(a)anthracene	NS	1,000	1,000	2.0 U	2.0 U	2.0 U	2.0 U
	Benzo(a)pyrene	NS	500	500	2.0 U	2.0 U	2.0 U	2.0 U
	Benzo(b)fluoranthene	NS	400	400	2.0 U	2.0 U	2.0 U	2.0 U
	Benzo(g,h,i)perylene	NS	20	20	2.0 U	2.0 U	2.0 U	2.0 U
	Benzo(k)fluoranthene	NS	100	100	2.0 U	2.0 U	2.0 U	2.0 U
	Chrysene	NS	70	70	2.0 U	2.0 U	2.0 U	2.0 U
	Dibenzo(a,h)anthracene	NS	40	40	2.0 U	2.0 U	2.0 U	2.0 U
	Fluoranthene	NS	200	200	2.0 U	2.0 U	2.0 U	2.0 U
	Fluorene	NS	40	40	2.0 U	2.0 U	2.0 U	2.0 U
	Indeno(1,2,3-cd)pyrene	NS	100	100	2.0 U	2.0 U	2.0 U	2.0 U
	2-Methylnaphthalene	2,000	20,000	2,000	2.0 U	2.0 U	2.0 U	2.0 U
	Naphthalene	1,000	20,000	1,000	2.0 U	2.0 U	2.0 U	2.0 U
	Phenanthrene	NS	10,000	10,000	2.0 U	2.0 U	2.0 U	2.0 U
	Pyrene	NS	20	20	2.0 U	2.0 U	2.0 U	2.0 U
Metals, to								
(ug/L)	Lead	NS	10	10	7.5 U	7.5 U	7.5 U	7.5 U

#### Notes:

ug/L - micrograms per liter.

NS - No MassDEP standards exist for this analyte.

U - Compound was not detected at specified quantitation limit.

VPH - Volatile Petroleum Hydrocarbons.

EPH - Extractable Petroleum Hydrocarbons.

RC - Reportable Concentration.

## **APPENDIX** A

## BUREAU OF WASTE SITE CLEANUP (BWSC) TRANSMITTAL FORMS BWSC-103 AND BWSC-104 AND PUBLIC NOTIFICATION LETTERS



Wannalancit Mills 650 Suffolk Street Lowell, MA 01854

978.970.5600 PHONE 978.453.1995 FAX

www.TRCsolutions.com

August 31, 2009

TRC Reference Number: 158037.000020.080001

Mr. Jim Wilusz, Health Director City Hall, Room 204 70 Allen Street Pittsfield, MA 01201-4223

### RE: Notice of a Class B-1 Response Action Outcome Former Morningside Fire Station – 235 Tyler Street Pittsfield, Massachusetts

Dear Mr. Wilusz:

On behalf of the City of Pittsfield, and pursuant to 310 CMR 40.1403 of the Massachusetts Contingency Plan (MCP), TRC Environmental Corporation (TRC) has prepared this letter to inform you that a Class B-1 Response Action Outcome (RAO) has been filed for the Former Morningside Fire Station located at 235 Tyler Street in Pittsfield, Massachusetts.

Environmental investigations conducted at the Site from March 2008 through March 2009 had identified detectable concentrations of volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), and lead in Site soils; however, these concentrations did not exceed applicable MCP Method 1 cleanup standards. Further analysis of the Site soils and the results of a risk evaluation demonstrated that a condition of No Significant Risk exists at the Site. There is no restriction of future Site use.

If you have any questions concerning this letter or the RAO submittal or would like to obtain a copy of the RAO submittal, please do not hesitate to contact Matthew Robbins at TRC at (978) 656-3549 or the Massachusetts Department of Environmental Protection (MassDEP) at (413) 784-1100. File reviews may be scheduled on Wednesdays between 9am and noon, and between 1pm and 4pm at the MassDEP Western Region Office located at 436 Dwight Street in Springfield, Massachusetts.

Sincerely, TRC Environmental Corporation

Matthew E. Robbins, PG, LSP Sr. Project Manager

- Cc: D. Ruffer, City of Pittsfield M. Provencher, BRPC J. Bryne, EPA
  - J. Bourcier, MassDEP



Wannalancit Mills 650 Suffolk Street Lowell, MA 01854

978.970.5600 PHONE 978.453.1995 FAX

www.TRCsolutions.com

August 31, 2009

TRC Reference Number: 158037.000020.080001

Mayor James M. Ruberto City Hall 70 Allen Street Pittsfield, MA 01201-4223

### RE: Notice of a Class B-1 Response Action Outcome Former Morningside Fire Station – 235 Tyler Street Pittsfield, Massachusetts

Dear Mayor Ruberto:

On behalf of the City of Pittsfield, and pursuant to 310 CMR 40.1403 of the Massachusetts Contingency Plan (MCP), TRC Environmental Corporation (TRC) has prepared this letter to inform you that a Class B-1 Response Action Outcome (RAO) has been filed for the Former Morningside Fire Station located at 235 Tyler Street in Pittsfield, Massachusetts.

Environmental investigations conducted at the Site from March 2008 through March 2009 had identified detectable concentrations of volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), and lead in Site soils; however, these concentrations did not exceed applicable MCP Method 1 cleanup standards. Further analysis of the Site soils and the results of a risk evaluation demonstrated that a condition of No Significant Risk exists at the Site. There is no restriction of future Site use.

If you have any questions concerning this letter or the RAO submittal or would like to obtain a copy of the RAO submittal, please do not hesitate to contact Matthew Robbins at TRC at (978) 656-3549 or the Massachusetts Department of Environmental Protection (MassDEP) at (413) 784-1100. File reviews may be scheduled on Wednesdays between 9am and noon, and between 1pm and 4pm at the MassDEP Western Region Office located at 436 Dwight Street in Springfield, Massachusetts.

Sincerely, TRC Environmental Corporation

Matthew E. Robbins, PG, LSP

Sr. Project Manager

Cc: D. Ruffer, City of Pittsfield M. Provencher, BRPC J. Bryne, EPA J. Bourcier, MassDEP

Massachusetts De Bureau of Waste Sit	partment of Environmental Protection	otection BWSC103
RETRACTION FOR		Release Tracking Number
Pursuant to 310 CMR 40.	0335 and 310 CMR 40.0371 (Subpart C)	
A. RELEASE OR THREAT OF RELEASE LOCA	FION:	
1. Release Name/Location Aid:	Morningside Fire Station	
2. Street Address: 235 Tyler Street		
3. City/Town: Pittsfield	4. ZIP Code:	01201-0000
5. UTM Coordinates: a. UTM N: <u>4702</u>	134 b. UTM E: 644345	
B. THIS FORM IS BEING USED TO: (check on	e)	
1. Submit a Release Notification		
2. Submit a Revised Release Notification	n	
	Reported Notification of a release or threa CMR 40.0335 (Section C is not required	
(All sections of this tran	smittal form must be filled out unless ot	herwise noted above)
C. INFORMATION DESCRIBING THE RELEASE	OR THREAT OF RELEASE (TOR):	
1. Date and time of Oral Notification, if applica	ble: mm/dd/yyyy	Time: AM PM
2. Date and time you obtained knowledge of t		
	mm/dd/yyyy	hh:mm
3. Date and time release or TOR occurred, if k	mm/dd/yyyy	Time: AM D PM
Check all Notification Thresholds that apply to (for more information see 310 CMR 40.0310 -	the Release or Threat of Release:	
4. 2 HOUR REPORTING CONDITIONS 5.	72 HOUR REPORTING CONDITIONS	6. 120 DAY REPORTING CONDITIONS
🔲 a. Sudden Release	a. Subsurface Non-Aqueous	a. Release of Hazardous
b. Threat of Sudden Release	Phase Liquid (NAPL) Equal to or Greater than 1/2 Inch	Material(s) to Soil or Groundwater Exceeding
c. Oil Sheen on Surface Water	b. Underground Storage Tank (UST) Release	Reportable Concentration(s)
d. Poses Imminent Hazard		b. Release of Oil to Soil Exceeding Reportable
e. Could Pose Imminent	c. Threat of UST Release	Concentration(s) and Affecting More than 2 Cubic Yards
f. Release Detected in	d. Release to Groundwater near Water Supply	c. Release of Oil to
Private Well	e. Release to Groundwater	Groundwater Exceeding Reportable Concentration(s)
g. Release to Storm Drain	near School or Residence	d. Subsurface Non-Aqueous
h. Sanitary Sewer Release (Imminent Hazard Only)	f. Substantial Release Migration	Phase Liquid (NAPL) Equal to or Greater than 1/8 Inch and Less than 1/2 Inch



## Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC103

# RELEASE NOTIFICATION & NOTIFICATION RETRACTION FORM

Release	Tracking	Number	
Release	Tracking	Number	•

Pursuant to 310 CMR 40.0335 and 310 CMR 40.0371 (Subpart C)

### C. INFORMATION DESCRIBING THE RELEASE OR THREAT OF RELEASE (TOR): (cont.)

7. List below the Oils (O) or Hazardous Materials (HM) that exceed their Reportable Concentration (RC) or Reportable Quantity (RQ) by the greatest amount.

O or HM Released	CAS Number, if known	O or HM	Amount or Concentration	Units	RCs Exceeded, if Applicable (RCS-1, RCS-2, RCGW-1, RCGW-2)	
C9-C18 Aliphatic Hydrocarbons		0	1390	MG/KG	RCS-1	
Acenaphthalyene		0	2.1	MG/KG	RCS-1	
2-Methylnaphthalene		0	4.5	MG/KG	RCS-1	
8. Check here if a list of additional Oil and Hazardous Materials subject to reporting is attached.						
D. PERSON REQUIRED TO NOTIFY:						
1. Check all that apply: a. change in co		🔲 b. ch	ange of address		change in the person ifying	
2. Name of Organization: <u>City of Pittsfiel</u>	a	<u> </u>		<u></u>		
3. Contact First Name: Deanna		4. La	ast Name: <u>Ruffe</u>	r		
5. Street: 70 Allen Street 6. Title: Director; Dept. of Comm. Develop.						
7. City/Town: <u>Pittsfield</u> 8. State: <u>MA</u> 9. ZIP Code: <u>01201-0000</u>						
10. Telephone: (413) 499-9449 11. Ext.: 12. FAX:						
13. Check here if attaching names and addresses of owners of properties affected by the Release or Threat of Release, other than an owner who is submitting this Release Notification (required).						
E. RELATIONSHIP OF PERSON TO RELEASE (	OR THREAT OF	RELEASE:		,		
☑ 1. RP or PRP ☑ a. Owner □ b. Operator □ c. Generator □ d. Transporter						
e. Other RP or PRP Specify:						
2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)						
3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))						
4. Any Other Person Otherwise Required to Notify Specify Relationship:						

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup	BWSC103
RELEASE NOTIFICATION & NOTIFICATION RETRACTION FORM	Release Tracking Number
Pursuant to 310 CMR 40.0335 and 310 CMR 40.0371 (Subpart C)	
F. CERTIFICATION OF PERSON REQUIRED TO NOTIFY:	
1. I, Deanna Ruffer , attest under the pains and penalties of perjur	y (i) that I have personally
examined and am familiar with the information contained in this submittal, including any and all docu transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtain material information contained in this submittal is, to the best of my knowledge and belief, true, accu that I am fully authorized to make this attestation on behalf of the entity legally responsible for this sub entity on whose behalf this submittel is made am/s aware that there are significant penalties, includ possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information	uments accompanying this ning the information, the rate and complete, and (iii) omittal. I/the person or ing, but not limited to,
	ctor; Dept. of Comm. D
4. For: City of Pittsfield 5. Date:	- 4- 09
(Name of person or entity recorded in Section D)	mm/dd/yyyy
6. Check here if the address of the person providing certification is different from address record	ded in Section D.
7. Street:	
8. City/Town: 9. State: 10. ZIF	• Code:
11. Telephone: 12. Ext.: 13. FAX:	
12. Ext 13. FAX	<u>-</u>
YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$	10,000 PER
BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLE	
SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRE	
Date Stamp (DEP USE ONLY:)	

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup	BWSC104
	Release Tracking Number
RESPONSE ACTION OUTCOME (RAO) STATEMENT Pursuant to 310 CMR 40.1000 (Subpart J)	1 - 17533
	s, enter the Primary RTN above.
A. SITE LOCATION:	
1. Site Name/Location Aid: FORMER MORNINGSIDEFIRE STATION	
2. Street Address: 235 TYLER ST	
3. City/Town: PITTSFIELD 4. ZIP Code: 012010000	
5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.         a. Tier IA       b. Tier IB       c. Tier IC       d. Tier II	
6. If a Tier I Permit has been issued, provide Permit Number:	
B. THIS FORM IS BEING USED TO: (check all that apply)	
1. List Submittal Date of RAO Statement (if previously submitted):	
2. Submit a Response Action Outcome (RAO) Statement	
a. Check here if this RAO Statement covers additional Release Tracking Numbers (RTNs). previously linked to a Tier Classified Primary RTN do not need to be listed here.	RTNs that have been
b. Provide additional Release Tracking Number(s)	-
3. Submit a Revised Response Action Outcome Statement	
<ul> <li>a. Check here if this Revised RAO Statement covers additional Release Tracking Numbers</li> <li>RAO Statement or previously submitted Revised RAO Statements. RTNs that have been pre Classified Primary RTN do not need to be listed here.</li> </ul>	
b. Provide additional Release Tracking Number(s)	-
4. Submit a Response Action Outcome Partial (RAO-P) Statement	
Check above box, if any Response Actions remain to be taken to address conditions associate having the Primary RTN listed in the header section of this transmittal form. This RAO Statemer RAO-Partial Statement for that RTN. A final RAO Statement will need to be submitted that refere Statements and, if applicable, covers any remaining conditions not covered by the RAO-Partial Also, specify if you are an Eligible Person or Tenant pursuant to M.G.L. c. 21E s.2, and have not conduct response actions on the remaining portion(s) of the disposal site:	ent will record only an ences all RAO-Partial Statements.
a. Eligible Person b. Eligible Tenant	
5. Submit an optional <b>Phase I Completion Statement</b> supporting an RAO Statement	
6. Submit a <b>Periodic Review Opinion evaluating the status of a Temporary Solution</b> for a Class specified in 310 CMR 40.1051 (Section F is optional)	s C-1 RAO Statement, as
7. Submit a Retraction of a previously submitted Response Action Outcome Statement (Section	ons E & F are not required)
(All sections of this transmittal form must be filled out unless otherwise noted	l above)

Massachusetts Department of Environmental Protection       BWSC104         Bureau of Waste Site Cleanup       Response Action OUTCOME (RAO) STATEMENT         Pursuant to 310 CMR 40.1000 (Subpart J)       1						
C. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply; for volumes, list cumulative amounts)						
<ul> <li>I. Assessment and/or Monitoring Only</li> <li>J. Deployment of Absorbent or Containment Materials</li> <li>J. Structure Venting System</li> <li>S. Structure Venting System</li> <li>Forduct or NAPL Recovery</li> <li>S. Fencing and Sign Posting</li> </ul>						
9. Groundwater Treatment Systems 10. Soil Vapor Extraction						
11. Bioremediation 12. Air Sparging						
13. Monitored Natural Attenuation 14. In-situ Chemical Oxidation						
15. Removal of Contaminated Soils						
a. Re-use, Recycling or Treatment i. On Site Estimated volume in cubic yards						
ii. Off Site Estimated volume in cubic yards						
iia. Facility Name: Town: State:						
iib. Facility Name: Town:State:						
iii. Describe:						
b. Landfill						
i. Cover Estimated volume in cubic yards						
Facility Name: Town: State:						
ii. Disposal Estimated volume in cubic yards						
Facility Name: Town: State: State:						
✓ 16. Removal of Drums, Tanks or Containers:						
a. Describe Quantity and Amount: REMOVAL OF ONE 1,000-GALLON UST AND ONE 750-GALLON UST						
b. Facility Name: GEORGE APKIN & SONS, INC Town: NORTH ADAMS State: MA						
c. Facility Name: Town : State:						
17. Removal of Other Contaminated Media:						
a. Specify Type and Volume:						
b. Facility Name: Town: State:						
c. Facility Name: Town: State:						

	Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup	BWSC104
	RESPONSE ACTION OUTCOME (RAO) STATEMENT	Release Tracking Number
	Pursuant to 310 CMR 40.1000 (Subpart J)	1 - 17533
C. DESCRIPTION C	FRESPONSE ACTIONS (cont.): (check all that apply; for volumes, list cumulati	ve amounts)
18. Other Re	sponse Actions:	
Describe:		
19. Use of In	novative Technologies:	
Describe:		
D. SITE USE:		
	e actions that are the subject of this submittal associated with the <i>redevelopmen urrent use</i> of property(ies) impacted by the presence of oil and/or hazardous mate	
🖌 a. Yes	b. No c. Don't know	
2. Is the property a	a vacant or under-utilized commercial or industrial property ("a brownfield property	")?
🖌 a. Yes	b. No c. Don't know	
<ol><li>Will funds from site?</li></ol>	a state or federal brownfield incentive program be used on one or more of the pro	perty(ies) within the disposal
a. Yes	b. No c. Don't know If Yes, identify program(s):	/NFIELDS
4. Has a Covenan	t Not to Sue been obtained or sought?	
a. Yes	b. No c. Don't know	
5. Check all applic	able categories that apply to the person making this submittal: 🛛 🗌 a. Redeve	lopment Agency or Authority
b. Commu	Inity Development Corporation C. Economic Development and Industrial	Corporation
d. Private	Developer e. Fiduciary f. Secured Lender 🗹 g. Mu	nicipality
h. Potentia	Il Buyer (non-owner) i. Other, describe:	
This data will be u	used by MassDEP for information purposes only, and does not represent or cre obligation or liability on the part of the party or person providing this data to M	
E. RESPONSE ACT	ION OUTCOME CLASS:	
Specify the Class of Select <b>ONLY</b> one C	f Response Action Outcome that applies to the disposal site, or site of the Threat lass.	of Release.
	RAO: Specify one of the following: mination has been reduced to background levels. D. A Threat of Release	has been eliminated.
	<b>RAO:</b> You <b>MUST</b> provide justification that reducing contamination to or approaching	
	<b>RAO</b> : You <b>MUST</b> provide an implemented Activity and Use Limitation (AUL) and junt to or approaching background levels is infeasible.	stification that reducing
background le (UCLs) 15 fee	<b>RAO</b> : You <b>MUST</b> provide an implemented AUL, justification that reducing contami evels is infeasible, and justification that reducing contamination to less than Uppe et below ground surface or below an Engineered Barrier is infeasible. If the Perm arrier, you must provide or have previously provided a Phase III Remedial Action F ered Barrier.	r Concentration Limits anent Solution relies upon an

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup BWSC104
RESPONSE ACTION OUTCOME (RAO) STATEMENT
Pursuant to 310 CMR 40.1000 (Subpart J)
E. RESPONSE ACTION OUTCOME CLASS (cont.):
✓ 5. Class B-1 RAO: Specify one of the following:
a. Contamination is consistent with background levels <i>I</i> . b. Contamination is <b>NOT</b> consistent with background levels.
6. Class B-2 RAO: You MUST provide an implemented AUL.
<b>7. Class B-3 RAO</b> : You <b>MUST</b> provide an implemented AUL and justification that reducing contamination to less than Upper Concentration Limits (UCLs) 15 feet below ground surface is infeasible.
8. Class C-1 RAO: You must submit a plan as specified at 310 CMR 40.0861(2)(h). Indicate type of ongoing response actions.
a. Active Remedial System b. Active Remedial Monitoring Program c. None
d. Other Specify:
9. Class C-2 RAO: You must hold a valid Tier I Permit or Tier II Classification to continue response actions toward a Permanent Solution.
F. RESPONSE ACTION OUTCOME INFORMATION:
1. Specify the Risk Characterization Method(s) used to achieve the RAO described above:
✓ a. Method 1 b. Method 2 c. Method 3
d. Method Not Applicable-Contamination reduced to or consistent with background, or Threat of Release abated
2. Specify all Soil Category(ies) applicable. More than one Soil Category may apply at a Site. Be sure to check off all <b>APPLICABLE</b> categories:
a. S-1/GW-1 d. S-2/GW-1 g. S-3/GW-1
✓ b. S-1/GW-2 ✓ e. S-2/GW-2 ✓ h. S-3/GW-2
✓ c. S-1/GW-3 ✓ f. S-2/GW-3 ✓ i. S-3/GW-3
3. Specify all Groundwater Category(ies) impacted. A site may impact more than one Groundwater Category. Be sure to check off all <b>IMPACTED</b> categories:
a. GW-1 b. GW-2 c. GW-3 🖌 d. No Groundwater Impacted
4. Specify remediation conducted:
a. Check here if soil remediation was conducted.
b. Check here if groundwater remediation was conducted.
5. Specify whether the analytical data used to support the Response Action Outcome was generated pursuant to the Department's Compendium of Analytical Methods (CAM) and 310 CMR 40.1056:
a. CAM used to support all analytical data. b. CAM used to support some of the analytical data.
c. CAM not used.
6. Check here to certify that the Class A, B or C Response Action Outcome includes a Data Usability Assessment and Data Representativeness Evaluation pursuant to 310 CMR 40.1056.
7. Estimate the number of acres this RAO Statement applies to: <b>0.376</b>



## Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC104

## **RESPONSE ACTION OUTCOME (RAO) STATEMENT**

Release Tracking Number

- 17533

1

Pursuant to 310 CMR 40.1000 (Subpart J)

### G. LSP SIGNATURE AND STAMP:

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

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

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

1. LSP #: <b>9495</b>
2. First Name: MATTHEW E 3. Last Name: ROBBINS
4. Telephone: (508) 923-5120 5. Ext.: 6. FAX:
7. Signature: MATTHEW E ROBBINS
8. Date: 09/02/2009 mm/dd/yyyy 9. LSP Stamp:
H. PERSON MAKING SUBMITTAL:
1. Check all that apply: a. change in contact name 🖌 b. change of address and c. change in the person undertaking response actions
2. Name of Organization: CITY OF PITTSFIELD
3. Contact First Name: DEANNA 4. Last Name: RUFFER
5. Street: 70 ALLEN STREET 6. Title:
7. City/Town: PITTSFIELD 8. State: MA 9. ZIP Code: 01201-0000
10. Telephone: (413) 499-9368
10. Telephone: (413) 499-9368 11. Ext.: 12. FAX:

Massachusetts Department Bureau of Waste Site Cleanu	t of Environmental Protectio	n BWSC104		
RESPONSE ACTION OUTC	ΟΜΕ (ΒΔΟ) STATEMENT	Release Tracking Number		
Pursuant to 310 CMR 40.1000 (Subpa		1 - 17533		
	,			
I. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE	OF PERSON MAKING SUBMITTAL:			
✓ 1. RP or PRP a. Owner b. Operato		porter		
✓ e. Other RP or PRP Specify: PR	P GENERIC OR NON-SPECIFIED			
2. Fiduciary, Secured Lender or Municipality with Ex	empt Status (as defined by M.G.L. c. 21	E, s. 2)		
3. Agency or Public Utility on a Right of Way (as defi	ned by M.G.L. c. 21E, s. 5(j))			
4. Any Other Person Making Submittal Specify F	Relationship:			
J. REQUIRED ATTACHMENT AND SUBMITTALS:				
<ol> <li>Check here if the Response Action(s) on which the and/or approval(s) issued by DEP or EPA. If the boxy provisions thereof.</li> </ol>				
2. Check here to certify that the Chief Municipal Offi an RAO Statement that relies on the public way/rail				
3. Check here to certify that the Chief Municipal Officer RAO Statement with instructions on how to obtain a		been notified of the submittal of a		
<ul> <li>4. Check here to certify that documentation is attached specifying the location of the Site, or the location and boundaries of</li> <li>the Disposal Site subject to this RAO Statement. If submitting an RAO Statement for a PORTION of a Disposal Site, you</li> <li>must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site.</li> </ul>				
<ul> <li>5. Check here to certify that, pursuant to 310 CMR 4 disposal site boundaries, or notice was not required the party conducting response actions. (check all that</li> </ul>	because the disposal site boundaries			
a. Notice was provided prior to, or concurrent w	rith the submittal of a Phase II Completi	on Statement to the Department.		
b. Notice was provided prior to, or concurrent w	ith the submittal of this RAO Statement آ	to the Department.		
<ul> <li>c. Notice not required.</li> <li>d. Total number of p</li> </ul>	property owners notified, if applicable: $\lfloor$			
6. Check here if required to submit one or more AL copy of each implemented AUL related to this RAO S A-3, A-4, B-2, B-3 RAO Statements)				
a. Notice of Activity and Use Limitation b.	Number of Notices submitted:			
c. Grant of Environmental Restriction d.	Number of Grants submitted:			
7. If an RAO Compliance Fee is required for any of Compliance Fee was submitted to DEP, P. O. Box 4		check here to certify that an RAO		
8. Check here if any non-updatable information pro corrections to the DEP Regional Office.	vided on this form is incorrect, e.g. Site	Address/Location Aid. Send		
9. Check here to certify that the LSP Opinion contai	ning the material facts, data, and other	information is attached.		

X-	Massachusetts Department of Environment Bureau of Waste Site Cleanup	tal Protectio	n BWSC104
	RESPONSE ACTION OUTCOME (RAO) STA	TEMENT	Release Tracking Number
	Pursuant to 310 CMR 40.1000 (Subpart J)		1 - 17533
	Pursuant to 310 Clink 40.1000 (Subpart 3)		
K. CERTIFICATION	OF PERSON MAKING SUBMITTAL:		
1. l,			jury (i) that I have personally
	familiar with the information contained in this submittal, incluc ) that, based on my inquiry of those individuals immediately re		
material information	n contained in this submittal is, to the best of my knowledge a	nd belief, true, a	ccurate and complete, and (iii)
	prized to make this attestation on behalf of the entity legally res half this submittal is made am/is aware that there are signific:		
	imprisonment, for willfully submitting false, inaccurate, or inco		
_			RECTOR
2. By:	Signature	3. Title: □	REGIOR
4. For: CITY OF	PITTSFIELD	5. Date:	
(Na	ame of person or entity recorded in Section H)		mm/dd/yyyy
	if the address of the person providing certification is different	from address rea	porded in Section H
		nom address red	
7. Street:			
8. City/Town:	9. State:	10	. ZIP Code:
11. Telephone:	12. Ext.: 13. F	AX:	
	YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURAN	NCE FEE OF UP 1	O \$10.000 PER
	BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGI	BLY COMPLETE	ALL RELEVANT
s	SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUI JBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR		
Date Stamp	(DEP USE ONLY:)		

## **APPENDIX B**

## **GEOPHYSICAL SURVEY REPORT**

# $\mathbb H$ ager GeoScience Inc.

596 Main Street Woburn, MA 01801

Tel 781-935-8111 Fax 781-935-2717

March 27<sup>th</sup>, 2008 File 2008024



TRC Solutions Attention: Tom Biolsi Wannalancit Mills 650 Suffolk Street Lowell, MA 01854

Re: Geophysical Survey for USTs Former Morningside Fire Station 235 Tyler Street Pittsfield, Massachusetts

Dear Mr. Biolsi:

This letter details the results of a geophysical survey conducted by Hager GeoScience, Inc. (HGI) for TRC Solutions (TRC) at the former Morningside Fire Station in Pittsfield, Massachusetts. The objective of the survey was to locate USTs suspected to be present at the site. HGI personnel conducted the investigation on Tuesday, March 18<sup>th</sup>, 2008.

## DATA COLLECTION AND EQUIPMENT

HGI personnel laid out survey grids using spray paint and fiberglass tapes. Distances were taped from fixed surface cultural features, including fence posts, building corners, etc., and were recorded in the survey notes.

Geophysical data were collected using ground penetrating radar (GPR) and electromagnetic terrain conductivity (EM) methods. A detailed description of the geophysical methods and their limitations is presented in Appendix A at the end of this report.

### **GPR Data Collection**

GPR data were collected in all accessible portions of the site along orthogonal traverses spaced 2.5 feet apart. The locations of the GPR traverses are shown on Plate 1, an AutoCAD map produced from the HGI field notes and overlaid on a base map provided by TRC.

HGI collected the GPR data using a GSSI SIR-2000 acquisition system and 400-MHz antenna. A survey wheel was used to maintain horizontal distance control. Data were recorded using a time range of 90 nanoseconds (ns), for a depth penetration of approximately 13 to 15 feet. The horizontal data density was 22 scans per foot. The SIR-2000 system displayed data in real time for quality control and initial data review purposes. All data were stored on the system's hard

Geophysical Survey for USTs Former Morningside Fire Station 235 Tyler Street Pittsfield, Massachusetts

drive and transferred to PC for later signal processing using RADAN for Windows NT<sup>™</sup> software.

## **EM Data Collection**

EM data were collected in the potential UST areas to supplement the GPR survey. Data collection was performed using a GSSI Profiler EMP-400, a portable multi-frequency EM terrain conductivity system featuring wireless Bluetooth<sup>TM</sup> data communication to a PDA. EM data were collected at 5-foot spacing in the north-south direction and 2.5-foot spacing in the east-west direction.

## RESULTS

Plates 1 and 2 are the geophysical survey interpretation plots overlaid on the TRC base map. Two USTs were identified and are labeled as such on the plates, along with several interpreted utilities. The GPR overlay is shown in Plate 1 and the EM overlay on Plate 2. The color contour map on Plate 2 is produced from the 10,000-Hertz in-phase EM data. Approximate depths in feet are based on the conversion of GPR signal velocity to distance.

Please contact us at (781) 935-8111 if you have questions or need additional information.

Respectfully yours, HAGER GEOSCIENCE, INC.

flata J. IG

Jutta Hager, Ph.D. President

## APPENDIX A. THE GEOPHYSICAL TECHNIQUES

### A.1 GROUND PENETRATING RADAR

**A.1.1. Description of the Method.** The principle of ground penetrating radar (GPR) is the same as that used by police radar, except that GPR transmits electromagnetic energy into the ground. The energy is reflected back to the surface from interfaces between materials with contrasting electrical (dielectric and conductivity) and physical properties. The greater the contrast between two materials in the subsurface, the stronger the reflection observed on the GPR record. The depth of GPR signal penetration depends on the properties of the subsurface materials and the frequency of the antenna used to collect radar data. The lower the antenna frequency, the greater the signal penetration, but the lower the signal resolution.

**A.1.2. Data Collection.** HGI collects GPR data using a Geophysical Survey Systems (GSSI) SIR 2, SIR 2000, or SIR 3000 ground penetrating radar system. Data are digitally recorded on the internal hard drive or flash memory of the GPR system. System controls allow the GPR operator to filter out noise, attributed to coupling noise caused by conductive soil conditions, spurious noise caused by local EMF fields, and internal system noise. For shallow surveys, we use 1500-, 900-, 400-, or 200-megahertz (MHz) antennas. For deeper penetration, we use lower frequency antennas ranging from 200 MHz to 15 MHz, depending on the anticipated target depth and the degree of signal penetration. All of these antenna configurations can collect data in continuous mode, distance mode, or as discrete point measurements using signal-stacking techniques. Since there is a trade-off between signal penetration and resolution, test data are sometimes collected using antennas at several different frequencies, with the highest frequency antenna that produces the highest quality data used. In some cases, data are collected with several antenna frequencies.

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

A.1.3. Data Processing. After completion of data collection, the GPR data are transferred to a PC for review and processing using RADAN NT for Windows<sup>TM</sup> software. When appropriate, we prepare 3D models of GPR data, which can be sliced in the X, Y, and Z directions.

Geophysical Survey for USTs Former Morningside Fire Station 235 Tyler Street Pittsfield, Massachusetts

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

**A.1.4. Limitations of the Method.** GPR signal penetration is site-specific. It is determined by the dielectric properties of local soil and fill materials. GPR signals propagate well in resistive materials such as sand and gravel; however, soils containing clay, ash- or cinder-laden fill or fill saturated with brackish or otherwise electrically conductive groundwater cause GPR signal attenuation and loss of target resolution. Concrete containing rebar or wire mesh also inhibits signal penetration.

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

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

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

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

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

## A.2 EM TERRAIN CONDUCTIVITY

**A.2.1. Description of the Method.** The EM technique operates on the principle that secondary electric and magnetic currents can be induced in metal objects and conductive bodies, such as USTs, utilities, and leachate, when an electric field is applied. This instrumentation measures the secondary magnetic field strength relative to the primary magnetic field and converts it directly into a conductivity value. Both the quadrature-phase (conductivity) and in-phase components of the secondary electric field are measured and values plotted in parts per million (ppm). In general, the quadrature-phase (conductivity) data provide information about soil and groundwater conditions, while the in-phase data provide information about metal objects. The instrument response is more affected by near surface than by deeper material.

We collect terrain conductivity data using either a GSSI Profiler EMP-400 or GEM-300 multifrequency electromagnetic profiler, which are field-programmable to operate at simultaneous, multiple frequencies between 325 and 19975 Hz. The Profiler is designed for near-surface investigations, whereas the GEM can reach nominal depths of 15 to 20 feet.

**A.2.2. Data Analysis and Interpretation.** Terrain conductivity surveys are commonly used to determine the lateral extent of fill and detect buried metal objects, utilities, and conductive leachate plumes. Typically, terrain conductivity values measured on fill materials are irregular and highly variable over short distances due to metal and the heterogeneous materials in the subsurface. The edge of fill materials is marked by a change to smoothly varying terrain conductivity values that represent native soils.

At sites free of metal objects and other cultural interference, the soil lithology and/or the conductivity of the ground water control the terrain conductivity measured at a particular location. In the presence of metal, conductivity values are often negative ("polarity reversals") and highly irregular. However, the exact identification of objects cannot be determined from the terrain conductivity data alone. The in-phase component helps confirm the location of metal objects when correlated with conductivity data. Irregular or high positive or negative in-phase values may be caused by metal objects and help define their lateral extent.

Leachate plumes are generally recognized by relatively smoothly varying, but anomalously elevated, conductivity values, compared to background values for a given site. The value of the in-phase component resulting from conductive plumes generally shows little or no variation.

**A.2.3. Limitations of the Method**. EM conductivity values are influenced by proximity to aboveground metal objects, such as fences, vehicles, or buildings. Magnetic fields produced along overhead power lines also interfere with terrain conductivity readings.

The shape and amplitude of conductivity and in-phase anomalies do not uniquely describe a buried object or material. Rather, they are influenced by the orientation of EM survey lines and the buried object(s) relative to north, and the orientation of the EM sensor relative to this buried object(s). To better locate the source(s) of EM conductivity and in-phase anomalies, data are

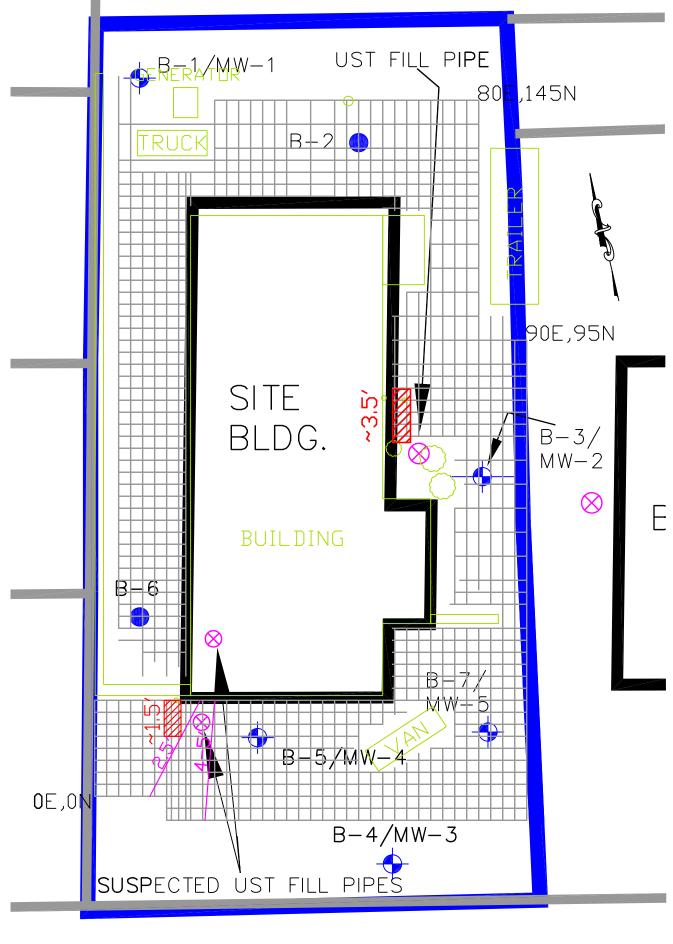
Geophysical Survey for USTs Former Morningside Fire Station 235 Tyler Street Pittsfield, Massachusetts File 2008024 Page 6

frequently collected in two perpendicular directions.

High ambient conductivity readings (from a conductivity plume, sludge, or naturally occurring geologic condition) may mask anomalous conductivity values caused by metal objects. Evaluating the in-phase component of the data minimizes this effect.

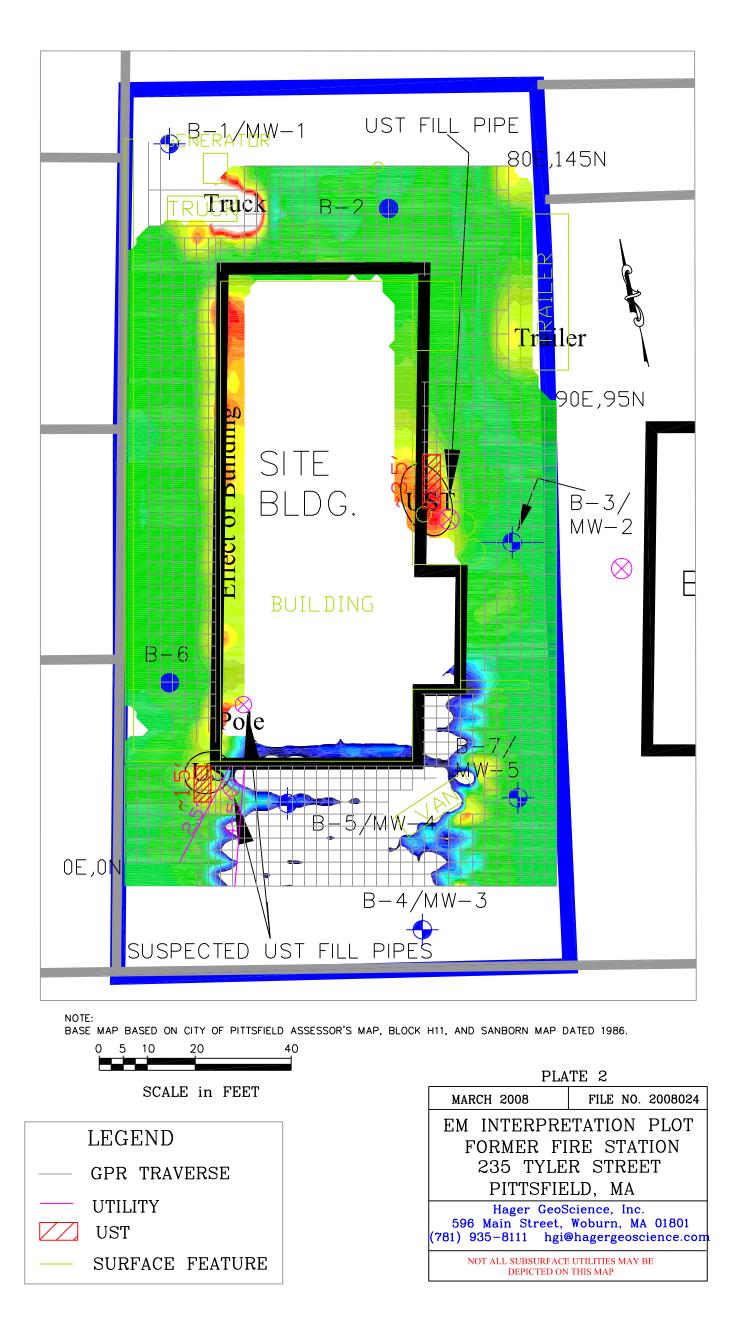
Closely spaced buried utilities may produce anomalies that interfere with each other. Hence, in areas where numerous utilities are present, the observed anomaly may result from an interference pattern and may not uniquely describe the location of a specific utility. Further, anomalies often appear larger than the object that produces them.

Smaller utilities, or utilities constructed from reinforced concrete, may be masked by larger utilities constructed of metal. Nonmetallic fill such as unreinforced concrete rubble and utilities constructed from PVC, clay, or unreinforced concrete may not be detected



NOTE: BASE MAP BASED ON CITY OF PITTSFIELD ASSESSOR'S MAP, BLOCK H11, AND SANBORN MAP DATED 1986. 0 5 10 40 20

SCALE in FEET	PLATE 1
SCALE III FEET	MARCH 2008 FILE NO. 2008024
LEGEND	GPR INTERPRETATION PLOT
	FORMER FIRE STATION 235 TYLER STREET
UTILITY	PITTSFIELD, MA
UST	Hager GeoScience, Inc. 596 Main Street, Woburn, MA 01801 (781) 935-8111 hgi@hagergeoscience.com
SURFACE FEATURE	NOT ALL SUBSURFACE UTILITIES MAY BE DEPICTED ON THIS MAP



## **APPENDIX C**

## **UNDERGROUND STORAGE TANK PERMITS**

Contractions of the of Massachusells Department of First Commerces - Office of the Clair Churchel UST APPLICATION and PERMIT For STATE Charles and transported tank disposal year in accordance with the provisions of M.G. Chapter 148, Section 30A, 327 CMB 9.00, application is noreby made by: Tank Olmer Tank One (piesse print) Define (piesse print) Contractor Tank Information Film transporting weels NA Define Contraction Cono	et al anti-	Pire Department retains o	plication to local Fire Department. original application and issues duplicate	as Permit.
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Hazardous wasta mainifest#       E.P.A. #         Selvage       Approved tank disposed yard Geo Aploin + Son Tank yard #         Type of Inert gas <u>DI + Dgeo Tank yard address N. Adams</u> , MA         Approvais         City or Town       EDito# 03236         Pate of issue         Date of issue	Disposal Information			
Approved tank dispessivered <u>Geo Aplant Son</u> Tank yard # Type of Inert gas <u>nitrogen</u> Tank yard address <u>N. Adams</u> , <u>MA</u> Approvais City or Town <u>MHSHeld</u> = Dito# <u>A3236</u> Permit# Date of issue Date of expiration	Film transponing waste_	N/A	State Lio. #	
Approvéd tank disposel yard Geo Aplain + Son Tank yard #         Type of Inen gas <u>Ditrogen</u> Tank yard address <u>N. Adams</u> , <u>MA</u> Approvals         City or Town <u>Bits field</u> EDID# <u>A3236</u> Parmili#			E.P.A. 1	ir Greenel (Capital and a second and a second se
Type of Inert gas Ditrogen       Tank yard address N. Adams, MA         Approvals       City or Town         Date of issue       Date of expiration			Son Tank yard #	
Approvals       City or Town     Dits freed       EDID#     03236       Parmit#   Date of iseue	Type of inert gas nitro	Sec Tank vard addre	s. N. Adams. MA	
City or TownFDID# 03236 Permit#Date of issueDate of expiration		<u> </u>		
Date of issue		Held	FDID# 03236 Parmi	M
	Date of issue			
Josh AMI HAVE & Commission of the second sec	Dig sale approval number:	20090702020		er - 800-322-4844
Signature / Title of Officer granting permit and the average of the state of the st	j		1 Anchod a the	76-10

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06/09/2009 08:09	14134990605	MILLERS	PAGE 03.
			tank #1
	Make so	olication to local Fire Department,	
Set	opartment retains o	riginal application and issues duplica	te as Parmit
	Common	wealth of Massachus	Martin Constant States
	Separtment of This of	connices - Office of the State of	1
See .		A Marine Continue Co	"use containstand UST
lor storage teck re-	AFFLICA	TION and PERM	AIT Fee: 2500
of M.G.L. Chapter	148, Section 38A, 527 CM	o approved lank disposal yard in acc R 9.00, application is hereby made t	ordance with the provisions
Tank Owner			
Tank Owner Name (p	lease print CIM of	titisfield,	
Address 31	2jler Ori	et PHStold	HAR IN THE DAY DATING
Removal Contract	or Sirel	City	15/3/47 Ztr
		Contamination Assessme	
Autor One C-	ller's <u>Retroleum s</u>		Trini .
· · · · · · · · · · · · · · · · · · ·	me Ave, Pitts Feld	Address 450 Salfalk St	Luyen, MA 01854
Signature (if applying lo	1 - 1 167 A - 10 / 1	DAD Signature (il rippiying (or permit)	
CJ IFOI' Certilied	Other		7 K Jahran 18 and 19 K Jahran 18 K Jahran
Tank Information		DIFCI* Certified TP LSP #	Other
Tank Location	31 Juler .	Street	
Tank Capacity (gallons)	1000 gallon	Substance Last Stored	7) - 4. 4 - and all fifth a sum wave-even of H , 7, 5, 6, 4, 4, 16, 16, 16, 1997
Tank Dimensions (diamete	er x length)		·····
Remarks:		an a	* * )
	and a second	GEORGE APKIN P. O. BOX 509	& SONS, THC.
Disposal Information		NORTH ADAMS,	MA 01247-0509
	N/A		
Hazardous waste manifestr		State Uc. #	······································
SAVALE	Ga- N-	E.P.A. #	
and the second	Geo Aplain + So		
Type of iner, gas mr 7-09	Tank yard address	N. Adams, MA	••••••••••••••••••••••••••••••••••••••
Approvais City or Town	and	10101	and the state of the
Date of issue	<u>er ( cx</u>	FDID# 03236 Parmi	Herene and the second
Vale ULISSUE		The base of a contrast to the second s	
		Date of expiration	
	0090803C37	Die Safe Toll Free Tel. Numbr	

A C Compliance Unit, Department of Fire Services, P.O. Box 1025, State Road, Stow, MA 01775, International Fire Code Institute 292 (mvised 4/97) .

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292 (mvised 4/97)

## **APPENDIX D**

## SOIL AND GROUNDWATER ANALYTICAL LABORATORY DATA REPORTS



REPORT DATE 3/30/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

#### PROJECT NUMBER:

#### ANALYTICAL SUMMARY

LIMS BAT #: LIMT-24161 JOB NUMBER: 158037.0020

PROJECT LOCATION: 235 TYLER STREET, PITTSFIELD, MA.

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST	Subcontract Lab (if any) Cert. Nos.
DUP-1(1-3FT)(2FT)	09B08736	SOIL	Not Specified	eph - solid 04	
DUP-1(1-3FT)(2FT)	09B08736	SOIL	Not Specified	solids eph/vph	
DUP-1(1-3FT)(2FT)	09B08736	SOIL	Not Specified	vph - solid 04	
DUP-1(1-3FT)(2FT)	09B08745	SOIL	Not Specified	8082 drywt	
DUP-1(1-3FT)(2FT)	09B08745	SOIL	Not Specified	pb (mg/kg)dw icp	
MW-1(1-3 FT)(2FT)	09B08729	SOIL	Not Specified	eph - solid 04	
MW-1(1-3 FT)(2FT)	09B08729	SOIL	Not Specified	solids eph/vph	
MW-1(1-3 FT)(2FT)	09B08729	SOIL	Not Specified	vph - solid 04	
MW-1(1-3 FT)(2FT)	09B08738	SOIL	Not Specified	8082 drywt	
MW-1(1-3 FT)(2FT)	09B08738	SOIL	Not Specified	pb (mg/kg)dw icp	
MW-1(8-10FT)(9FT)	09B08730	SOIL	Not Specified	eph - solid 04	
MW-1(8-10FT)(9FT)	09B08730	SOIL	Not Specified	solids eph/vph	
MW-1(8-10FT)(9FT)	09B08730	SOIL	Not Specified	vph - solid 04	
MW-1(8-10FT)(9FT)	09B08739	SOIL	Not Specified	8082 drywt	
MW-1(8-10FT)(9FT)	09B08739	SOIL	Not Specified	pb (mg/kg)dw icp	
MW-2(1-3FT)(2FT)	09B08731	SOIL	Not Specified	eph - solid 04	
MW-2(1-3FT)(2FT)	09B08731	SOIL	Not Specified	solids eph/vph	
MW-2(1-3FT)(2FT)	09B08731	SOIL	Not Specified	vph - solid 04	
MW-2(1-3FT)(2FT)	09B08740	SOIL	Not Specified	8082 drywt	
MW-2(1-3FT)(2FT)	09B08740	SOIL	Not Specified	pb (mg/kg)dw icp	
MW-2(8-10FT)(9FT)	09B08732	SOIL	Not Specified	eph - solid 04	
MW-2(8-10FT)(9FT)	09B08732	SOIL	Not Specified	solids eph/vph	
MW-2(8-10FT)(9FT)	09B08732	SOIL	Not Specified	vph - solid 04	
MW-2(8-10FT)(9FT)	09B08741	SOIL	Not Specified	8082 drywt	
MW-2(8-10FT)(9FT)	09B08741	SOIL	Not Specified	pb (mg/kg)dw icp	
MW-3(1-3FT)(2FT)	09B08733	SOIL	Not Specified	eph - solid 04	
MW-3(1-3FT)(2FT)	09B08733	SOIL	Not Specified	solids eph/vph	
MW-3(1-3FT)(2FT)	09B08733	SOIL	Not Specified	vph - solid 04	
MW-3(1-3FT)(2FT)	09B08742	SOIL	Not Specified	8082 drywt	
MW-3(1-3FT)(2FT)	09B08742	SOIL	Not Specified	pb (mg/kg)dw icp	
MW-3(10-12FT)(11F	09B08734	SOIL	Not Specified	eph - solid 04	
MW-3(10-12FT)(11F	09B08734	SOIL	Not Specified	solids eph/vph	
MW-3(10-12FT)(11F	09B08734	SOIL	Not Specified	vph - solid 04	
MW-3(10-12FT)(11F	09B08743	SOIL	Not Specified	8082 drywt	
MW-3(10-12FT)(11F	09B08743	SOIL	Not Specified	pb (mg/kg)dw icp	
MW-3(16-18FT)(17F	09B08735	SOIL	Not Specified	eph - solid 04	
MW-3(16-18FT)(17F	09B08735	SOIL	Not Specified	solids eph/vph	
MW-3(16-18FT)(17F	09B08735	SOIL	Not Specified	vph - solid 04	
MW-3(16-18FT)(17F	09B08744	SOIL	Not Specified	8082 drywt	



REPORT DATE 3/30/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

				LIMS BAT #: LIMT-24161
				JOB NUMBER: 158037.0020
MW-3(16-18FT)(17F	09B08744	SOIL	Not Specified	pb (mg/kg)dw icp
TRIP BLANK	09B08747	LIQUIDS	Not Specified	vph - solid 04



REPORT DATE 3/30/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMT-24161 JOB NUMBER: 158037.0020

Comments :

LIMS BATCH NO. : LIMT-24161

#### CASE NARRATIVE SUMMARY

Recommended sample holding times were not exceeded for all samples unless listed below: None Exceeded

All samples for the method(s) listed were received preserved properly in the proper containers at 4°C +/- 2 degrees as specified on the chain-of-custody form unless listed below: All properly preserved

There are no analytical issues which affect the usability of the data.

DETAILED CASE NARRATIVE

### METHOD SW846-6010 - ADDITIONAL DETAILS

Either the laboratory fortified blank or duplicate recovery is outside control limits for Pb, but the other is within limits. Analysis is in control. Only Pb was requested and reported.

#### VOLATILE PETROLEUM HYDROCARBONS (VPH) MADEP-VPH-04-1.1 ADDITIONAL DETAILS

Target compounds are subtracted from the summed ranges, but not from the unadjusted ranges. C9-C12 aliphatic hydrocarbons exclude the concentration of C9-C10 aromatic hydrocarbons. No significant modifications were made to the method.

All VPH samples were received preserved properly (water samples pH <2; soil samples in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol) in the proper containers at 4° C. +/- 2° as specified on the chain-of-custody form unless specified below: All properly preserved

All VPH surrogate standard recoveries were within control limits specified by the method unless listed below:

In method VPH for sample 09B08731, the PID surrogate standard recovery for 2,5-Dibromotoluene is outside of control limits and biased on the high side. Data is not affected since all results are "not detected".

#### VPH QC SURROGATE RECOVERIES

BLANK-93424 2,5-DIBROMOTOLUENE PID	112%	
BLANK-93431 2,5-DIBROMOTOLUENE FID	102%	
LFBLANK-131203	LFB	LFB DUPLICATE
2,5-DIBROMOTOLUENE PID	112%	114%
LFBLANK-131206	LFB	LFB DUPLICATE
2,5-DIBROMOTOLUENE FID	104%	102%



REPORT DATE 3/30/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMT-24161 JOB NUMBER: 158037.0020

METHOD SW846 8082 - ADDITIONAL DETAILS

Solid samples, if any, in the batch were extracted by the following method: Microwave: SW-846 3546

PCB QC Surrogate recoveries

#### BLANK-131107

Column #1 Tetrachloro-m-xylene: Decachlorobiphenyl:	89.5% 94.2%	
Column #2 Tetrachloro-m-xylene: Decachlorobiphenyl:	94.0% 94.0%	
LFBLANK-93332	LFB	LFB DUPLICATE
Column #1 Tetrachloro-m-xylene: Decachlorobiphenyl:	91.2% 91.2%	101% 100%
Column #2 Tetrachloro-m-xylene: Decachlorobiphenyl:	96.0% 91.0%	106% 100%
Sample #09B08738		
Confirmation column Tetrachloro-m-xylene Decachlorobiphenyl	80.0% 71.8%	
Sample #09B08739		
Confirmation column Tetrachloro-m-xylene Decachlorobiphenyl	68.5% 92.0%	
Sample #09B08740		
Confirmation column Tetrachloro-m-xylene Decachlorobiphenyl	81.8% 78.2%	
Sample #09B08741		
Confirmation column Tetrachloro-m-xylene Decachlorobiphenyl	28.5% 69.6%	
Sample #09B08742		

Confirmation column



REPORT DATE 3/30/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

#### PROJECT NUMBER:

#### ANALYTICAL SUMMARY

		LIMS BAT #: JOB NUMBER:	LIMT-24161 158037.0020
Tetrachloro-m-xylene Decachlorobiphenyl	78.8% 66.5%	JOB NOMBER.	100007.0020
Sample #09B08743			
Confirmation column Tetrachloro-m-xylene Decachlorobiphenyl	86.5% 74.0%		
Sample #09B08744			
Confirmation column Tetrachloro-m-xylene Decachlorobiphenyl	93.5% 83.0%		
Sample #09B08745			
Confirmation column Tetrachloro-m-xylene Decachlorobiphenyl	77.2% 65.8%		

#### EXTRACTABLE PETROLEUM HYDROCARBONS (EPH) MADEP-EPH-04-1.1 ADDITIONAL DETAILS

Solid samples, if any, in the batch were extracted by the following method: Microwave: SW846 3546

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch.

Target compounds are subtracted from the C11-C22 aromatic range but not from the unadjusted C11-C22 aromatic range. No significant modifications were made to the method.

All EPH samples were analyzed undiluted unless specified below:SampleDilution(s)09B087305x09B08733undilute and 4x09B08736undilute and 4x

All EPH surrogate standard recoveries were within control limits specified by the method unless listed below: None outside of control limits

EPH QC Surrogate Recoveries

BLANK-131176

2-Fluorobiphenyl: 2-Bromonaphthalene: 1-Chlorooctadecane: o-Terphenyl:	88.9% 92.0% 84.6% 91.9%	
LFBLANK-93402	LFB	LFB Duplicate
2-Fluorobiphenyl:	97.5%	93.2%



REPORT DATE 3/30/2009

**TRC SOLUTIONS - LOWELL** 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

**PROJECT NUMBER:** 

#### ANALYTICAL SUMMARY

LIMS BAT #: LIMT-24161 JOB NUMBER: 158037.0020 2-Bromonaphthalene 99.0% 95.0% 1-Chlorooctadecane: 85.5% 83.9% O-Terphenyl: 101% 99.1%

The results of analyses performed are based on samples as submitted to the laboratory and relate only to the items collected and tested.

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations. AIHA accreditations only apply to NIOSH methods and Environmental Lead Analyses. AIHA 100033 AIHA ELLAP (LEAD) 100033 NORTH CAROLINA CERT. # 652 MASSACHUSETTS MA0100 NEW HAMPSHIRE NELAP 2516 NEW JERSEY NELAP NJ MA007 (AIR) CONNECTICUT PH-0567 VERMONT DOH (LEAD) No. LL015036 FLORIDA DOH E871027 (AIR) RHODE ISLAND (LIC. No. 112)

NEW YORK ELAP/NELAP 10899

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.

3/30/09 DATE

Tod Kopyscinski Air Laboratory Manager Michael Erickson Assistant Laboratory Director

SIGNATURE

Edward Denson **Technical Director**  Daren Damboragian Organics Department Supervisor

\* See end of data tabulation for notes and comments pertaining to this sample



	39 Spruce Street	° East Longmeadow	, MA 01028 ° F	AX 413/525-	6405 ° TEL	. 413/528	5-2332	
TOM BIOLSI TRC SOLUTIONS 650 SUFFOLK ST LOWELL, MA 018	<b>TREET</b>	Ρ	urchase Order I	No.:				30/2009 age 1 of 35
Project Location: Date Received: Field Sample # :	235 TYLER STF 3/23/2009 <b>DUP-1(1-3FT)(2</b>	REET, PITTSFIELD, <b>:FT)</b>	MA.				LIMS-BAT #: Job Number:	LIMT-24161 158037.0020
Sample ID :	09B08745		ed : 3/23/2009					
Sample Matrix:	SOIL	Not Spe	cified					
Gampie Matrix.	OOL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo F	
PCB 1016		mg/kg dry wt	ND	03/26/09	JB	0.113	20 1	··
PCB-1221		mg/kg dry wt	ND	03/26/09	JB	0.113		
PCB-1232		mg/kg dry wt	ND	03/26/09	JB	0.113		
PCB-1242		mg/kg dry wt	ND	03/26/09	JB	0.113		
PCB-1248		mg/kg dry wt	ND	03/26/09	JB	0.113		
PCB-1254		mg/kg dry wt	ND	03/26/09	JB	0.113		
PCB-1260		mg/kg dry wt	ND	03/26/09	JB	0.113		
PCB 1262		mg/kg dry wt	ND	03/26/09	JB	0.113		
PCB 1268		mg/kg dry wt	ND	03/26/09	JB	0.113		
Extraction Date P	CBs		3/25/2009	03/26/09	JB			
Field Sample # :	MW-1(1-3 FT)(2	PT)						
Sample ID :	09B08738	‡Sample Not Spe	ed : 3/23/2009 cified					
Sample Matrix:	SOIL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo H	
PCB 1016		mg/kg dry wt	ND	03/26/09	JB	0.116		
PCB-1221		mg/kg dry wt	ND	03/26/09	JB	0.116		
PCB-1232		mg/kg dry wt	ND	03/26/09	JB	0.116		
PCB-1242		mg/kg dry wt	ND	03/26/09	JB	0.116		
PCB-1248		mg/kg dry wt	ND	03/26/09	JB	0.116		
PCB-1254		mg/kg dry wt	ND	03/26/09	JB	0.116		
PCB-1260		mg/kg dry wt	ND	03/26/09	JB	0.116		
PCB 1262		mg/kg dry wt	ND	03/26/09	JB	0.116		
PCB 1268		mg/kg dry wt	ND	03/26/09	JB	0.116		

3/25/2009

Extraction Date PCBs

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

03/26/09 JB

\* = See end of report for comments and notes applying to this sample

‡ = See attached chain-of-custody record for time sampled



TOM BIOLSI TRC SOLUTIONS 650 SUFFOLK ST LOWELL, MA 018 Project Location:	REET 352	Pu EET. PITTSFIELD.	urchase Order N	lo.:			3/30/2009 Page 2 of 35 LIMS-BAT #: LIMT-24161
Date Received:	3/23/2009		IVIA.				Job Number: 158037.0020
Field Sample # :	MW-1(8-10FT)(9	FT)					
Sample ID :	09B08739		d : 3/23/2009				
Sample Matrix:	SOIL	Not Spec	cified				
oumpie matrix.	OOL						
		Units	Results	Date Applyzod	Analyst	RL	SPEC Limit P/ F Lo Hi
				Analyzed			Lo Hi
PCB 1016		mg/kg dry wt	ND	03/26/09	JB	0.110	
PCB-1221		mg/kg dry wt	ND	03/26/09	JB	0.110	
PCB-1232		mg/kg dry wt	ND	03/26/09	JB	0.110	
PCB-1242		mg/kg dry wt	ND	03/26/09	JB	0.110	
PCB-1248		mg/kg dry wt	ND	03/26/09	JB	0.110	
PCB-1254		mg/kg dry wt	ND	03/26/09	JB	0.110	
PCB-1260		mg/kg dry wt	ND	03/26/09	JB	0.110	
PCB-1260 PCB 1262		mg/kg dry wt mg/kg dry wt	ND ND	03/26/09 03/26/09	JB JB	0.110 0.110	

Extraction Date PCBs

Field Sample # : MW-2(1-3FT)(2FT)

09B08740

‡Sampled : 3/23/2009 Not Specified

3/25/2009

03/26/09

JB

Sample Matrix: SOIL

Sample ID :

	Units	Results	Date Analyzed	Analyst	RL	SPEC Lo	Limit Hi	P/ F
PCB 1016	mg/kg dry wt	ND	03/26/09	JB	0.118			
PCB-1221	mg/kg dry wt	ND	03/26/09	JB	0.118			
PCB-1232	mg/kg dry wt	ND	03/26/09	JB	0.118			
PCB-1242	mg/kg dry wt	ND	03/26/09	JB	0.118			
PCB-1248	mg/kg dry wt	ND	03/26/09	JB	0.118			
PCB-1254	mg/kg dry wt	ND	03/26/09	JB	0.118			
PCB-1260	mg/kg dry wt	ND	03/26/09	JB	0.118			
PCB 1262	mg/kg dry wt	ND	03/26/09	JB	0.118			
PCB 1268	mg/kg dry wt	ND	03/26/09	JB	0.118			
Extraction Date PCBs		3/25/2009	03/26/09	JB				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample

‡ = See attached chain-of-custody record for time sampled



TOM BIOLSI TRC SOLUTIONS 650 SUFFOLK ST LOWELL, MA 018	DEUTIONS - LOWELL FFOLK STREET					3/30/2009 Page 3 of 35				
Project Location: Date Received: Field Sample # :	3/23/2009	EET, PITTSFIELD, I F <b>T)</b>	MA.				LIMS-BAT #		MT-24161 58037.0020	
Sample ID :	09B08741	‡Sampled : 3/23/2009 Not Specified								
Sample Matrix:	SOIL									
		Units	Results	Date Analyzed	Analyst	RL	SPEC Li Lo	mit Hi	P/ F	
PCB 1016		mg/kg dry wt	ND	03/26/09	JB	0.106				
PCB-1221		mg/kg dry wt	ND	03/26/09	JB	0.106				

g/kg ary PCB-1232 ND 03/26/09 JB 0.106 mg/kg dry wt PCB-1242 mg/kg dry wt ND 03/26/09 JB 0.106 PCB-1248 mg/kg dry wt ND 03/26/09 JB 0.106 PCB-1254 mg/kg dry wt ND 03/26/09 JB 0.106 PCB-1260 mg/kg dry wt ND 03/26/09 JB 0.106 PCB 1262 mg/kg dry wt ND JB 0.106 03/26/09 PCB 1268 mg/kg dry wt ND JB 0.106 03/26/09 Extraction Date PCBs 3/25/2009 03/26/09 JB

Field Sample # : MW-3(1-3FT)(2FT)

Sample ID : 09B08742

Sample Matrix: SOIL

	Units	Results	Date Analyzed	Analyst	RL	SPEC Lo	Limit Hi	P/ F
PCB 1016	mg/kg dry wt	ND	03/26/09	JB	0.112			
PCB-1221	mg/kg dry wt	ND	03/26/09	JB	0.112			
PCB-1232	mg/kg dry wt	ND	03/26/09	JB	0.112			
PCB-1242	mg/kg dry wt	ND	03/26/09	JB	0.112			
PCB-1248	mg/kg dry wt	ND	03/26/09	JB	0.112			
PCB-1254	mg/kg dry wt	ND	03/26/09	JB	0.112			
PCB-1260	mg/kg dry wt	ND	03/26/09	JB	0.112			
PCB 1262	mg/kg dry wt	ND	03/26/09	JB	0.112			
PCB 1268	mg/kg dry wt	ND	03/26/09	JB	0.112			
Extraction Date PCBs		3/25/2009	03/26/09	JB				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample

**‡** = See attached chain-of-custody record for time sampled



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET						
LOWELL, MA 018	52	Purchase Order No.:		0		
,	235 TYLER STREET, PIT	TSFIELD, MA.	LIMS-BAT #:	LIMT-24161		
Date Received:	3/23/2009		Job Number:	158037.0020		
Field Sample # :	MW-3(10-12FT)(11FT)					
Sample ID :	09B08743	‡Sampled : 3/23/2009				
		Not Specified				

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC Limit		P/ F
			Analyzed			Lo	Hi	
PCB 1016	mg/kg dry wt	ND	03/26/09	JB	0.110			
PCB-1221	mg/kg dry wt	ND	03/26/09	JB	0.110			
PCB-1232	mg/kg dry wt	ND	03/26/09	JB	0.110			
PCB-1242	mg/kg dry wt	ND	03/26/09	JB	0.110			
PCB-1248	mg/kg dry wt	ND	03/26/09	JB	0.110			
PCB-1254	mg/kg dry wt	ND	03/26/09	JB	0.110			
PCB-1260	mg/kg dry wt	ND	03/26/09	JB	0.110			
PCB 1262	mg/kg dry wt	ND	03/26/09	JB	0.110			
PCB 1268	mg/kg dry wt	ND	03/26/09	JB	0.110			
Extraction Date PCBs		3/25/2009	03/26/09	JB				

Field Sample #: MW-3(16-18FT)(17FT)

09B08744

‡Sampled : 3/23/2009 Not Specified

Sample Matrix: SOIL

Sample ID :

	Units	Results	Date Analyzed	Analyst	RL	SPEC Lo	Limit Hi	P/ F
PCB 1016	mg/kg dry wt	ND	03/26/09	JB	0.107			
PCB-1221	mg/kg dry wt	ND	03/26/09	JB	0.107			
PCB-1232	mg/kg dry wt	ND	03/26/09	JB	0.107			
PCB-1242	mg/kg dry wt	ND	03/26/09	JB	0.107			
PCB-1248	mg/kg dry wt	ND	03/26/09	JB	0.107			
PCB-1254	mg/kg dry wt	ND	03/26/09	JB	0.107			
PCB-1260	mg/kg dry wt	ND	03/26/09	JB	0.107			
PCB 1262	mg/kg dry wt	ND	03/26/09	JB	0.107			
PCB 1268	mg/kg dry wt	ND	03/26/09	JB	0.107			
Extraction Date PCBs		3/25/2009	03/26/09	JB				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

3/30/2009 Page 5 of 35

Project Location: 235 TYLER STREET, PITTSFIELD, MA. Date Received: 3/23/2009 LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

Analytical Method: SW846 8081/8082

SAMPLES ARE EXTRACTED BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), CONCENTRATED, AND ANALYZED BY GAS CHROMATOGRAPHY WITH ELECTRON CAPTURE DETECTION.

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



Not Specified

TOM BIOLSI								
TRC SOLUTIONS	- LOWELL			3/30/2009				
650 SUFFOLK STREET				Page 6 of 35				
LOWELL, MA 018	52		Purchase Order No.:					
Project Location:	235 TYLER STREE	ET, PITTSFIELD	D, MA.	LIMS-BAT #:	LIMT-24161			
Date Received:	3/23/2009			Job Number:	158037.0020			
Field Sample # :	DUP-1(1-3FT)(2FT)	)						
Sample ID :	09B08736	‡Samp	oled : 3/23/2009					

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	33.4			
C19-C36 Aliphatics	mg/kg dry wt	179	03/27/09	CJM	33.4			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	33.4			
C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	33.4			
Acenaphthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Chrysene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Date Extracted EPH Solid		3/26/2009	03/27/09	CJM				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: 3/23/2009

Field Sample #: DUP-1(1-3FT)(2FT)

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3/30/2009

LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



Not Specified

TOM BIOLSI								
TRC SOLUTIONS	- LOWELL			3/30/2009				
650 SUFFOLK ST	REET		Page 8 of 35					
LOWELL, MA 018	52	Purchase Order No	.:					
Project Location:	235 TYLER STREET, PIT	TSFIELD, MA.		LIMS-BAT #:	LIMT-24161			
Date Received:	3/23/2009			Job Number:	158037.0020			
Field Sample # :	MW-1(1-3 FT)(2FT)							
Sample ID :	09B08729	‡Sampled : 3/23/2009						

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	34.5			
C19-C36 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	34.5			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	34.5			
C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	34.5			
Acenaphthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Chrysene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	0.2	03/27/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Pyrene	mg/kg dry wt	0.2	03/27/09	CJM	0.2			
Date Extracted EPH Solid		3/26/2009	03/27/09	CJM				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: 3/23/2009

Field Sample # : MW-1(1-3 FT)(2FT)

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3/30/2009

LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



Not Specified

TOM BIOLSI							
TRC SOLUTIONS	- LOWELL		3/30/2009				
650 SUFFOLK ST	REET		Page 10 of				
LOWELL, MA 018	52	Purchase Order No.:					
Project Location:	235 TYLER STRE	ET, PITTSFIELD, MA.	LIMS-BAT #:	LIMT-24161			
Date Received:	3/23/2009		Job Number:	158037.0020			
Field Sample # :	MW-1(8-10FT)(9F	Т)					
Sample ID :	09B08730	‡Sampled : 3/23/2009					

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	165			
C19-C36 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	165			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	219	03/27/09	CJM	165			
C11-C22 Aromatics	mg/kg dry wt	171	03/27/09	CJM	165			
Acenaphthene	mg/kg dry wt	ND	03/27/09	CJM	0.6			
Acenaphthylene	mg/kg dry wt	ND	03/27/09	CJM	0.6			
Anthracene	mg/kg dry wt	1.2	03/27/09	CJM	0.6			
Benzo(a)anthracene	mg/kg dry wt	3.7	03/27/09	CJM	0.6			
Benzo(a)pyrene	mg/kg dry wt	3.5	03/27/09	CJM	0.6			
Benzo(b)fluoranthene	mg/kg dry wt	5.2	03/27/09	CJM	0.6			
Benzo(g,h,i)perylene	mg/kg dry wt	2.8	03/27/09	CJM	0.6			
Benzo(k)fluoranthene	mg/kg dry wt	1.9	03/27/09	CJM	0.6			
Chrysene	mg/kg dry wt	4.1	03/27/09	CJM	0.6			
Dibenzo(a,h)anthracene	mg/kg dry wt	0.9	03/27/09	CJM	0.6			
Fluoranthene	mg/kg dry wt	8.4	03/27/09	CJM	0.6			
Fluorene	mg/kg dry wt	ND	03/27/09	CJM	0.6			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	3.0	03/27/09	CJM	0.6			
2-Methylnaphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.6			
Naphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.6			
Phenanthrene	mg/kg dry wt	4.7	03/27/09	CJM	0.6			
Pyrene	mg/kg dry wt	8.2	03/27/09	CJM	0.6			
Date Extracted EPH Solid		3/26/2009	03/27/09	CJM				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: 3/23/2009

Field Sample # : MW-1(8-10FT)(9FT)

Page 11 of 35

3/30/2009

LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



Not Specified

TOM BIOLSI **TRC SOLUTIONS - LOWELL** 3/30/2009 650 SUFFOLK STREET Page 12 of 35 Purchase Order No.: LOWELL, MA 01852 Project Location: 235 TYLER STREET, PITTSFIELD, MA. LIMS-BAT #: LIMT-24161 Job Number: 158037.0020 Date Received: 3/23/2009 Field Sample #: MW-2(1-3FT)(2FT) Sample ID : 09B08731 ‡Sampled : 3/23/2009

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	35.3			
C19-C36 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	35.3			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	35.3			
C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	35.3			
Acenaphthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	0.3	03/27/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	0.3	03/27/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	0.5	03/27/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	0.3	03/27/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	0.2	03/27/09	CJM	0.2			
Chrysene	mg/kg dry wt	0.4	03/27/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	0.5	03/27/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	0.3	03/27/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	0.2	03/27/09	CJM	0.2			
Pyrene	mg/kg dry wt	0.6	03/27/09	CJM	0.2			
Date Extracted EPH Solid		3/26/2009	03/27/09	CJM				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



Project Location: 235 TYLER STREET, PITTSFIELD, MA.

3/23/2009

Field Sample #: MW-2(1-3FT)(2FT)

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

TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

3/30/2009 Page 13 of 35

LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

Analytical Method:

MADEP-EPH-04-1

Date Received:

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



Not Specified

TOM BIOLSI								
TRC SOLUTIONS	- LOWELL			3/30/2009				
650 SUFFOLK STREET				Page 14 of 35				
LOWELL, MA 018	52		Purchase Order No.:					
Project Location:	235 TYLER STREET,	, PITTSFIELD	), MA.	LIMS-BAT #:	LIMT-24161			
Date Received:	3/23/2009			Job Number:	158037.0020			
Field Sample # :	MW-2(8-10FT)(9FT)							
Sample ID :	09B08732	‡Samp	led : 3/23/2009					

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC		P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	31.3			
C19-C36 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	31.3			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	31.3			
C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	31.3			
Acenaphthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Chrysene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Date Extracted EPH Solid		3/26/2009	03/27/09	CJM				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: 3/23/2009

Field Sample # : MW-2(8-10FT)(9FT)

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3/30/2009

LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



Sample ID :	09B08733	±Sampled : 3/23/2009		
Field Sample # :	MW-3(1-3FT)(2F	Т)		
Date Received:	3/23/2009		Job Number:	158037.0020
Project Location:	235 TYLER STR	EET, PITTSFIELD, MA.	LIMS-BAT #:	LIMT-24161
LOWELL, MA 018	52	Purchase Order No.:		
650 SUFFOLK ST	REET		P	age 16 of 35
TRC SOLUTIONS	- LOWELL		3/	/30/2009
TOM BIOLSI				

Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	33.5			
C19-C36 Aliphatics	mg/kg dry wt	179	03/27/09	CJM	33.5			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	33.5			
C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	33.5			
Acenaphthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Chrysene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Date Extracted EPH Solid		3/26/2009	03/27/09	CJM				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



Project Location: 235 TYLER STREET, PITTSFIELD, MA.

3/23/2009

Field Sample #: MW-3(1-3FT)(2FT)

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

TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

3/30/2009 Page 17 of 35

LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

Analytical Method:

MADEP-EPH-04-1

Date Received:

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

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ND = Not Detected at or above the Reporting Limit

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\* = See end of report for comments and notes applying to this sample



09B08734

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

TOM BIOLSI			
TRC SOLUTIONS - LOWELL		3	/30/2009
650 SUFFOLK STREET		Р	age 18 of 35
LOWELL, MA 01852	Purchase Order No.:		
Project Location: 235 TYLER STREET, PITTSFI	ELD, MA.	LIMS-BAT #:	LIMT-24161
Date Received: 3/23/2009		Job Number:	158037.0020
Field Sample # : MW-3(10-12FT)(11FT)			

Sample Matrix: SOIL

Sample ID :

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	32.7			
C19-C36 Aliphatics	mg/kg dry wt	45.3	03/27/09	CJM	32.7			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	32.7			
C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	32.7			
Acenaphthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Chrysene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Date Extracted EPH Solid		3/26/2009	03/27/09	CJM				

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NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: 3/23/2009

Field Sample # : MW-3(10-12FT)(11FT)

3/30/2009 Page 19 of 35

LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

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\* = See end of report for comments and notes applying to this sample



09B08735

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

TOM BIOLSI				
TRC SOLUTIONS	- LOWELL		3/:	30/2009
650 SUFFOLK ST	REET		Pa	age 20 of 35
LOWELL, MA 018	52	Purchase Order No.:		
Project Location:	235 TYLER STREET, PITTSFIELI	D, MA.	LIMS-BAT #:	LIMT-24161
Date Received:	3/23/2009		Job Number:	158037.0020
Field Sample # :	MW-3(16-18FT)(17FT)			

Sample Matrix: SOIL

Sample ID :

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	31.6			
C19-C36 Aliphatics	mg/kg dry wt	ND	03/27/09	CJM	31.6			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	31.6			
C11-C22 Aromatics	mg/kg dry wt	ND	03/27/09	CJM	31.6			
Acenaphthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Chrysene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Pyrene	mg/kg dry wt	ND	03/27/09	CJM	0.2			
Date Extracted EPH Solid		3/26/2009	03/27/09	CJM				

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ND = Not Detected at or above the Reporting Limit

NM = Not Measured

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TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: 3/23/2009

Field Sample # : MW-3(16-18FT)(17FT)

3/30/2009 Page 21 of 35

LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

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TOM BIOLSI			<b>5</b> ,							
TRC SOLUTIONS	- LOWELL							3/	/30/2009	9
650 SUFFOLK ST			_					Р	age 22 (	of 35
LOWELL, MA 018	52		Ρι	urchase Order N	No.:					
Project Location:	235 TYLER STR	EET, PIT	TSFIELD,	MA.				LIMS-BAT #:	LIMT-	
Date Received: Field Sample # :	3/23/2009	FT)						Job Number:	15803	7.0020
Sample ID :	09B08745	,	+Sample	d : 3/23/2009						
Sample ID .	03000743		Not Spec							
Sample Matrix:	SOIL		·							
		Units		Results	Date	Analyst	RL	SPEC Lim	.i+	P/ F
		Units		Results	Analyzed	Analyst	NL		Hi	F7 F
Lead		mg/kg d	dry wt	276	03/27/09	KSH	0.85			
Field Sample # :	MW-1(1-3 FT)(2)		5							
Sample ID :	09B08738	.,	±Sample	d : 3/23/2009						
			Not Spec							
Sample Matrix:	SOIL									
		Units		Results	Date	Analyst	RL	SPEC Lim	nit	P/ F
		••••••		i toounto	Analyzed	, and you			-i	
Lead		mg/kg d	dry wt	88.6	03/27/09	KSH	0.87			
Field Sample # :	MW-1(8-10FT)(9	FT)								
Sample ID :	09B08739		‡Sample	d : 3/23/2009						
			Not Spec	cified						
Sample Matrix:	SOIL									
		Units		Results	Date	Analyst	RL	SPEC Lim	nit	P/ F
					Analyzed			Lo F	Hi	
Lead		mg/kg o	dry wt	95.0	03/27/09	KSH	0.83			
Field Sample # :	MW-2(1-3FT)(2F	T)								
Sample ID :	09B08740		‡Sample Not Spec	d : 3/23/2009 cified						
Sample Matrix:	SOIL		·							
		Units		Results	Date	Analyst	RL	SPEC Lim	.i+	P/ F
		Onits		Results	Analyzed	Analyst			Hi	171
Lead		mg/kg o	dry wt	62.2	03/27/09	KSH	0.89			
Field Sample # :	MW-2(8-10FT)(9	FT)								
Sample ID :	09B08741	,	‡Sample	d : 3/23/2009						
•			Not Spec							
Sample Matrix:	SOIL									
		Units		Results	Date Analyzed	Analyst	RL	SPEC Lim	nit Hi	P/ F
Lead		mg/kg d	dry wt	10.1	03/27/09	KSH	0.79			

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\* = See end of report for comments and notes applying to this sample



÷	39 Spruce Street °	East Long	gmeadow,	MA 01028 ° F.	AX 413/525-	6405 ° TEL	. 413/52	5-2332		
TOM BIOLSI TRC SOLUTIONS 650 SUFFOLK ST LOWELL, MA 018	REET		Pu	Irchase Order N	No.:				/30/20 Page 2	009 3 of 35
Project Location: Date Received: Field Sample # :	3/23/2009	·	TSFIELD, I	MA.				LIMS-BAT #: Job Number:		T-24161 037.0020
Sample ID :	09B08742		‡Sampleo Not Spec	d : 3/23/2009 ified						
Sample Matrix:	SOIL									
		Units		Results	Date Analyzed	Analyst	RL	SPEC Lin Lo	nit Hi	P/ F
Lead		mg/kg d	ry wt	296	03/27/09	KSH	0.84			
Field Sample # :	MW-3(10-12FT)(	(11FT)								
Sample ID :	09B08743		‡Sampleo Not Spec	d : 3/23/2009 ified						
Sample Matrix:	SOIL									
		Units		Results	Date Analyzed	Analyst	RL	SPEC Lin Lo	nit Hi	P/ F
Lead		mg/kg d	ry wt	146	03/27/09	KSH	0.83			
Field Sample # :	MW-3(16-18FT)(	(17FT)								
Sample ID :	09B08744		‡Sampleo Not Spec	d : 3/23/2009 ified						
Sample Matrix:	SOIL									
		Units		Results	Date Analyzed	Analyst	RL	SPEC Lin Lo	nit Hi	P/ F

Lead 9.69 03/27/09 KSH mg/kg dry wt

Analytical Method:

SW846 3050/6010

SAMPLES ARE DIGESTED WITH NITRIC ACID AND THEN ANALYZED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROSCOPY.

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SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

0.81

\* = See end of report for comments and notes applying to this sample



•	sa shince sheet	East Lon	gineadow, MA 01026 F	AX 413/323-	0405 IEL	. 413/32	0-2332	
TOM BIOLSI TRC SOLUTIONS 650 SUFFOLK ST LOWELL, MA 018	REET		Purchase Order N	No.:				30/2009 age 24 of  35
Project Location: Date Received: Field Sample # :	3/23/2009		TSFIELD, MA.				LIMS-BAT #: Job Number:	LIMT-24161 158037.0020
Sample ID :	09B08736		‡Sampled : 3/23/2009 Not Specified					
Sample Matrix:	SOIL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo F	it P/ F <del>l</del> i
Solids, total		%	89.0	03/26/09	FD			
Field Sample # :	MW-1(1-3 FT)(2	FT)						
Sample ID :	09B08729		‡Sampled : 3/23/2009 Not Specified					
Sample Matrix:	SOIL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo F	it P/ F li
Solids, total		%	86.7	03/26/09	FD			
Field Sample # :	MW-1(8-10FT)(9	ÐFT)						
Sample ID :	09B08730		‡Sampled : 3/23/2009 Not Specified					
Sample Matrix:	SOIL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo F	it P/ F <del>l</del> i
Solids, total		%	91.0	03/26/09	FD			
Field Sample # :	MW-2(1-3FT)(2	<b>-</b> T)						
Sample ID :	09B08731		‡Sampled : 3/23/2009 Not Specified					
Sample Matrix:	SOIL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo F	it P/F <del>l</del> i
Solids, total		%	85.0	03/26/09	FD			
Field Sample # :	MW-2(8-10FT)(	9FT)						
Sample ID :	09B08732		‡Sampled : 3/23/2009 Not Specified					
Sample Matrix:	SOIL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo F	it P/ F <del>l</del> i
Solids, total		%	95.1	03/26/09	FD			

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regulatory level

ND = Not Detected at or above the Reporting Limit

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\* = See end of report for comments and notes applying to this sample



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

	39 Spruce Street	° East Lor	gmeadow, MA 01028 ° F	AX 413/525-	6405 ° TEL	. 413/52	25-2332	
TOM BIOLSI TRC SOLUTIONS 650 SUFFOLK ST								30/2009 age 25 of 35
LOWELL, MA 018	52		Purchase Order I	No.:				0
Project Location: Date Received: Field Sample # :	235 TYLER ST 3/23/2009 <b>MW-3(1-3FT)(2</b>	-	TSFIELD, MA.				LIMS-BAT #: Job Number:	LIMT-24161 158037.0020
Sample ID :	09B08733		‡Sampled : 3/23/2009 Not Specified					
Sample Matrix:	SOIL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo F	it P/ F <del>l</del> i
Solids, total		%	89.6	03/26/09	FD			
Field Sample # :	MW-3(10-12FT	)(11FT)						
Sample ID :	09B08734		‡Sampled : 3/23/2009 Not Specified					
Sample Matrix:	SOIL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo F	it P/ F <del>l</del> i
Solids, total		%	91.4	03/26/09	FD			
Solids, total Field Sample # :	MW-3(16-18FT		91.4	03/26/09	FD			
	MW-3(16-18FT 09B08735		‡Sampled : 3/23/2009	03/26/09	FD			
Field Sample # :	•			03/26/09	FD			
Field Sample # : Sample ID :	09B08735		‡Sampled : 3/23/2009	03/26/09 Date Analyzed	FD Analyst	RL	SPEC Lim Lo F	it P/ F li
Field Sample # : Sample ID :	09B08735	)(17FT)	‡Sampled : 3/23/2009 Not Specified	Date		RL		

SM 2540G

PERCENT OF SAMPLE REMAINING AFTER DRYING OVERNIGHT AT 103-105 DEGREES CENTIGRADE.

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TOM BIOLSI					
TRC SOLUTIONS - LOWELL 3/30/2009					
650 SUFFOLK ST	REET		Pa	age 26 of 35	
LOWELL, MA 018	52	Purchase Order No.:			
Project Location:	235 TYLER STREET, PIT	TSFIELD, MA.	LIMS-BAT #:	LIMT-24161	
Date Received:	3/23/2009		Job Number:	158037.0020	
Field Sample # :	DUP-1(1-3FT)(2FT)				
Sample ID :	09B08736	‡Sampled : 3/23/2009			

Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	19.2			
C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	19.2			
Unadjusted C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	12.8			
C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	12.8			
C9-C10 Aromatics	mg/kg dry wt	ND	03/25/09	JAM	12.8			
Benzene	mg/kg dry wt	ND	03/25/09	JAM	0.064			
Ethylbenzene	mg/kg dry wt	ND	03/25/09	JAM	0.064			
MTBE	mg/kg dry wt	ND	03/25/09	JAM	0.064			
Naphthalene	mg/kg dry wt	ND	03/25/09	JAM	0.639			
Toluene	mg/kg dry wt	ND	03/25/09	JAM	0.064			
m/p-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.128			
o-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.064			
m/p-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.128			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI				
TRC SOLUTIONS	- LOWELL		3/	30/2009
650 SUFFOLK ST	REET		Pa	age 27 of 35
LOWELL, MA 018	52	Purchase Order No.:		
Project Location:	235 TYLER STREET, PITT	ΓSFIELD, MA.	LIMS-BAT #:	LIMT-24161
Date Received:	3/23/2009		Job Number:	158037.0020
Field Sample # :	MW-1(1-3 FT)(2FT)			
Sample ID :	09B08729	‡Sampled : 3/23/2009		

Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	19.3			
C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	19.3			
Unadjusted C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	12.9			
C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	12.9			
C9-C10 Aromatics	mg/kg dry wt	ND	03/25/09	JAM	12.9			
Benzene	mg/kg dry wt	ND	03/25/09	JAM	0.065			
Ethylbenzene	mg/kg dry wt	ND	03/25/09	JAM	0.065			
MTBE	mg/kg dry wt	ND	03/25/09	JAM	0.065			
Naphthalene	mg/kg dry wt	ND	03/25/09	JAM	0.641			
Toluene	mg/kg dry wt	ND	03/25/09	JAM	0.065			
m/p-Xylene	mg/kg dry wt	0.204	03/25/09	JAM	0.129			
o-Xylene	mg/kg dry wt	0.087	03/25/09	JAM	0.065			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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\* = See end of report for comments and notes applying to this sample



TOM BIOLSI				
TRC SOLUTIONS - LOWELL 3/30/2009				
650 SUFFOLK ST	REET		Pa	age 28 of 35
LOWELL, MA 018	52	Purchase Order No.:		
Project Location:	235 TYLER STREET, PIT	TSFIELD, MA.	LIMS-BAT #:	LIMT-24161
Date Received:	3/23/2009		Job Number:	158037.0020
Field Sample # :	MW-1(8-10FT)(9FT)			
Sample ID :	09B08730	‡Sampled : 3/23/2009		

Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	16.5			
C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	16.5			
Unadjusted C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	11.0			
C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	11.0			
C9-C10 Aromatics	mg/kg dry wt	ND	03/25/09	JAM	11.0			
Benzene	mg/kg dry wt	ND	03/25/09	JAM	0.055			
Ethylbenzene	mg/kg dry wt	ND	03/25/09	JAM	0.055			
MTBE	mg/kg dry wt	ND	03/25/09	JAM	0.055			
Naphthalene	mg/kg dry wt	ND	03/25/09	JAM	0.550			
Toluene	mg/kg dry wt	ND	03/25/09	JAM	0.055			
m/p-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.110			
o-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.055			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

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Not Specified

TOM BIOLSI					
TRC SOLUTIONS - LOWELL 3/30/2009					
650 SUFFOLK ST	REET		Pa	age 29 of 35	
LOWELL, MA 018	52	Purchase Order No.:			
Project Location:	235 TYLER STREET, PIT	TSFIELD, MA.	LIMS-BAT #:	LIMT-24161	
Date Received:	3/23/2009		Job Number:	158037.0020	
Field Sample # :	MW-2(1-3FT)(2FT)				
Sample ID :	09B08731	‡Sampled : 3/23/2009			

SOIL

Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
		Analyzed			Lo	Hi	
mg/kg dry wt	ND	03/25/09	JAM	21.1			
mg/kg dry wt	ND	03/25/09	JAM	21.1			
mg/kg dry wt	ND	03/25/09	JAM	14.1			
mg/kg dry wt	ND	03/25/09	JAM	14.1			
mg/kg dry wt	ND	03/25/09	JAM	14.1			
mg/kg dry wt	ND	03/25/09	JAM	0.071			
mg/kg dry wt	ND	03/25/09	JAM	0.071			
mg/kg dry wt	ND	03/25/09	JAM	0.071			
mg/kg dry wt	ND	03/25/09	JAM	0.701			
mg/kg dry wt	ND	03/25/09	JAM	0.071			
mg/kg dry wt	ND	03/25/09	JAM	0.141			
mg/kg dry wt	ND	03/25/09	JAM	0.071			
	mg/kg dry wt mg/kg dry wt	mg/kg dry wtNDmg/kg dry wtND	Analyzed           mg/kg dry wt         ND         03/25/09           mg/kg dry wt         ND         03/25/09	Analyzed           mg/kg dry wt         ND         03/25/09         JAM           mg/kg dry wt         ND         03/25/09         JAM	Analyzed           mg/kg dry wt         ND         03/25/09         JAM         21.1           mg/kg dry wt         ND         03/25/09         JAM         21.1           mg/kg dry wt         ND         03/25/09         JAM         21.1           mg/kg dry wt         ND         03/25/09         JAM         14.1           mg/kg dry wt         ND         03/25/09         JAM         14.1           mg/kg dry wt         ND         03/25/09         JAM         14.1           mg/kg dry wt         ND         03/25/09         JAM         0.071           mg/kg dry wt         ND         03/25/09         JAM         0.701           mg/kg dry wt         ND         03/25/09         JAM         0.071           mg/kg dry wt         ND         03/25/09         JAM         0.071           mg/kg dry wt         ND	Analyzed         Lo           mg/kg dry wt         ND         03/25/09         JAM         21.1           mg/kg dry wt         ND         03/25/09         JAM         21.1           mg/kg dry wt         ND         03/25/09         JAM         21.1           mg/kg dry wt         ND         03/25/09         JAM         14.1           mg/kg dry wt         ND         03/25/09         JAM         14.1           mg/kg dry wt         ND         03/25/09         JAM         14.1           mg/kg dry wt         ND         03/25/09         JAM         0.071           mg/kg dry wt         ND         03/25/09         JAM         0.701           mg/kg dry wt         ND         03/25/09         JAM         0.071           mg/kg dry wt         ND         03/25/09         JAM         0.071           mg/kg dry wt	Analyzed         Lo         Hi           mg/kg dry wt         ND         03/25/09         JAM         21.1           mg/kg dry wt         ND         03/25/09         JAM         21.1           mg/kg dry wt         ND         03/25/09         JAM         14.1           mg/kg dry wt         ND         03/25/09         JAM         0.071           mg/kg dry wt         ND         03/25/09         JAM         0.701           mg/kg dry wt         ND         03/25/09         JAM         0.071           mg/kg dry wt         ND         03/25/09         JAM         0.071 <t< td=""></t<>

Analytical Method:

Sample Matrix:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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TOM BIOLSI					
TRC SOLUTIONS - LOWELL 3/30/2009					
650 SUFFOLK STRE	ET		Pa	age 30 of 35	
LOWELL, MA 01852		Purchase Order No.:			
Project Location: 23	35 TYLER STREET, PITTSFIEL	D, MA.	LIMS-BAT #:	LIMT-24161	
Date Received: 3/	/23/2009		Job Number:	158037.0020	
Field Sample # : M	IW-2(8-10FT)(9FT)				
Sample ID : 09	<b>9B08732</b> ‡Sam	pled : 3/23/2009			

Not Specified

Sample Matrix: SOIL

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Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

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TOM BIOLSI					
TRC SOLUTIONS - LOWELL 3/30/2009					
650 SUFFOLK ST	REET		Pa	age 31 of 35	
LOWELL, MA 018	52	Purchase Order No.:			
Project Location:	235 TYLER STREET, PIT	TSFIELD, MA.	LIMS-BAT #:	LIMT-24161	
Date Received:	3/23/2009		Job Number:	158037.0020	
Field Sample # :	MW-3(1-3FT)(2FT)				
Sample ID :	09B08733	‡Sampled : 3/23/2009			

Not Specified

Samp	le N	Aatrix:	SO	IL
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	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	18.4			
C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	18.4			
Unadjusted C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	12.3			
C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	12.3			
C9-C10 Aromatics	mg/kg dry wt	ND	03/25/09	JAM	12.3			
Benzene	mg/kg dry wt	ND	03/25/09	JAM	0.062			
Ethylbenzene	mg/kg dry wt	ND	03/25/09	JAM	0.062			
MTBE	mg/kg dry wt	ND	03/25/09	JAM	0.062			
Naphthalene	mg/kg dry wt	ND	03/25/09	JAM	0.614			
Toluene	mg/kg dry wt	ND	03/25/09	JAM	0.062			
m/p-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.123			
o-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.062			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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TOM BIOLSI				
TRC SOLUTIONS	- LOWELL		3/	30/2009
650 SUFFOLK ST	REET		P	age 32 of 35
LOWELL, MA 018	52	Purchase Order No.:		
Project Location:	235 TYLER STREET, PIT	TSFIELD, MA.	LIMS-BAT #:	LIMT-24161
Date Received:	3/23/2009		Job Number:	158037.0020
Field Sample # :	MW-3(10-12FT)(11FT)			
Sample ID :	09B08734	‡Sampled : 3/23/2009		

‡Sampled : 3/23/2009 Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC		P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	20.1			
C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	20.1			
Unadjusted C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	13.4			
C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	13.4			
C9-C10 Aromatics	mg/kg dry wt	ND	03/25/09	JAM	13.4			
Benzene	mg/kg dry wt	ND	03/25/09	JAM	0.067			
Ethylbenzene	mg/kg dry wt	ND	03/25/09	JAM	0.067			
MTBE	mg/kg dry wt	ND	03/25/09	JAM	0.067			
Naphthalene	mg/kg dry wt	ND	03/25/09	JAM	0.668			
Toluene	mg/kg dry wt	ND	03/25/09	JAM	0.067			
m/p-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.134			
o-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.067			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

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Not Specified

TOM BIOLSI				
TRC SOLUTIONS	- LOWELL		3/	30/2009
650 SUFFOLK ST	REET		P	age 33 of 35
LOWELL, MA 018	52	Purchase Order No.:		
Project Location:	235 TYLER STREET, PIT	TSFIELD, MA.	LIMS-BAT #:	LIMT-24161
Date Received:	3/23/2009		Job Number:	158037.0020
Field Sample # :	MW-3(16-18FT)(17FT)			
Sample ID :	09B08735	‡Sampled : 3/23/2009		

Sample Matrix: SOIL

	Units	Results	Date Analyzed	Analyst	RL	SPEC Lo	Limit Hi	P/ F
Unadjusted C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	15.3			
C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	15.3			
Unadjusted C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	10.2			
C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	10.2			
C9-C10 Aromatics	mg/kg dry wt	ND	03/25/09	JAM	10.2			
Benzene	mg/kg dry wt	ND	03/25/09	JAM	0.051			
Ethylbenzene	mg/kg dry wt	ND	03/25/09	JAM	0.051			
MTBE	mg/kg dry wt	ND	03/25/09	JAM	0.051			
Naphthalene	mg/kg dry wt	ND	03/25/09	JAM	0.509			
Toluene	mg/kg dry wt	ND	03/25/09	JAM	0.051			
m/p-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.102			
o-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.051			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

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TOM BIOLSI				
TRC SOLUTIONS	- LOWELL		3/	30/2009
650 SUFFOLK STREET			P	age 34 of 35
LOWELL, MA 018	52	Purchase Order No.:		
Project Location:	235 TYLER STREET, PIT	TSFIELD, MA.	LIMS-BAT #:	LIMT-24161
Date Received:	3/23/2009		Job Number:	158037.0020
Field Sample # :	TRIP BLANK			
Sample ID :	09B08747	‡Sampled : 3/23/2009		

Not Specified

	Units	Results	Date Analyzed	Analyst	RL	SPEC Lo	Limit Hi	P/ F
Unadjusted C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	16.0			
C5-C8 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	16.0			
Unadjusted C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	10.7			
C9-C12 Aliphatics	mg/kg dry wt	ND	03/25/09	JAM	10.7			
C9-C10 Aromatics	mg/kg dry wt	ND	03/25/09	JAM	10.7			
Benzene	mg/kg dry wt	ND	03/25/09	JAM	0.054			
Ethylbenzene	mg/kg dry wt	ND	03/25/09	JAM	0.054			
MTBE	mg/kg dry wt	ND	03/25/09	JAM	0.054			
Naphthalene	mg/kg dry wt	ND	03/25/09	JAM	0.532			
Toluene	mg/kg dry wt	ND	03/25/09	JAM	0.054			
m/p-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.107			
o-Xylene	mg/kg dry wt	ND	03/25/09	JAM	0.054			

Analytical Method:

Sample Matrix:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase 0 Project Location: 235 TYLER STREET, PITTSFIELD, MA. Date Received: 3/23/2009

Purchase Order No.:

3/30/2009 Page 35 of 35

LIMS-BAT #: LIMT-24161 Job Number: 158037.0020

\*\* END OF REPORT \*\*

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# QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates Sample Matrix Spikes and Matrix Spike Duplicates BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Method Blanks 3/30/2009 LIMT-24161 Report Date: Lims Bat # : Page 1 of 16 QC Batch Number: GC/ECD-12235 Sample Id QC Analysis Values Units Limits Analysis 09B08738 Decachlorobiphenyl Surrogate Recovery 71.6 % 30-150 Tetrachloro-m-Xylene Surrogate Recovery 80.6 % 30-150 09B08739 109.7 % Decachlorobiphenyl Surrogate Recovery 30-150 Tetrachloro-m-Xylene Surrogate Recovery 69.5 % 30-150 09B08740 Decachlorobiphenyl Surrogate Recovery 78.3 % 30-150 Tetrachloro-m-Xylene Surrogate Recovery 80.3 % 30-150 09B08741 69.4 Decachlorobiphenyl Surrogate Recovery % 30-150 Tetrachloro-m-Xylene Surrogate Recovery 36.2 % 30-150 09B08742 67.3 % Decachlorobiphenyl Surrogate Recovery 30-150 Tetrachloro-m-Xylene Surrogate Recovery 77.5 % 30-150 09B08743 Surrogate Recovery Decachlorobiphenyl 74.7 % 30-150 Tetrachloro-m-Xylene Surrogate Recovery 82.3 % 30-150 09B08744 % Decachlorobiphenyl Surrogate Recovery 82.5 30-150 Tetrachloro-m-Xylene Surrogate Recovery 92.5 % 30-150 09B08745 Decachlorobiphenyl Surrogate Recovery 65.0 % 30-150 Tetrachloro-m-Xylene Surrogate Recovery 75.0 % 30-150 BLANK-131107 PCB-1232 Blank <0.100 mg/kg dry wt PCB-1242 Blank <0.100 mg/kg dry wt PCB-1254 Blank < 0.100 mg/kg dry wt PCB-1260 Blank < 0.100 mg/kg dry wt PCB-1248 Blank <0.100 mg/kg dry wt <0.100 PCB-1221 Blank mg/kg dry wt PCB 1016 Blank <0.100 mg/kg dry wt PCB 1262 Blank <0.100 mg/kg dry wt PCB 1268 Blank <0.100 mg/kg dry wt LFBLANK-93332 PCB-1260 Lab Fort Blank Amt. 0.200 mg/kg dry wt Lab Fort Blk. Found 0.158 mg/kg dry wt Lab Fort Blk. % Rec. 79.172 % 40-140 Dup Lab Fort BI Amt. 0.200 mg/kg dry wt 0.181 Dup Lab Fort Bl. Fnd mg/kg dry wt Dup Lab Fort BI %Rec 90.517 % Lab Fort Blank Range units 11.345

Lab Fort Bl. Av. Rec

LFB Duplicate RPD

84.845

13.371

%

%

0-30



# QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Method Blanks

Report Date:	3/30/2009	Lims Bat # : LIMT-24161	Page 2 of 16		
QC Batch Numbe	er: GC/ECD-12235				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-93332					
	PCB 1016	Lab Fort Blank Amt.	0.200	mg/kg dry wt	
		Lab Fort Blk. Found	0.171	mg/kg dry wt	
		Lab Fort Blk. % Rec.	85.765	%	40-140
		Dup Lab Fort BI Amt.	0.200	mg/kg dry wt	
		Dup Lab Fort BI. Fnd	0.196	mg/kg dry wt	
		Dup Lab Fort BI %Rec	98.377	%	
		Lab Fort Blank Range	12.612	units	
		Lab Fort BI. Av. Rec	92.071	%	
		LFB Duplicate RPD	13.698	%	0-30



# QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Method Blanks

Report Date: 3/30/2009		Lims Bat # : LIMT-24161	Page 3 of 16			
QC Batch Numbe	er: GC/FID-23339					
Sample Id	Analysis	QC Analysis	Values	Units	Limits	
09B08729						
	2-Fluorobiphenyl	Surrogate Recovery	92.3	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	93.6	%	40-140	
	Chlorooctadecane	Sur. Recovery	64.6	%	40-140	
	Terphenyl	Sur. Recovery	70.8	%	40-140	
)9B08730						
	2-Fluorobiphenyl	Surrogate Recovery	88.1	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	88.9	%	40-140	
	Chlorooctadecane	Sur. Recovery	77.2	%	40-140	
	Terphenyl	Sur. Recovery	90.4	%	40-140	
09B08731						
	2-Fluorobiphenyl	Surrogate Recovery	94.7	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	94.9	%	40-140	
	Chlorooctadecane	Sur. Recovery	64.6	%	40-140	
	Terphenyl	Sur. Recovery	73.2	%	40-140	
09B08732		,				
	2-Fluorobiphenyl	Surrogate Recovery	89.7	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	92.0	%	40-140	
	Chlorooctadecane	Sur. Recovery	71.3	%	40-140	
	Terphenyl	Sur. Recovery	78.0	%	40-140	
)9B08733						
	2-Fluorobiphenyl	Surrogate Recovery	88.7	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	90.5	%	40-140	
	Chlorooctadecane	Sur. Recovery	75.0	%	40-140	
	Terphenyl	Sur. Recovery	82.6	%	40-140	
)9B08734		<b>,</b>				
	2-Fluorobiphenyl	Surrogate Recovery	93.5	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	94.9	%	40-140	
	Chlorooctadecane	Sur. Recovery	69.6	%	40-140	
	Terphenyl	Sur. Recovery	84.6	%	40-140	
)9B08735	·······		00			
	2-Fluorobiphenyl	Surrogate Recovery	94.5	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	95.3	%	40-140	
	Chlorooctadecane	Sur. Recovery	72.8	%	40-140	
	Terphenyl	Sur. Recovery	80.7	%	40-140	
)9B08736			00.1	, <del>,</del>		
	2-Fluorobiphenyl	Surrogate Recovery	90.7	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	92.0	%	40-140	
	Chlorooctadecane	Sur. Recovery	73.0	%	40-140	
	Terphenyl	Sur. Recovery	82.4	%	40-140	
BLANK-131176	reiphenyi	Gui. Recovery	02.4	70	-0-1-0	
52,000,00000	Naphthalene	Blank	<0.2	mg/kg dry w	ł	
	Acenaphthene	Blank	<0.2	mg/kg dry w		
	Acenaphthylene	Blank	<0.2	mg/kg dry w	t	



# QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Method Blanks

Report Date:	3/30/2009 Lims B	3/30/2009 Lims Bat # : LIMT-24161		Page 4 of 16			
QC Batch Number	- GC/FID-23339						
Sample Id	Analysis	QC Analysis	Values	Units	Limits		
3LANK-131176							
	Anthracene	Blank	<0.2	mg/kg dry wt			
	Benzo(a)anthracene	Blank	<0.2	mg/kg dry wt			
	Benzo(a)pyrene	Blank	<0.2	mg/kg dry wt			
	Benzo(b)fluoranthene	Blank	<0.2	mg/kg dry wt			
	Benzo(g,h,i)perylene	Blank	<0.2	mg/kg dry wt			
	Chrysene	Blank	<0.2	mg/kg dry wt			
	Dibenzo(a,h)anthracene	Blank	<0.2	mg/kg dry wt			
	Fluoranthene	Blank	<0.2	mg/kg dry wt			
	Fluorene	Blank	<0.2	mg/kg dry wt			
	Indeno(1,2,3-cd)pyrene	Blank	<0.2	mg/kg dry wt			
	2-Methylnaphthalene	Blank	<0.2	mg/kg dry wt			
	Phenanthrene	Blank	<0.2	mg/kg dry wt			
	Pyrene	Blank	<0.2	mg/kg dry wt			
	Benzo(k)fluoranthene	Blank	<0.2	mg/kg dry wt			
	n-Nonane	Blank	<0.2	mg/kg dry wt			
	Naphthalene Aliphatic Fraction	Blank	<0.2	mg/kg dry wt			
	2-Methylnaphthalene Aliphatic Fraction	Blank	<0.2	mg/kg dry wt			
	Unadjusted C11-C22 Aromatics	Blank	<30.1	mg/kg dry wt			
	C9-C18 Aliphatics	Blank	<30.1	mg/kg dry wt			
	C19-C36 Aliphatics	Blank	<30.1	mg/kg dry wt			
	C11-C22 Aromatics	Blank	<30.1	mg/kg dry wt			
FBLANK-93402							
	Naphthalene	Lab Fort Blank Amt.	5.0	mg/kg dry wt			
		Lab Fort Blk. Found	4.1	mg/kg dry wt			
		Lab Fort Blk. % Rec.	82.3	%	40-140		
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt			
		Dup Lab Fort Bl. Fnd	4.0	mg/kg dry wt			
		Dup Lab Fort BI %Rec	81.8	%	40-140		
		Lab Fort Blank Range	0.4	units			
		Lab Fort Bl. Av. Rec	82.0	%			
		LFB Duplicate RPD	0.6	%	0-25		
	Acenaphthene	Lab Fort Blank Amt.	5.0	mg/kg dry wt			
		Lab Fort Blk. Found	4.8	mg/kg dry wt			
		Lab Fort Blk. % Rec.	96.1	%	40-140		
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt			
		Dup Lab Fort Bl. Fnd	4.7	mg/kg dry wt			
		Dup Lab Fort BI %Rec	94.3	%	40-140		
		Lab Fort Blank Range	1.7	units			
		Lab Fort Bl. Av. Rec	95.2	%			
		LFB Duplicate RPD	1.8	%	0-25		
	Acenaphthylene	Lab Fort Blank Amt.	5.0	mg/kg dry wt			
	Acenaphthylene	Lab Fort Blank Amt. Lab Fort Blk. Found	5.0 4.8	mg/kg dry wt mg/kg dry wt			



### QC SUMMARY REPORT

### SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/30/2009	Lims Bat # : LIMT-24161		Page 5 of	16
QC Batch Number	GC/FID-23339				
ample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-93402					
	Acenaphthylene	Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.7	mg/kg dry wt	
		Dup Lab Fort BI %Rec	95.7	%	40-140
		Lab Fort Blank Range	1.7	units	
		Lab Fort Bl. Av. Rec	96.6	%	
		LFB Duplicate RPD	1.8	%	0-25
	Anthracene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	5.0	mg/kg dry wt	
		Lab Fort Blk. % Rec.	101.4	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.9	mg/kg dry wt	
		Dup Lab Fort BI %Rec	99.1	%	40-140
		Lab Fort Blank Range	2.2	units	
		Lab Fort Bl. Av. Rec	100.2	%	
		LFB Duplicate RPD	2.2	%	0-25
	Benzo(a)anthracene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.7	mg/kg dry wt	
		Lab Fort Blk. % Rec.	94.3	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.5	mg/kg dry wt	
		Dup Lab Fort BI %Rec	91.8	%	40-140
		Lab Fort Blank Range	2.5	units	
		Lab Fort BI. Av. Rec	93.0	%	
		LFB Duplicate RPD	2.6	%	0-25
	Benzo(a)pyrene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.7	mg/kg dry wt	
		Lab Fort Blk. % Rec.	95.4	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.6	mg/kg dry wt	
		Dup Lab Fort BI %Rec	93.3	%	40-140
		Lab Fort Blank Range	2.0	units	
		Lab Fort Bl. Av. Rec	94.3	%	
		LFB Duplicate RPD	2.2	%	0-25
	Benzo(b)fluoranthene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	5.0	mg/kg dry wt	
		Lab Fort Blk. % Rec.	100.2	%	40-140
		Dup Lab Fort Bl Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.8	mg/kg dry wt	
		Dup Lab Fort BI %Rec	97.8	%	40-140
		Lab Fort Blank Range	2.4	units	
		Lab Fort Bl. Av. Rec	99.0	%	
		LFB Duplicate RPD	2.5	%	0-25
	Benzo(g,h,i)perylene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	



# QC SUMMARY REPORT

### SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/30/2009	Lims Bat # : LIMT-24161	Page 6 of 16			
QC Batch Number	r: GC/FID-23339					
Sample Id	Analysis	QC Analysis	Values	Units	Limits	
FBLANK-93402						
	Benzo(g,h,i)perylene	Lab Fort Blk. Found	4.8	mg/kg dry wt		
		Lab Fort Blk. % Rec.	97.3	%	40-140	
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	4.7	mg/kg dry wt		
		Dup Lab Fort BI %Rec	94.9	%	40-140	
		Lab Fort Blank Range	2.3	units		
		Lab Fort Bl. Av. Rec	96.1	%		
		LFB Duplicate RPD	2.4	%	0-25	
	Chrysene	Lab Fort Blank Amt.	5.0	mg/kg dry wt		
		Lab Fort Blk. Found	5.0	mg/kg dry wt		
		Lab Fort Blk. % Rec.	100.1	%	40-140	
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	4.8	mg/kg dry wt		
		Dup Lab Fort BI %Rec	97.3	%	40-140	
		Lab Fort Blank Range	2.8	units		
		Lab Fort Bl. Av. Rec	98.7	%		
		LFB Duplicate RPD	2.8	%	0-25	
	Dibenzo(a,h)anthracene	Lab Fort Blank Amt.	5.0	mg/kg dry wt		
		Lab Fort Blk. Found	4.8	mg/kg dry wt		
		Lab Fort Blk. % Rec.	97.2	%	40-140	
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	4.7	mg/kg dry wt		
		Dup Lab Fort BI %Rec	95.2	%	40-140	
		Lab Fort Blank Range	2.0	units		
		Lab Fort Bl. Av. Rec	96.2	%		
		LFB Duplicate RPD	2.0	%	0-25	
	Fluoranthene	Lab Fort Blank Amt.	5.0	mg/kg dry wt		
		Lab Fort Blk. Found	4.8	mg/kg dry wt		
		Lab Fort Blk. % Rec.	97.5	%	40-140	
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	4.7	mg/kg dry wt		
		Dup Lab Fort BI %Rec	94.9	%	40-140	
		Lab Fort Blank Range	2.6	units		
		Lab Fort Bl. Av. Rec	96.2	%		
		LFB Duplicate RPD	2.7	%	0-25	
	Fluorene	Lab Fort Blank Amt.	5.0	mg/kg dry wt		
		Lab Fort Blk. Found	4.9	mg/kg dry wt		
		Lab Fort Blk. % Rec.	98.9	%	40-140	
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	4.8	mg/kg dry wt		
		Dup Lab Fort BI %Rec	96.8	%	40-140	
		Lab Fort Blank Range	2.0	units		
		Lab Fort Bl. Av. Rec	97.8	%		



# QC SUMMARY REPORT

### SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/30/2009	Lims Bat # : LIMT-24161		Page 7 of	16
QC Batch Number	GC/FID-23339				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
FBLANK-93402					
	Fluorene	LFB Duplicate RPD	2.0	%	0-25
	Indeno(1,2,3-cd)pyrene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.7	mg/kg dry wt	
		Lab Fort Blk. % Rec.	95.6	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.6	mg/kg dry wt	
		Dup Lab Fort BI %Rec	93.5	%	40-140
		Lab Fort Blank Range	2.1	units	
		Lab Fort Bl. Av. Rec	94.6	%	
		LFB Duplicate RPD	2.2	%	0-25
	2-Methylnaphthalene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.5	mg/kg dry wt	
		Lab Fort Blk. % Rec.	90.7	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.4	mg/kg dry wt	
		Dup Lab Fort BI %Rec	89.7	%	40-140
		Lab Fort Blank Range	0.9	units	
		Lab Fort Bl. Av. Rec	90.2	%	
		LFB Duplicate RPD	1.0	%	0-25
	Phenanthrene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.8	mg/kg dry wt	
		Lab Fort Blk. % Rec.	97.1	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.7	mg/kg dry wt	
		Dup Lab Fort BI %Rec	95.1	%	40-140
		Lab Fort Blank Range	2.0	units	
		Lab Fort Bl. Av. Rec	96.1	%	
		LFB Duplicate RPD	2.1	%	0-25
	Pyrene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	5.0	mg/kg dry wt	
		Lab Fort Blk. % Rec.	100.9	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.9	mg/kg dry wt	
		Dup Lab Fort BI %Rec	98.6	%	40-140
		Lab Fort Blank Range	2.3	units	
		Lab Fort Bl. Av. Rec	99.7	%	
		LFB Duplicate RPD	2.3	%	0-25
	Benzo(k)fluoranthene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	-
	- ( )	Lab Fort Blk. Found	4.8	mg/kg dry wt	
		Lab Fort Blk. % Rec.	97.8	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	•
		Dup Lab Fort Bl. Fnd	4.7	mg/kg dry wt	
		Dup Lab Fort BI %Rec	95.5	%	40-140



# QC SUMMARY REPORT

### SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/30/2009 Lims Bat	Lims Bat # : LIMT-24161		Page 8 of 16			
C Batch Number:	GC/FID-23339						
ample Id	Analysis	QC Analysis	Values	Units	Limits		
BLANK-93402							
	Benzo(k)fluoranthene	Lab Fort Blank Range	2.2	units			
		Lab Fort Bl. Av. Rec	96.6	%			
		LFB Duplicate RPD	2.2	%	0-25		
	n-Nonane	Lab Fort Blank Amt.	5.0	mg/kg dry wt			
		Lab Fort Blk. Found	2.3	mg/kg dry wt			
		Lab Fort Blk. % Rec.	46.5	%	30-140		
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt			
		Dup Lab Fort Bl. Fnd	2.6	mg/kg dry wt			
		Dup Lab Fort BI %Rec	53.0	%	30-140		
		Lab Fort Blank Range	6.5	units			
		Lab Fort Bl. Av. Rec	49.8	%			
		LFB Duplicate RPD	13.0	%			
	Naphthalene Aliphatic Fraction	Lab Fort Blank Amt.	4.1	mg/kg dry wt			
		Lab Fort Blk. Found	0.0	mg/kg dry wt			
		Lab Fort Blk. % Rec.	0.0	%	0-5		
		Dup Lab Fort BI Amt.	4.0	mg/kg dry wt			
		Dup Lab Fort Bl. Fnd	0.0	mg/kg dry wt			
		Dup Lab Fort BI %Rec	0.0	%	0-5		
		Lab Fort Blank Range	0.0	units			
		Lab Fort Bl. Av. Rec	0.0	%			
	2-Methylnaphthalene Aliphatic Fraction	Lab Fort Blank Amt.	4.5	mg/kg dry wt			
		Lab Fort Blk. Found	0.0	mg/kg dry wt			
		Lab Fort Blk. % Rec.	0.0	%	0-5		
		Dup Lab Fort BI Amt.	4.4	mg/kg dry wt			
		Dup Lab Fort Bl. Fnd	0.0	mg/kg dry wt			
		Dup Lab Fort BI %Rec	0.0	%	0-5		
		Lab Fort Blank Range	0.0	units			
		Lab Fort Bl. Av. Rec	0.0	%			
	Unadjusted C11-C22 Aromatics	Lab Fort Blank Amt.	85.0	mg/kg dry wt			
		Lab Fort Blk. Found	85.6	mg/kg dry wt			
		Lab Fort Blk. % Rec.	100.7	%	40-140		
		Dup Lab Fort BI Amt.	85.0	mg/kg dry wt			
		Dup Lab Fort Bl. Fnd	84.1	mg/kg dry wt			
		Dup Lab Fort BI %Rec	98.9	%	40-140		
		Lab Fort Blank Range	1.7	units			
		Lab Fort Bl. Av. Rec	99.8	%			
		LFB Duplicate RPD	1.7	%	0-25		
	C9-C18 Aliphatics	Lab Fort Blank Amt.	30.0	mg/kg dry wt			
		Lab Fort Blk. Found	25.9	mg/kg dry wt			
		Lab Fort Blk. % Rec.	86.5	%	40-140		
		Dup Lab Fort BI Amt.	30.0	mg/kg dry wt			
		Dup Lab Fort Bl. Fnd	27.9	mg/kg dry wt			
		Dup Lab Fort BI %Rec	93.2	%	40-140		



# QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/30/2009	Lims Bat # : LIMT-24161		Page 9 of	16
QC Batch Num	ber: GC/FID-23339				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-9340	2				
	C9-C18 Aliphatics	Lab Fort Blank Range	6.7	units	
		Lab Fort Bl. Av. Rec	89.9	%	
		LFB Duplicate RPD	7.4	%	0-25
	C19-C36 Aliphatics	Lab Fort Blank Amt.	40.0	mg/kg dry wt	
		Lab Fort Blk. Found	42.3	mg/kg dry wt	
		Lab Fort Blk. % Rec.	105.8	%	40-140
		Dup Lab Fort BI Amt.	40.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	42.9	mg/kg dry wt	
		Dup Lab Fort BI %Rec	107.3	%	40-140
		Lab Fort Blank Range	1.4	units	
		Lab Fort Bl. Av. Rec	106.6	%	
		LFB Duplicate RPD	1.4	%	0-25



### QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates Sample Matrix Spikes and Matrix Spike Duplicates BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates Method Blanks

eport Date:	3/30/2009	Lims Bat # : LIMT-24161			Page 10 of 16			
C Batch Number:	GC/FID-23342							
ample Id	Analysis	Q	C Analysis	Valu	es	Units	Limits	
B08729								
	2,5-Dibromotoluene (FID)	Su	r. Recovery FID		111.2	%		
B08730		0			110 7	0/		
B08731	2,5-Dibromotoluene (FID)	Su	r. Recovery FID		112.7	%		
	2,5-Dibromotoluene (FID)	Su	r. Recovery FID		116.3	%		
B08732		<u> </u>	1. Recovery Fib		110.5	70		
	2,5-Dibromotoluene (FID)	Su	r. Recovery FID		107.5	%		
B08733	,		, , , , , , , , , , , , , , , , , , ,					
	2,5-Dibromotoluene (FID)	Su	r. Recovery FID		110.5	%		
B08734								
	2,5-Dibromotoluene (FID)	Su	r. Recovery FID		99.9	%		
B08735								
	2,5-Dibromotoluene (FID)	Su	r. Recovery FID		101.8	%		
B08736		~			00 7	0/		
B08747	2,5-Dibromotoluene (FID)	Su	r. Recovery FID		98.7	%		
	2,5-Dibromotoluene (FID)	Su	r. Recovery FID		102.6	%		
ANK-131206		<u> </u>	1. Recovery Fib		102.0	70		
	C5-C8 Aliphatics	Bla	ank		<16.0	mg/kg dry wt		
	C9-C12 Aliphatics	Bla			<10.7	mg/kg dry wt		
	Unadjusted C5-C8 Aliphatics	Bla	ank		<16.0	mg/kg dry wt		
	Unadjusted C9-C12 Aliphatics	Bla	ank		<10.7	mg/kg dry wt		
BLANK-93431								
	Nonane		b Fort Blank Amt.		6.704	mg/kg dry wt		
			b Fort Blk. Found		5.852	mg/kg dry wt		
			b Fort Blk. % Rec.		87.288	%	30-130	
			p Lab Fort Bl Amt.		6.704	mg/kg dry wt		
			p Lab Fort Bl. Fnd p Lab Fort Bl %Rec		5.795 86.440	mg/kg dry wt %	30-130	
			b Fort Blank Range		0.847	% units	30-130	
			b Fort Bl. Av. Rec		86.864	%		
			B Duplicate RPD		0.975	%	0-25	
	Pentane		b Fort Blank Amt.		6.704	mg/kg dry wt		
			b Fort Blk. Found		5.681	mg/kg dry wt		
		Lal	b Fort Blk. % Rec.		84.745	%	70-130	
		Du	p Lab Fort Bl Amt.		6.704	mg/kg dry wt		
		Du	p Lab Fort Bl. Fnd		5.994	mg/kg dry wt		
			p Lab Fort Bl %Rec		89.406	%	70-130	
			b Fort Blank Range		4.661	units		
			b Fort Bl. Av. Rec					
	<b>0.14</b> // /						0-25	
	2-Methylpentane					mg/kg dry wt		
	2-Methylpentane	LFI Lat	b Fort Bl. Av. Rec B Duplicate RPD b Fort Blank Amt. b Fort Blk. Found		87.076 5.352 6.704 5.795	-	g dry wt g dry wt	



# QC SUMMARY REPORT

### SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/30/2009	Lims Bat # : LIMT-24161	Page 11 of 16			
QC Batch Number	r: GC/FID-23342					
Sample Id	Analysis	QC Analysis	Values	Units	Limits	
LFBLANK-93431						
	2-Methylpentane	Lab Fort Blk. % Rec.	86.440	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	6.136	mg/kg dry wt		
		Dup Lab Fort BI %Rec	91.525	%	70-130	
		Lab Fort Blank Range	5.084	units		
		Lab Fort Bl. Av. Rec	88.983	%		
		LFB Duplicate RPD	5.714	%	0-25	
	2,2,4-Trimethylpentane	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	5.642	mg/kg dry wt		
		Lab Fort Blk. % Rec.	84.152	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	5.965	mg/kg dry wt		
		Dup Lab Fort BI %Rec	88.983	%	70-130	
		Lab Fort Blank Range	4.830	units		
		Lab Fort Bl. Av. Rec	86.567	%		
		LFB Duplicate RPD	5.580	%	0-25	
	n-Decane	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	6.306	mg/kg dry wt		
		Lab Fort Blk. % Rec.	94.067	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	6.306	mg/kg dry wt		
		Dup Lab Fort BI %Rec	94.067	%	70-130	
		Lab Fort Blank Range	0.000	units		
		Lab Fort Bl. Av. Rec	94.067	%		
		LFB Duplicate RPD	0.000	%	0-25	
	n-Butylcyclohexane	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	5.593	mg/kg dry wt		
		Lab Fort Blk. % Rec.	83.432	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	5.663	mg/kg dry wt		
		Dup Lab Fort BI %Rec	84.466	%	70-130	
		Lab Fort Blank Range	1.033	units		
		Lab Fort Bl. Av. Rec	83.949	%		
		LFB Duplicate RPD	1.231	%	0-25	



### QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates Sample Matrix Spikes and Matrix Spike Duplicates BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates Method Blanks

Report Date:	3/30/2009	Lims Bat # : LIMT-24161		Page 12 of 16			
QC Batch Number:	GC/PID-9165						
Sample Id	Analysis	QC Analysis	Values	Units	Limits		
9B08729							
	2,5-Dibromotoluene (PID)	Sur. Recovery (PID	)) 123.7	%	70-130		
)9B08730							
	2,5-Dibromotoluene (PID)	Sur. Recovery (PID	0) 125.4	%	70-130		
9B08731				0/			
0000700	2,5-Dibromotoluene (PID)	Sur. Recovery (PID	) 133.9	%	70-130		
9B08732	2 E Dibromotoluono (DID)		)) 122.0	%	70-130		
9B08733	2,5-Dibromotoluene (PID)	Sur. Recovery (PID	) 122.0	%	70-130		
900733	2,5-Dibromotoluene (PID)	Sur. Recovery (PID	)) 125.1	%	70-130		
9B08734		Sul. Recovery (Fil	) 125.1	70	70-130		
0000104	2,5-Dibromotoluene (PID)	Sur. Recovery (PID	)) 115.7	%	70-130		
9B08735			, 10.7	<i>,</i> ,,	, , , , , , , , , , , , , , , , , , , ,		
	2,5-Dibromotoluene (PID)	Sur. Recovery (PID	)) 118.3	%	70-130		
9B08736	,	······································	,				
	2,5-Dibromotoluene (PID)	Sur. Recovery (PID	)) 118.4	%	70-130		
9B08747							
	2,5-Dibromotoluene (PID)	Sur. Recovery (PID	) 118.3	%	70-130		
LANK-131203							
	Benzene	Blank	<0.054	mg/kg dry wt			
	Ethylbenzene	Blank	<0.054	mg/kg dry wt			
	Naphthalene	Blank	<0.532	mg/kg dry wt			
	Toluene	Blank	<0.054	mg/kg dry wt			
	o-Xylene	Blank	<0.054	mg/kg dry wt			
	m/p-Xylene	Blank	<0.107	mg/kg dry wt			
	C9-C10 Aromatics	Blank	<10.7	mg/kg dry wt			
	MTBE	Blank	<0.054	mg/kg dry wt			
FBLANK-93424							
	Benzene	Lab Fort Blank Am		mg/kg dry wt			
		Lab Fort Blk. Found		mg/kg dry wt			
		Lab Fort Blk. % Re		%	70-130		
		Dup Lab Fort BI An		mg/kg dry wt			
		Dup Lab Fort Bl. Fr		mg/kg dry wt			
		Dup Lab Fort BI %I		%	70-130		
		Lab Fort Blank Rar	•	units			
		Lab Fort Bl. Av. Re		%			
		LFB Duplicate RPD		%	0-25		
	Ethylbenzene	Lab Fort Blank Am		mg/kg dry wt			
		Lab Fort Blk. Found		mg/kg dry wt	70.400		
		Lab Fort Blk. % Re		%	70-130		
		Dup Lab Fort BI An		mg/kg dry wt			
		Dup Lab Fort Bl. Fr		mg/kg dry wt	70 120		
		Dup Lab Fort BI %I		%	70-130		
		Lab Fort Blank Rar	nge 0.364	units			



# QC SUMMARY REPORT

### SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

	3/30/2009	Lims Bat # : LIMT-24161	Page 13 of 16			
QC Batch Number:	GC/PID-9165					
Sample Id	Analysis	QC Analysis	Values	Units	Limits	
LFBLANK-93424						
	Ethylbenzene	Lab Fort Bl. Av. Rec	100.665	%		
		LFB Duplicate RPD	0.361	%	0-25	
	Naphthalene	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	6.215	mg/kg dry wt		
		Lab Fort Blk. % Rec.	92.711	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort BI. Fnd	6.000	mg/kg dry wt		
		Dup Lab Fort BI %Rec	89.491	%	70-130	
		Lab Fort Blank Range	3.220	units		
		Lab Fort Bl. Av. Rec	91.101	%		
		LFB Duplicate RPD	3.534	%	0-25	
	Toluene	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	7.210	mg/kg dry wt		
		Lab Fort Blk. % Rec.	107.542	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort BI. Fnd	7.301	mg/kg dry wt		
		Dup Lab Fort BI %Rec	108.898	%	70-130	
		Lab Fort Blank Range	1.355	units		
		Lab Fort Bl. Av. Rec	108.220	%		
		LFB Duplicate RPD	1.252	%	0-25	
	o-Xylene	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	7.039	mg/kg dry wt		
		Lab Fort Blk. % Rec.	105.000	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	7.045	mg/kg dry wt		
		Dup Lab Fort BI %Rec	105.084	%	70-130	
		Lab Fort Blank Range	0.084	units		
		Lab Fort Bl. Av. Rec	105.042	%		
		LFB Duplicate RPD	0.080	%	0-25	
	m/p-Xylene	Lab Fort Blank Amt.	13.409	mg/kg dry wt		
		Lab Fort Blk. Found	13.505	mg/kg dry wt		
		Lab Fort Blk. % Rec.	100.720	%	70-130	
		Dup Lab Fort BI Amt.	13.409	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	13.522	mg/kg dry wt		
		Dup Lab Fort BI %Rec	100.847	%	70-130	
		Lab Fort Blank Range	0.127	units		
		Lab Fort Bl. Av. Rec	100.783	%		
		LFB Duplicate RPD	0.126	%	0-25	
	MTBE	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	6.875	mg/kg dry wt		
		Lab Fort Blk. % Rec.	102.542	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	6.963	mg/kg dry wt		



# QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

QC Analysis	Values	Units	Limits
Dup Lab Fort BI %Rec	103.864	%	70-130
Lab Fort Blank Range	1.322	units	
Lab Fort Bl. Av. Rec	103.203	%	
LFB Duplicate RPD	1.280	%	0-25
Lab Fort Blank Amt.	6.704	mg/kg dry wt	
Lab Fort Blk. Found	6.511	mg/kg dry wt	
Lab Fort Blk. % Rec.	97.118	%	70-130
Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
Dup Lab Fort Bl. Fnd	6.590	mg/kg dry wt	
Dup Lab Fort BI %Rec	98.305	%	70-130
Lab Fort Blank Range	1.186	units	
Lab Fort Bl. Av. Rec	97.711	%	
LFB Duplicate RPD	1.214	%	0-25
	Dup Lab Fort BI %Rec Lab Fort Blank Range Lab Fort Bl. Av. Rec LFB Duplicate RPD Lab Fort Blank Amt. Lab Fort Blk. Found Lab Fort Blk. % Rec. Dup Lab Fort BI Amt. Dup Lab Fort BI %Rec Lab Fort Blank Range Lab Fort Bl. Av. Rec	Dup Lab Fort BI %Rec103.864Lab Fort Blank Range1.322Lab Fort Bl. Av. Rec103.203LFB Duplicate RPD1.280Lab Fort Blank Amt.6.704Lab Fort Blk. Found6.511Lab Fort Blk. % Rec.97.118Dup Lab Fort Bl Amt.6.704Dup Lab Fort Bl. Fnd6.590Dup Lab Fort Bl %Rec98.305Lab Fort Blank Range1.186Lab Fort Bl. Av. Rec97.711	Dup Lab Fort Bl %Rec103.864%Lab Fort Blank Range1.322unitsLab Fort Bl. Av. Rec103.203%LFB Duplicate RPD1.280%Lab Fort Blank Amt.6.704mg/kg dry wtLab Fort Blank Amt.6.511mg/kg dry wtLab Fort Blk. Found6.511mg/kg dry wtLab Fort Blk. % Rec.97.118%Dup Lab Fort Bl Amt.6.704mg/kg dry wtDup Lab Fort Bl Mmt.6.590mg/kg dry wtDup Lab Fort Bl %Rec98.305%Lab Fort Blank Range1.186unitsLab Fort Bl. Av. Rec97.711%



# QC SUMMARY REPORT

### SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Report Date:	3/30/2009	Lims Bat # : LIMT-24161	Page 15 of 16		
QC Batch Numbe	er: ICP-21466				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-131158					
	Lead	Blank	<0.75	mg/kg dry wt	
LFBLANK-93379					
	Lead	Lab Fort Blank Amt.	136.00	mg/kg dry wt	
		Lab Fort Blk. Found	108.63	mg/kg dry wt	
		Lab Fort Blk. % Rec.	79.87	%	81-120
		Dup Lab Fort BI Amt.	136.00	mg/kg dry wt	
		Dup Lab Fort BI. Fnd	110.90	mg/kg dry wt	
		Dup Lab Fort BI %Rec	81.54	%	81-120
		Lab Fort Blank Range	1.66	units	
		Lab Fort BI. Av. Rec	80.70	%	
		LFB Duplicate RPD	2.06	%	0-30



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332 QC SUMMARY REPORT SAMPLE QC: Sample Results with Duplicates BATCH QC: Lab fortified Blanks and Duplicates Sample Matrix Spikes and Matrix Spike Duplicates Standard Reference Materials and Duplicates Method Blanks Report Date: 3/30/2009 Lims Bat # : LIMT-24161 Page 16 of 16 QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS This is the number assigned to all samples analyzed together that QC BATCH NUMBER would be subject to comparison with a particular set of Quality Control Data. LIMITS Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined. Amount of analyte found in a sample. Sample Amount Method Blank that has been taken though all the steps of the Blank analysis. LFBLANK Laboratory Fortified Blank (a control sample) STDADD Standard Added (a laboratory control sample) Matrix Spk Amt Added Amount of analyte spiked into a sample Amount of analyte found including amount that was spiked MS Amt Measured Matrix Spike % Rec. % Recovery of spiked amount in sample. Duplicate Value The result from the Duplicate analysis of the sample. The Relative Percent Difference between two Duplicate Analyses. Duplicate RPD Surrogate Recovery The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods. Sur. Recovery (ELCD) Surrogate Recovery on the Electrolytic Conductivity Detector. Sur. Recovery (PID) Surrogate Recovery on the Photoionization Detector. Standard Measured Amount measured for a laboratory control sample Standard Amt Added Known value for a laboratory control sample Standard % Recovery % recovered for a laboratory control sample with a known value. Lab Fort Blank Amt Laboratory Fortified Blank Amount Added Lab Fort Blk. Found Laboratory Fortified Blank Amount Found Lab Fort Blk % Rec Laboratory Fortified Blank % Recovered Dup Lab Fort Bl Amt Duplicate Laboratory Fortified Blank Amount Added Duplicate Laboratory Fortified Blank Amount Found Dup Lab Fort Bl Fnd Duplicate Laboratory Fortified Blank % Recovery Dup Lab Fort Bl % Rec Laboratory Fortified Blank Range (Absolute value of difference Lab Fort Blank Range between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate). Lab Fort Bl. Av. Rec. Laboratory Fortified Blank Average Recovery Duplicate Sample Amt Sample Value for Duplicate used with Matrix Spike Duplicate Matrix Spike Duplicate Amount Added (Spiked) MSD Amount Added MSD Amt Measured Matrix Spike Duplicate Amount Measured MSD % Recovery Matrix Spike Duplicate % Recovery MSD Range Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM									
Labo	Laboratory Name: CON-TEST Analytical Laboratory Project #: LIMT- 24161								
Proje	Project Location: 235 Tyler Street, Pittsfield, MA MADEP RTN1:								
This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]									
Sample Matrices:  Groundwater  Soil/Sediment  Drinking Water  Other:									
мс	P SW-846	8260B()	8151A()	8330 ( )	6010B	$(\!$	7470A/1A()		
Me	thods Used	8270C()	8081A()	VPH 🏹	6020	()	9014M <sup>2</sup> ()		
8 <b>.</b>	ecified in MADEP	8082 🚫	8021B()	EPH 🚫	7000 S <sup>3</sup>	( )	7196A()		
Analy	endium of tical Methods. k all that apply)	2 M – SW-846 M	acking Number (RTN ethod 9014 or MADEI ethods 7000 Series I	P Physiologically			(PAC) Method		
An a	affirmative resp	onse to questior	ns A, B, C and D is	required for "	Presumptiv	ve Ce	rtainty" status		
A			he laboratory in a Custody documentat			ΧY	′es □ No¹		
в	included in thi	s report followe arrative QC data	quired for the speci d, including the re that did not meet	equirement to	note and	×	LYes □ No <sup>1</sup>		
С	for "Presumptiv (d) of the MAD	/e Certainty", as EP document CA	eport meet all the a described in Sectio AM VII A, "Quality A sition and Reporting	n 2.0 (a), (b), ( Assurance and (	c) and Quality	X	Yes □ No <sup>1</sup>		
D			Was the VPH or EP (see Section 11.3 c			X	JYes □No <sup>1</sup>		
	A response to a	questions E and	F below is require	d for "Presum	ptive Certa	inty"	' status		
E		ical QC performa ethods achieved	ance standards and ?	recommendatio	ons for		Yes 🕱 No <sup>1</sup>		
F	Were results fe method(s) repo	-	t compounds/eleme	ents for the sp	ecified		Yes 🕱 No <sup>1</sup>		
<sup>1</sup> AI	l Negative respo	nses must be ad	dressed in an attach	ned Environmen	tal Laborat	ory ca	ise 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.									
Sign	Signature: M MM Position: Assistant Laboratory Director								
Print	Printed Name: Michael Erickson Date: 3/30/09								

# Frac. Check Gilson Fractionator (FCS)

Silica Lot:	S212-44	Vendor:	PHENOMENEX
Frac Check Lot:	120408 PJG	Amount of DCM collected:	5000 uL
Hexane Lot:	48130	Amount of Hexane collected:	1800 uL
DCM Lot:	CX673		
Acetone Lot:	48268	Data File:	120408 B011/B012

Compound	Conc.(ppm)	2000ul	% REC	Limits
Naphthalene	50	46.803	94%	40-140
2-Methylnaphthalene	50	49.892	100%	40-140
Acenaphthalene	50	51.654	103%	40-140
Acenaphthene	50	50.707	101%	40-140
Fluorene	50	51.992	104%	40-140
Phenanthrene	50	51.620	103%	40-140
Anthracene	50	53.824	108%	40-140
o-Terphenyl (surr)	50	53.325	107%	40-140
Fluoranthene	50	51.318	103%	40-140
Pyrene	50	53.427	107%	40-140
Benzo(a)anthracene	50	49.693	99%	40-140
Chrysene	50	52.239	104%	40-140
Benzo(b)fluoranthene	50	51.942	104%	40-140
Benzo(k)fluoranthene	50	50.335	101%	40-140
Benzo(a)pyrene	50	49.109	98%	40-140
Indeno(123cd)pyrene	50	48.503	97%	40-140
Dibenzo(ah)anthracene	50	49.190	98%	40-140
Benzo(ghi)perylene	50	49.342	99%	40-140
C9	50	37.246	74%	30~140
C10	50	39.046	78%	40-140
C12	50	42.204	84%	40-140
C14	50	45.294	91%	40-140
C16	. 50	45.650	91%	40-140
C18	50	44.744	89%	40-140
C19	50	44.757	90%	40-140
C20	50	43.918	88%	40-140
1-Chloro-octadecane (surr)	50	41.800	84%	40-140
C22	50	45.928	92%	40-140
C24	50	44.108	88%	40-140
C26	50	45.847	92%	40-140
C28	50	44.466	89%	40-140
C30	50	43.350	87%	40-140
C36	50	48.193	96%	40-140
Fractionation Surrogates				
2-Flourobiphenyl	50	49.032	98%	40-140
2-Bromonaphthalene	50	49.386	99%	40-140
Aliphatic Bleed thru			% (<	:5%)
Naphthalene	0		0.0	00
2-Methylnaphthalene	0		0.0	00

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

ETELY OR IS	D OUT COMPL	ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS	. IF THE	CHAIN	YOUR		ARE QUESTIONS	ARE QU	S THERE	ECEIPT UNLESS THEF	RECEIP	AFT	THE DAY	ITS AT 9:00 A.M. THE	TURNAROUND TIME STARTS	TURNARO
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	N = Nitric Acid									RUSH *		Date/Time:	Dạt		by; (signature)	Relinguished by
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Codes:	**Preservation Codes:	*Matrix Code:		ment	<b>Requirements</b>	Limit Re	ion Li	Detection		Turnaround **	Tu	~ <b>0</b>	Dat		by: (signature) <	Relinduished by:
		C - Clean; U - Unknown		ilum; L	M - Mec	H - High; M - Medium; L - Low;	L									
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INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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"TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE	Creation of the second	Received by: (attnature)	Mrs China	Relinquished by: (signatorie)		Received by: (signature)	and summer	(Reliviguished by: (gignature)			Laboratory Comments:				TRIP BLANK	84 (12-14) (13)	# 8-4	$\frac{1}{2}$	Ve V - C &	Field ID Sample Description	yes proposal date	Proposal Provided? (For Billing purposes)		472	Project Location: 235 TWW St. At	Attention: 1/m Di DISI	Lowell ma - 01857	Address: 650 SULFOIKST.	Company Name: JLC		ANALYTICAL LABORATORY	
THE DAY AFTER SAMPLE R	13/22/01	D310/Time/ ~ (720)	NUL 251-5	Date/Time:	573-7 Ko	Date/Time:	3/23/19 1600								CF130		And the second	54.24 / 38.20		Lab # CARS	🗇 yes 🗇 no	State Form Required?			RHSheld ma.		Y			www.contestlabs.com	Fax: 413-525-6405 Email: info@contestlabs.com	Phone: 413-525-2332
ECEIPT UNLESS THER	* Require lab approval	0 *72-Hr 0 *4-Day	□ *24-Hr □ *48-Hr	RUSH *		10-Day		Turnaround **							B1236	5/23/07 1540		323107 -	1-1-2	Start Stop Date/Time Date/Time	Date Sampled			Email: T/010151 0	Fax #: //EMAIL C	DELIVERY (c	Client PO #	Project # 1580.3	Telephone:(776)		os.com	CHAIN (
ARE QUESTION		-	Special Requirements or DL's:		Data Enhancement Proj		Regulations?	Detection Limit R	H - High;	I ubiu ea	Please u	-				XX		XXV		Comp- osite Grab Code Code			TO PDF DI GIS KEY	THUSILA HOM				37,0020	0095-000	5	Lint # 2216	CHAIN OF CUSTODY F
V YOUR CHAIN. IF TH			r DL's:		Project/RCP? I Y IN		2	<u>it Requirements</u>	H - High; M - Medium; L - Low;	be high in concentration in <b>Matrix/Conc.</b> Code Box:	se the following codes				$\times$	XXX		XXX		V F	14 1 Al	4 4 B:		S. UMA				A A		6 2 -	5	Y RECORD
S ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OF IS	O = other	SL = sludge	S = soil/solid	A = air	DW= drinking water	WW= wastewater	GW= groundwater	*Matrix Code:	C - Clean; U - Unknown	1X/Conc. Code Box:	Please use the following codes to let Con-Test know if a specific sample may					X HOL				( 	21	d					ANALYSIS REQUESTED				EAST LONGMEADOW, MA 01028	39 SPRUCE ST, 2ND FLOOR
SD OUT COMPLET	O = Other	B = Sodium bisulfate	S = Sulfuric Acid	N = Nitric Acid	M = Methanol	H = HCL T:	I = Iced X	**Preservation Codes:	n		i specific sample ma					2											ESTED				V, MA 01028	
ELY OR IS		ute				T = Na thiosulfate	X = Na hydroxide	)des:			JA E							Comments:	Client		<b>O</b> =Other	T=tediar bag	S=summa can	V≞ vial	P=plastic ST=stanla	G=glass	- <u>Cont. Code</u> A=amber glass	-Cont.Code	**Preservation	# of containers		Page Z of Z

www.contestlabs.com	Sample R	con-test ANALYTICAL LABORATORY eceipt Checklist	39 Spruce St. East Longmeadow, MA. 01028 P: 413-525-2332 F: 413-525-6405
CLIENT NAME: TPC-LO		_ RECEIVED BY: <u>CEC</u>	DATE: 3 23/09
1) Was the chain(s) of custody	relinquished and sig	gned? Yes No	5
2) Does the chain agree with th If not, explain:	ne samples?	(Yes) No	>
3) Are all the samples in good of If not, explain:	condition?	Yes No	5
4) How were the samples recei	ved:		/
On Ice 🗹 Direct from	Sampling	Ambient 🗌 In Cooler(s	
Were the samples received in 1	Temperature Complia	ance of (2-6°C)? (Yes) No	0
Temperature °C by Temp blank _	3-04	Temperature °C by Temp gun	
5) Are there Dissolved samples	for the lab to filter?	Yes No	<b>)</b>
Who was notified	Date	Time	
6) Are there any samples "On H		Yes No	Stored where:
7) Are there any RUSH or SHOP	RT HOLDING TIME s	amples? Yes N	
Who was notified	Date	Time	
	stored:	( )	contract samples? Yes No
3) Location where samples are		(Walk-in clients on Client Signature:	contract samples? Yes No ly) if not already approved
8) Location where samples are	Containers s	(Walk-in clients on	ly) if not already approved
8) Location where samples are		(Walk-in clients on Client Signature:	
3) Location where samples are 1 Liter Amber	Containers s	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar	ly) if not already approved
3) Location where samples are 1 Liter Amber 500 mL Amber	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar	ly) if not already approved
3) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber)	Containers s	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar	ly) if not already approved
3) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic	Containers s # of containers	(Walk-in clients on Client Signature:	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar Other glass jar Plastic Bag / Ziplo	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic	Containers s # of containers	(Walk-in clients on Client Signature:	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic 40 mL Vial - type listed below Colisure / bacteria bottle	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar 2 oz clear jar Other glass jar Plastic Bag / Ziplo Air Cassette Brass Sleeves	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic 40 mL Vial - type listed below	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar Other glass jar Plastic Bag / Ziplo Air Cassette Brass Sleeves Tubes	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic 40 mL Vial - type listed below Colisure / bacteria bottle Dissolved Oxygen bottle	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar 2 oz clear jar Other glass jar Plastic Bag / Zipło Air Cassette Brass Sleeves Tubes Summa Cans	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic 40 mL Vial - type listed below Colisure / bacteria bottle Dissolved Oxygen bottle Flashpoint bottle Encore	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar 2 oz clear jar Other glass jar Plastic Bag / Ziplo Air Cassette Brass Sleeves Tubes Summa Cans Regulators	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic 40 mL Vial - type listed below Colisure / bacteria bottle Dissolved Oxygen bottle Flashpoint bottle	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar 2 oz clear jar Other glass jar Plastic Bag / Ziplo Air Cassette Brass Sleeves Tubes Summa Cans Regulators	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic 250 mL plastic 40 mL Vial - type listed below Colisure / bacteria bottle Dissolved Oxygen bottle Flashpoint bottle Encore aboratory Comments:	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar 2 oz clear jar 0 ther glass jar Plastic Bag / Zipło Air Cassette Brass Sleeves Tubes Summa Cans Regulators Other	ly) if not already approved # of containers
8) Location where samples are 1 Liter Amber 500 mL Amber 250 mL Amber (8oz amber) 1 Liter Plastic 500 mL Plastic 250 mL plastic 250 mL plastic 40 mL Vial - type listed below Colisure / bacteria bottle Dissolved Oxygen bottle Flashpoint bottle Encore aboratory Comments: 0 mL vials: # HCI	Containers s # of containers	(Walk-in clients on Client Signature: ent in to Con-Test 8 oz clear jar 4 oz clear jar 2 oz clear jar 2 oz clear jar Other glass jar Plastic Bag / Zipło Air Cassette Brass Sleeves Tubes Summa Cans Regulators Other	ly) if not already approved # of containers



REPORT DATE 3/6/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

#### ANALYTICAL SUMMARY

LIMS BAT #: LIMT-23539 JOB NUMBER: 158037-0020

PROJECT LOCATION: 235 TYLER STREET, PITTSFIELD, MA.

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST	Subcontract Lab (if any) Cert. Nos.
BOT-1	09B05752	SOIL	Not Specified	eph - solid 04	
BOT-1	09B05752	SOIL	Not Specified	solids eph/vph	
BOT-1	09B05752	SOIL	Not Specified	vph - solid 04	
BOT-2	09B05754	SOIL	Not Specified	eph - solid 04	
BOT-2	09B05754	SOIL	Not Specified	solids eph/vph	
BOT-2	09B05754	SOIL	Not Specified	vph - solid 04	
COMP-1	09B05753	SOIL	Not Specified	eph - solid 04	
COMP-1	09B05753	SOIL	Not Specified	solids eph/vph	
COMP-2	09B05755	SOIL	Not Specified	eph - solid 04	
COMP-2	09B05755	SOIL	Not Specified	solids eph/vph	



REPORT DATE 3/6/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMT-23539 JOB NUMBER: 158037-0020

Comments :

LIMS BATCH NO. : LIMT-23539

#### CASE NARRATIVE SUMMARY

Recommended sample holding times were not exceeded for all samples unless listed below: None Exceeded

All samples for the method(s) listed were received preserved properly in the proper containers at 4°C +/- 2 degrees as specified on the chain-of-custody form unless listed below: All properly preserved

There are no analytical issues which affect the usability of the data.

DETAILED CASE NARRATIVE

EXTRACTABLE PETROLEUM HYDROCARBONS (EPH) MADEP-EPH-04-1.1 ADDITIONAL DETAILS

Solid samples, if any, in the batch were extracted by the following method: Microwave: SW846 3546

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch.

Target compounds are subtracted from the C11-C22 aromatic range but not from the unadjusted C11-C22 aromatic range. No significant modifications were made to the method.

All EPH samples were analyzed undiluted unless specified below: Sample Dilution(s) 09B05752 undilute, 5x, and 20x

All EPH surrogate standard recoveries were within control limits specified by the method unless listed below: None outside of control limits

EPH QC Surrogate Recoveries

BLANK-130199 2-Fluorobiphenyl: 2-Bromonaphthalene: 1-Chlorooctadecane: o-Terphenyl:	98.0% 101% 89.3% 105%	
LFBLANK-92353	LFB	LFB Duplicate
2-Fluorobiphenyl:	101%	97.1%
2-Bromonaphthalene	103%	100%
1-Chlorooctadecane:	79.1%	75.8%
O-Terphenyl:	106%	98.8%



REPORT DATE 3/6/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

			LIMS BAT #:	LIMT-23539
			JOB NUMBER:	158037-0020
VOLATILE PETROLEUM HYDR	OCARBONS	(VPH) MADEP-VPH-04-1.1 ADDITIONAL DET	AILS	
	exclude the co	Immed ranges, but not from the unadjusted ran oncentration of C9-C10 aromatic hydrocarbons. method.		
methanol with a soil/methanol ra	tio of 1:1 +/- 2	pperly (water samples pH <2; soil samples in 25% completely covered by methanol) in the on the chain-of-custody form unless specified b	elow:	
Sample Soil/Methanol 09B05754 1.97	Ratio			
All VPH samples were analyzed Sample Dilution(s) 09B05752 x5 and undilute	undiluted unl	ess specified below:		
VPH QC Surrogate Recoveries f	or sample 09	B05752		
BLANK-130287				
2,5-Dibromotoluene PID	104%			
BLANK-130288				
2,5-Dibromotoluene FID	100%			
LFBLANK-92450	LFB	LFB Duplicate		
2,5-Dibromotoluene PID	107%	98.4%		
LFBLANK-92452	LFB	LFB Duplicate		
2,5-Dibromotoluene FID	107%	98.4%		
VPH QC Surrogate Recoveries f	or sample 09	B05754		
BLANK-130284				
2,5-Dibromotoluene PID	93.1%			
BLANK-130286				
2,5-Dibromotoluene FID	94.1%			
LFBLANK-92447	LFB	LFB Duplicate		
2,5-Dibromotoluene PID	118%	97.8%		
LFBLANK-92448	LFB	LFB Duplicate		
2,5-Dibromotoluene FID	120%	97.6%		



REPORT DATE 3/6/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMT-23539 JOB NUMBER: 158037-0020

The results of analyses performed are based on samples as submitted to the laboratory and relate only to the items collected and tested.

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations. AIHA accreditations only apply to NIOSH methods and Environmental Lead Analyses.

AIHA 100033 MASSACHUSETTS MA0100 CONNECTICUT PH-0567 NEW YORK ELAP/NELAP 10899 AIHA ELLAP (LEAD) 100033 NEW HAMPSHIRE NELAP 2516 VERMONT DOH (LEAD) No. LL015036 RHODE ISLAND (LIC. No. 112) NORTH CAROLINA CERT. # 652 NEW JERSEY NELAP NJ MA007 (AIR) FLORIDA DOH E871027 (AIR)

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.

Edward Denson 3/6/09 SIGNATURE DATE

Tod Kopyscinski Air Laboratory Manager

Edward Denson Technical Director Daren Damboragian Organics Department Supervisor

Assistant Laboratory Director

Michael Erickson

\* See end of data tabulation for notes and comments pertaining to this sample



TOM BIOLSI **TRC SOLUTIONS - LOWELL** 3/6/2009 650 SUFFOLK STREET Page 1 of 12 Purchase Order No.: LOWELL, MA 01852 Project Location: 235 TYLER STREET, PITTSFIELD, MA. LIMS-BAT #: LIMT-23539 2/26/2009 Job Number: 158037-0020 Date Received: Field Sample #: BOT-1 Sample ID : 09B05752 ‡Sampled : 2/25/2009

Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	1390	03/03/09	CJM	35.0			
C19-C36 Aliphatics	mg/kg dry wt	457	03/03/09	CJM	35.0			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	598	03/03/09	CJM	35.0			
C11-C22 Aromatics	mg/kg dry wt	579	03/03/09	CJM	35.0			
Acenaphthene	mg/kg dry wt	1.8	03/03/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	2.1	03/03/09	CJM	0.2			
Anthracene	mg/kg dry wt	1.3	03/03/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Chrysene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	0.5	03/03/09	CJM	0.2			
Fluorene	mg/kg dry wt	3.9	03/03/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	4.5	03/03/09	CJM	0.2			
Naphthalene	mg/kg dry wt	1.3	03/03/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	2.4	03/03/09	CJM	0.2			
Pyrene	mg/kg dry wt	1.2	03/03/09	CJM	0.2			
Date Extracted EPH Solid		2/28/2009	03/03/09	CJM				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: 2/26/2009

Field Sample # : BOT-1

LIMS-BAT #: LIMT-23539 Job Number: 158037-0020

3/6/2009

Page 2 of 12

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

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ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI					
TRC SOLUTIONS	- LOWELL			3/	6/2009
650 SUFFOLK ST	REET			Pa	age 3 of 12
LOWELL, MA 018	52		Purchase Order No.:		
Project Location:	235 TYLER STREE	T, PITTSFIELD	D, MA.	LIMS-BAT #:	LIMT-23539
Date Received:	2/26/2009			Job Number:	158037-0020
Field Sample # :	BOT-2				
Sample ID :	09B05754	‡Samp	oled : 2/25/2009		

Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/03/09	CJM	32.6			
C19-C36 Aliphatics	mg/kg dry wt	ND	03/03/09	CJM	32.6			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/03/09	CJM	32.6			
C11-C22 Aromatics	mg/kg dry wt	ND	03/03/09	CJM	32.6			
Acenaphthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	0.2	03/03/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Chrysene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Pyrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Date Extracted EPH Solid		2/28/2009	03/03/09	CJM				

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: 2/26/2009

Field Sample # : BOT-2

3/6/2009 Page 4 of 12

LIMS-BAT #: LIMT-23539 Job Number: 158037-0020

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

RL = Reporting Limit

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NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI **TRC SOLUTIONS - LOWELL** 3/6/2009 650 SUFFOLK STREET Page 5 of 12 Purchase Order No.: LOWELL, MA 01852 Project Location: 235 TYLER STREET, PITTSFIELD, MA. LIMS-BAT #: LIMT-23539 Job Number: 158037-0020 Date Received: 2/26/2009 Field Sample #: COMP-1 Sample ID : 09B05753 ‡Sampled : 2/25/2009

Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/03/09	CJM	34.0			
C19-C36 Aliphatics	mg/kg dry wt	ND	03/03/09	CJM	34.0			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/03/09	CJM	34.0			
C11-C22 Aromatics	mg/kg dry wt	ND	03/03/09	CJM	34.0			
Acenaphthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Chrysene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	0.2	03/03/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Pyrene	mg/kg dry wt	0.2	03/03/09	CJM	0.2			
Date Extracted EPH Solid		2/28/2009	03/03/09	CJM				

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NM = Not Measured

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\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No.:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: 2/26/2009 Field Sample #: COMP-1 - -----

3/6/2009

Page 6 of 12

LIMS-BAT #: LIMT-23539 Job Number: 158037-0020

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

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ND = Not Detected at or above the Reporting Limit

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TOM BIOLSI **TRC SOLUTIONS - LOWELL** 3/6/2009 650 SUFFOLK STREET Page 7 of 12 Purchase Order No.: LOWELL, MA 01852 Project Location: 235 TYLER STREET, PITTSFIELD, MA. LIMS-BAT #: LIMT-23539 Job Number: 158037-0020 Date Received: 2/26/2009 Field Sample #: COMP-2 Sample ID : 09B05755 ‡Sampled : 2/25/2009

Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	mg/kg dry wt	ND	03/03/09	CJM	32.1			
C19-C36 Aliphatics	mg/kg dry wt	ND	03/03/09	CJM	32.1			
Unadjusted C11-C22 Aromatics	mg/kg dry wt	ND	03/03/09	CJM	32.1			
C11-C22 Aromatics	mg/kg dry wt	ND	03/03/09	CJM	32.1			
Acenaphthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Acenaphthylene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Benzo(a)anthracene	mg/kg dry wt	0.4	03/03/09	CJM	0.2			
Benzo(a)pyrene	mg/kg dry wt	0.4	03/03/09	CJM	0.2			
Benzo(b)fluoranthene	mg/kg dry wt	0.5	03/03/09	CJM	0.2			
Benzo(g,h,i)perylene	mg/kg dry wt	0.5	03/03/09	CJM	0.2			
Benzo(k)fluoranthene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Chrysene	mg/kg dry wt	0.4	03/03/09	CJM	0.2			
Dibenzo(a,h)anthracene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Fluoranthene	mg/kg dry wt	0.5	03/03/09	CJM	0.2			
Fluorene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Indeno(1,2,3-cd)pyrene	mg/kg dry wt	0.4	03/03/09	CJM	0.2			
2-Methylnaphthalene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Naphthalene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Phenanthrene	mg/kg dry wt	ND	03/03/09	CJM	0.2			
Pyrene	mg/kg dry wt	0.6	03/03/09	CJM	0.2			
Date Extracted EPH Solid		2/28/2009	03/03/09	CJM				

RL = Reporting Limit

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NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852

Purchase Order No .:

Project Location: 235 TYLER STREET, PITTSFIELD, MA.

Date Received: Field Sample #: COMP-2

2/26/2009

LIMS-BAT #: LIMT-23539 Job Number: 158037-0020

3/6/2009

Page 8 of 12

Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE AND ACETONE BY PRESSURIZED FLUID EXTRACTION (SW846 3545) OR MICROWAVE (SW846 3546), EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

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TOM BIOLSI		Ū						
TRC SOLUTIONS	- LOWELL						3/	6/2009
650 SUFFOLK ST	REET						P	age 9 of 12
LOWELL, MA 018	352		Purchase Order I	No.:				
Project Location:	235 TYLER S	TREET, PITTSF	IELD, MA.				LIMS-BAT #:	LIMT-23539
Date Received:	2/26/2009						Job Number:	158037-0020
Field Sample # :								
Sample ID :	09B05752		ampled : 2/25/2009 ot Specified					
Sample Matrix:	SOIL							
<b>-</b>								
		Units	Results	Date	Analyst	RL	SPEC Lim	
				Analyzed			Lo F	li
Solids, total		%	85.8	03/03/09	FD			
Field Sample # :	BOT-2							
Sample ID :	09B05754		ampled : 2/25/2009					
Sample Matrix:	SOIL	INC	ot Specified					
				_				
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo H	it P/F li
Solids, total		%	92.2	03/03/09	FD			
Field Sample # :	COMP-1							
Sample ID :	09B05753	-	ampled : 2/25/2009 ot Specified					
Sample Matrix:	SOIL							
		Units	Results	Date	Analyst	RL	SPEC Lim	it P/F
		Units	Results	Analyzed	Analyst	ĸL		li P/F
Solids, total		%	88.3	03/03/09	FD			
Field Sample # :	COMP-2							
Sample ID :	09B05755		ampled : 2/25/2009 ot Specified					
Sample Matrix:	SOIL							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Lim Lo F	it P/ F <del>l</del> i
Solids, total		%	93.5	03/03/09	FD			

Analytical Method:

SM 2540G

PERCENT OF SAMPLE REMAINING AFTER DRYING OVERNIGHT AT 103-105 DEGREES CENTIGRADE.

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TOM BIOLSI **TRC SOLUTIONS - LOWELL** 3/6/2009 650 SUFFOLK STREET Page 10 of 12 LOWELL, MA 01852 Purchase Order No .: Project Location: 235 TYLER STREET, PITTSFIELD, MA. LIMS-BAT #: LIMT-23539 Date Received: 2/26/2009 Job Number: 158037-0020 Field Sample #: BOT-1 09B05752 ‡Sampled : 2/25/2009 Sample ID :

Not Specified

Sample Matrix: SOIL

	Units	Results	Date	Analyst	RL	SPEC I	_imit	P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	mg/kg dry wt	ND	03/05/09	EH	18.3			
C5-C8 Aliphatics	mg/kg dry wt	ND	03/05/09	EH	18.3			
Unadjusted C9-C12 Aliphatics	mg/kg dry wt	111	03/05/09	EH	12.2			
C9-C12 Aliphatics	mg/kg dry wt	37.9	03/05/09	EH	12.2			
C9-C10 Aromatics	mg/kg dry wt	72.8	03/05/09	EH	12.2			
Benzene	mg/kg dry wt	ND	03/05/09	EH	0.061			
Ethylbenzene	mg/kg dry wt	ND	03/05/09	EH	0.061			
МТВЕ	mg/kg dry wt	ND	03/05/09	EH	0.061			
Naphthalene	mg/kg dry wt	3.83	03/05/09	EH	0.608			
Toluene	mg/kg dry wt	ND	03/05/09	EH	0.061			
m/p-Xylene	mg/kg dry wt	ND	03/05/09	EH	0.122			
o-Xylene	mg/kg dry wt	0.257	03/05/09	EH	0.061			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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TOM BIOLSI **TRC SOLUTIONS - LOWELL** 3/6/2009 650 SUFFOLK STREET Page 11 of 12 LOWELL, MA 01852 Purchase Order No .: Project Location: 235 TYLER STREET, PITTSFIELD, MA. LIMS-BAT #: LIMT-23539 Date Received: 2/26/2009 Job Number: 158037-0020 Field Sample #: BOT-2 09B05754 ‡Sampled : 2/25/2009 Sample ID :

Not Specified

Sample Matrix: SOIL

Units	Results	Date	Analyst	RL	SPEC I	_imit	P/ F
		Analyzed			Lo	Hi	
mg/kg dry wt	ND	02/27/09	EH	10.2			
mg/kg dry wt	ND	02/27/09	EH	10.2			
mg/kg dry wt	ND	02/27/09	EH	6.74			
mg/kg dry wt	ND	02/27/09	EH	6.74			
mg/kg dry wt	ND	02/27/09	EH	6.74			
mg/kg dry wt	ND	02/27/09	EH	0.034			
mg/kg dry wt	ND	02/27/09	EH	0.034			
mg/kg dry wt	ND	02/27/09	EH	0.034			
mg/kg dry wt	ND	02/27/09	EH	0.337			
mg/kg dry wt	ND	02/27/09	EH	0.034			
mg/kg dry wt	ND	02/27/09	EH	0.068			
mg/kg dry wt	ND	02/27/09	EH	0.034			
	mg/kg dry wt mg/kg dry wt	mg/kg dry wtNDmg/kg dry wtND	Analyzed           mg/kg dry wt         ND         02/27/09           mg/kg dry wt         ND         02/27/09	Analyzed           mg/kg dry wt         ND         02/27/09         EH           mg/kg dry wt	Analyzed           mg/kg dry wt         ND         02/27/09         EH         10.2           mg/kg dry wt         ND         02/27/09         EH         10.2           mg/kg dry wt         ND         02/27/09         EH         6.74           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.337           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.337           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND	Analyzed         Lo           mg/kg dry wt         ND         02/27/09         EH         10.2           mg/kg dry wt         ND         02/27/09         EH         10.2           mg/kg dry wt         ND         02/27/09         EH         10.2           mg/kg dry wt         ND         02/27/09         EH         6.74           mg/kg dry wt         ND         02/27/09         EH         6.74           mg/kg dry wt         ND         02/27/09         EH         6.74           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND	Analyzed         Lo         Hi           mg/kg dry wt         ND         02/27/09         EH         10.2           mg/kg dry wt         ND         02/27/09         EH         10.2           mg/kg dry wt         ND         02/27/09         EH         6.74           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.337           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt         ND         02/27/09         EH         0.034           mg/kg dry wt<

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE PRESERVED WITH METHANOL AND CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No.: Project Location: 235 TYLER STREET, PITTSFIELD, MA. Date Received: 2/26/2009

3/6/2009 Page 12 of 12

LIMS-BAT #: LIMT-23539 Job Number: 158037-0020

\*\* END OF REPORT \*\*

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### QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:		Bat # : LIMT-23539		Page 1 o	f 15
QC Batch Numbe	er: GC/FID-23195				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B05752					
	2-Fluorobiphenyl	Surrogate Recovery	83.9	%	40-140
	2-Bromonaphthalene	Surrogate Recovery	53.7	%	40-140
	Chlorooctadecane	Sur. Recovery	71.9	%	40-140
	Terphenyl	Sur. Recovery	90.4	%	40-140
09B05753					
	2-Fluorobiphenyl	Surrogate Recovery	88.8	%	40-140
	2-Bromonaphthalene	Surrogate Recovery	92.5	%	40-140
	Chlorooctadecane	Sur. Recovery	43.6	%	40-140
	Terphenyl	Sur. Recovery	47.3	%	40-140
09B05754					
	2-Fluorobiphenyl	Surrogate Recovery	90.8	%	40-140
	2-Bromonaphthalene	Surrogate Recovery	94.6	%	40-140
	Chlorooctadecane	Sur. Recovery	58.9	%	40-140
	Terphenyl	Sur. Recovery	77.0	%	40-140
09B05755					
	2-Fluorobiphenyl	Surrogate Recovery	92.8	%	40-140
	2-Bromonaphthalene	Surrogate Recovery	95.9	%	40-140
	Chlorooctadecane	Sur. Recovery	67.9	%	40-140
	Terphenyl	Sur. Recovery	89.0	%	40-140
BLANK-130199					
	Naphthalene	Blank	<0.2	mg/kg dry wt	
	Acenaphthene	Blank	<0.2	mg/kg dry wt	
	Acenaphthylene	Blank	<0.2	mg/kg dry wt	
	Anthracene	Blank	<0.2	mg/kg dry wt	
	Benzo(a)anthracene	Blank	<0.2	mg/kg dry wt	
	Benzo(a)pyrene	Blank	<0.2	mg/kg dry wt	
	Benzo(b)fluoranthene	Blank	<0.2	mg/kg dry wt	
	Benzo(g,h,i)perylene	Blank	<0.2	mg/kg dry wt	
	Chrysene	Blank	<0.2	mg/kg dry wt	
	Dibenzo(a,h)anthracene	Blank	<0.2	mg/kg dry wt	
	Fluoranthene	Blank	<0.2	mg/kg dry wt	
	Fluorene	Blank	<0.2	mg/kg dry wt	
	Indeno(1,2,3-cd)pyrene	Blank	<0.2	mg/kg dry wt	
	2-Methylnaphthalene	Blank	<0.2	mg/kg dry wt	
	Phenanthrene	Blank	<0.2	mg/kg dry wt	
	Pyrene	Blank	<0.2	mg/kg dry wt	
	Benzo(k)fluoranthene	Blank	<0.2	mg/kg dry wt	
	n-Nonane	Blank	<0.2	mg/kg dry wt	
	Naphthalene Aliphatic Fraction	Blank	<0.2	mg/kg dry wt	
	2-Methylnaphthalene Aliphatic Fractio		<0.2	mg/kg dry wt	
	Unadjusted C11-C22 Aromatics	Blank	<30.1	mg/kg dry wt	
	C9-C18 Aliphatics	Blank	<30.1	mg/kg dry wt	
	C19-C36 Aliphatics	Blank	<30.1	mg/kg dry wt	



### QC SUMMARY REPORT

### SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/6/2009	Lims Bat # : LIMT-23539		Page 2 of	15
QC Batch Numbe	r: GC/FID-23195				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-130199					
	C11-C22 Aromatics	Blank	<30.1	mg/kg dry wt	
_FBLANK-92353					
	Naphthalene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.1	mg/kg dry wt	
		Lab Fort Blk. % Rec.	82.5	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort BI. Fnd	3.9	mg/kg dry wt	
		Dup Lab Fort BI %Rec	78.9	%	40-140
		Lab Fort Blank Range	3.5	units	
		Lab Fort Bl. Av. Rec	80.7	%	
		LFB Duplicate RPD	4.4	%	0-25
	Acenaphthene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.5	mg/kg dry wt	
		Lab Fort Blk. % Rec.	91.6	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.3	mg/kg dry wt	
		Dup Lab Fort BI %Rec	87.8	%	40-140
		Lab Fort Blank Range	3.7	units	
		Lab Fort Bl. Av. Rec	89.7	%	
		LFB Duplicate RPD	4.1	%	0-25
	Acenaphthylene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.6	mg/kg dry wt	
		Lab Fort Blk. % Rec.	93.1	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.4	mg/kg dry wt	
		Dup Lab Fort BI %Rec	89.1	%	40-140
		Lab Fort Blank Range	4.0	units	
		Lab Fort Bl. Av. Rec	91.1	%	
		LFB Duplicate RPD	4.4	%	0-25
	Anthracene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.8	mg/kg dry wt	
		Lab Fort Blk. % Rec.	97.5	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.6	mg/kg dry wt	
		Dup Lab Fort BI %Rec	92.3	%	40-140
		Lab Fort Blank Range	5.2	units	
		Lab Fort Bl. Av. Rec	94.9	%	
		LFB Duplicate RPD	5.5	%	0-25
	Benzo(a)anthracene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.4	mg/kg dry wt	
		Lab Fort Blk. % Rec.	89.1	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	-
		Dup Lab Fort Bl. Fnd	4.2	mg/kg dry wt	



### QC SUMMARY REPORT

### SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/6/2009	Lims Bat # :	LIMT-23539		Page 3 of	15
QC Batch Number:	GC/FID-23195					
Sample Id	Analysis	Q	C Analysis	Values	Units	Limits
LFBLANK-92353						
	Benzo(a)anthracene		p Lab Fort BI %Rec	84.4	%	40-140
			b Fort Blank Range	4.7	units	
			b Fort Bl. Av. Rec	86.7	%	
			B Duplicate RPD	5.4	%	0-25
	Benzo(a)pyrene		b Fort Blank Amt.	5.0	mg/kg dry wt	
			b Fort Blk. Found	4.4	mg/kg dry wt	
			b Fort Blk. % Rec.	89.6	%	40-140
			ip Lab Fort Bl Amt.	5.0	mg/kg dry wt	
			ip Lab Fort Bl. Fnd	4.2	mg/kg dry wt	
			p Lab Fort BI %Rec	84.5	%	40-140
			b Fort Blank Range	5.1	units	
			b Fort Bl. Av. Rec	87.1	%	
		LF	B Duplicate RPD	5.9	%	0-25
	Benzo(b)fluoranthene		b Fort Blank Amt.	5.0	mg/kg dry wt	
		La	b Fort Blk. Found	4.7	mg/kg dry wt	
		La	b Fort Blk. % Rec.	94.3	%	40-140
		Du	ip Lab Fort Bl Amt.	5.0	mg/kg dry wt	
		Du	ip Lab Fort Bl. Fnd	4.4	mg/kg dry wt	
		Du	ip Lab Fort BI %Rec	89.0	%	40-140
		La	b Fort Blank Range	5.3	units	
		La	b Fort Bl. Av. Rec	91.6	%	
		LF	B Duplicate RPD	5.8	%	0-25
	Benzo(g,h,i)perylene	La	b Fort Blank Amt.	5.0	mg/kg dry wt	
		La	b Fort Blk. Found	4.5	mg/kg dry wt	
		La	b Fort Blk. % Rec.	90.6	%	40-140
		Du	ip Lab Fort Bl Amt.	5.0	mg/kg dry wt	
		Du	ip Lab Fort Bl. Fnd	4.2	mg/kg dry wt	
		Du	ip Lab Fort BI %Rec	85.9	%	40-140
		La	b Fort Blank Range	4.7	units	
		La	b Fort Bl. Av. Rec	88.3	%	
		LF	B Duplicate RPD	5.3	%	0-25
	Chrysene	La	b Fort Blank Amt.	5.0	mg/kg dry wt	
		La	b Fort Blk. Found	4.7	mg/kg dry wt	
		La	b Fort Blk. % Rec.	94.3	%	40-140
		Du	ip Lab Fort Bl Amt.	5.0	mg/kg dry wt	
		Du	ip Lab Fort Bl. Fnd	4.4	mg/kg dry wt	
		Du	ip Lab Fort BI %Rec	89.5	%	40-140
		La	b Fort Blank Range	4.8	units	
		La	b Fort Bl. Av. Rec	91.9	%	
		LF	B Duplicate RPD	5.2	%	0-25
	Dibenzo(a,h)anthracene	La	b Fort Blank Amt.	5.0	mg/kg dry wt	
		La	b Fort Blk. Found	4.5	mg/kg dry wt	
		La	b Fort Blk. % Rec.	90.2	%	40-140



## QC SUMMARY REPORT

## SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/6/2009	Lims Bat # : LIMT-23539		Page 4 of	15
QC Batch Number:	GC/FID-23195				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-92353					
	Dibenzo(a,h)anthracene	Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort BI. Fnd	4.2	mg/kg dry wt	
		Dup Lab Fort BI %Rec	85.3	%	40-140
		Lab Fort Blank Range	4.8	units	
		Lab Fort Bl. Av. Rec	87.8	%	
		LFB Duplicate RPD	5.5	%	0-25
	Fluoranthene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.7	mg/kg dry wt	
		Lab Fort Blk. % Rec.	94.1	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort BI. Fnd	4.4	mg/kg dry wt	
		Dup Lab Fort BI %Rec	89.0	%	40-140
		Lab Fort Blank Range	5.1	units	
		Lab Fort Bl. Av. Rec	91.5	%	
		LFB Duplicate RPD	5.5	%	0-25
	Fluorene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.7	mg/kg dry wt	
		Lab Fort Blk. % Rec.	94.6	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.4	mg/kg dry wt	
		Dup Lab Fort BI %Rec	89.8	%	40-140
		Lab Fort Blank Range	4.7	units	
		Lab Fort Bl. Av. Rec	92.2	%	
		LFB Duplicate RPD	5.1	%	0-25
	Indeno(1,2,3-cd)pyrene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.4	mg/kg dry wt	
		Lab Fort Blk. % Rec.	89.0	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.1	mg/kg dry wt	
		Dup Lab Fort BI %Rec	83.9	%	40-140
		Lab Fort Blank Range	5.0	units	
		Lab Fort Bl. Av. Rec	86.5	%	
		LFB Duplicate RPD	5.8	%	0-25
	2-Methylnaphthalene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.3	mg/kg dry wt	
		Lab Fort Blk. % Rec.	87.8	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.2	mg/kg dry wt	
		Dup Lab Fort BI %Rec	84.7	%	40-140
		Lab Fort Blank Range	3.0	units	
		Lab Fort Bl. Av. Rec	86.3	%	
		LFB Duplicate RPD	3.5	%	0-25
	Phenanthrene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	



# QC SUMMARY REPORT

## SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

		Method			
Report Date:	3/6/2009	Lims Bat # : LIMT-23539		Page 5 of	15
QC Batch Numbe	r: GC/FID-23195				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
FBLANK-92353					
	Phenanthrene	Lab Fort Blk. Found	4.7	mg/kg dry wt	
		Lab Fort Blk. % Rec.	94.6	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.4	mg/kg dry wt	
		Dup Lab Fort BI %Rec	89.5	%	40-140
		Lab Fort Blank Range	5.1	units	
		Lab Fort Bl. Av. Rec	92.0	%	
		LFB Duplicate RPD	5.5	%	0-25
	Pyrene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.8	mg/kg dry wt	
		Lab Fort Blk. % Rec.	97.7	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.6	mg/kg dry wt	
		Dup Lab Fort BI %Rec	92.3	%	40-140
		Lab Fort Blank Range	5.3	units	
		Lab Fort Bl. Av. Rec	95.0	%	
		LFB Duplicate RPD	5.6	%	0-25
	Benzo(k)fluoranthene	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	4.5	mg/kg dry wt	
		Lab Fort Blk. % Rec.	91.7	%	40-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	4.3	mg/kg dry wt	
		Dup Lab Fort BI %Rec	86.5	%	40-140
		Lab Fort Blank Range	5.1	units	
		Lab Fort Bl. Av. Rec	89.1	%	
		LFB Duplicate RPD	5.8	%	0-25
	n-Nonane	Lab Fort Blank Amt.	5.0	mg/kg dry wt	
		Lab Fort Blk. Found	2.7	mg/kg dry wt	
		Lab Fort Blk. % Rec.	54.8	%	30-140
		Dup Lab Fort BI Amt.	5.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	2.5	mg/kg dry wt	
		Dup Lab Fort BI %Rec	51.8	%	30-140
		Lab Fort Blank Range	2.9	units	
		Lab Fort Bl. Av. Rec	53.3	%	
		LFB Duplicate RPD	5.5	%	
	Naphthalene Aliphatic Fraction		4.1	mg/kg dry wt	
		Lab Fort Blk. Found	0.0	mg/kg dry wt	
		Lab Fort Blk. % Rec.	0.0	%	0-5
		Dup Lab Fort BI Amt.	3.9	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	0.0	mg/kg dry wt	
		Dup Lab Fort BI %Rec	0.0	%	0-5
		Lab Fort Blank Range	0.0	units	
		Lab Fort Bl. Av. Rec	0.0	%	



# QC SUMMARY REPORT

## SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/6/2009 Lims Ba	t # : LIMT-23539		Page 6 of	15
QC Batch Numbe	er: GC/FID-23195				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-92353					
	2-Methylnaphthalene Aliphatic Fraction	Lab Fort Blank Amt.	4.3	mg/kg dry wt	
		Lab Fort Blk. Found	0.0	mg/kg dry wt	
		Lab Fort Blk. % Rec.	0.0	%	0-5
		Dup Lab Fort BI Amt.	4.2	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	0.0	mg/kg dry wt	
		Dup Lab Fort BI %Rec	0.0	%	0-5
		Lab Fort Blank Range	0.0	units	
		Lab Fort Bl. Av. Rec	0.0	%	
	Unadjusted C11-C22 Aromatics	Lab Fort Blank Amt.	85.0	mg/kg dry wt	
		Lab Fort Blk. Found	81.5	mg/kg dry wt	
		Lab Fort Blk. % Rec.	95.9	%	40-140
		Dup Lab Fort BI Amt.	85.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	77.5	mg/kg dry wt	
		Dup Lab Fort BI %Rec	91.2	%	40-140
		Lab Fort Blank Range	4.7	units	
		Lab Fort Bl. Av. Rec	93.5	%	
		LFB Duplicate RPD	5.0	%	0-25
	C9-C18 Aliphatics	Lab Fort Blank Amt.	30.0	mg/kg dry wt	
		Lab Fort Blk. Found	25.7	mg/kg dry wt	
		Lab Fort Blk. % Rec.	85.7	%	40-140
		Dup Lab Fort BI Amt.	30.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	25.0	mg/kg dry wt	
		Dup Lab Fort BI %Rec	83.5	%	40-140
		Lab Fort Blank Range	2.2	units	
		Lab Fort Bl. Av. Rec	84.6	%	
		LFB Duplicate RPD	2.6	%	0-25
	C19-C36 Aliphatics	Lab Fort Blank Amt.	40.0	mg/kg dry wt	
		Lab Fort Blk. Found	37.3	mg/kg dry wt	
		Lab Fort Blk. % Rec.	93.2	%	40-140
		Dup Lab Fort BI Amt.	40.0	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	37.2	mg/kg dry wt	
		Dup Lab Fort BI %Rec	93.0	%	40-140
		Lab Fort Blank Range	0.1	units	
		Lab Fort Bl. Av. Rec	93.1	%	
		LFB Duplicate RPD	0.2	%	0-25



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:		ims Bat # : LIMT-23539		Page 7 of	15
QC Batch Number:	GC/FID-23207				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B05752					
	2,5-Dibromotoluene (FID)	Sur. Recovery FID	98.9	%	
BLANK-130286					
	C5-C8 Aliphatics	Blank	<16.0	mg/kg dry wt	
	C9-C12 Aliphatics	Blank	<10.7	mg/kg dry wt	
	Unadjusted C5-C8 Aliphatics	Blank	<16.0	mg/kg dry wt	
	Unadjusted C9-C12 Aliphatics	Blank	<10.7	mg/kg dry wt	
_FBLANK-92448					
	Nonane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	5.738	mg/kg dry wt	
		Lab Fort Blk. % Rec.	85.593	%	30-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.738	mg/kg dry wt	
		Dup Lab Fort BI %Rec	85.593	%	30-130
		Lab Fort Blank Range	0.000	units	
		Lab Fort Bl. Av. Rec	85.593	%	
	_	LFB Duplicate RPD	0.000	%	0-25
	Pentane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	5.477	mg/kg dry wt	
		Lab Fort Blk. % Rec.	81.694	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.107	mg/kg dry wt	
		Dup Lab Fort BI %Rec	76.186	%	70-130
		Lab Fort Blank Range	5.508	units	
		Lab Fort Bl. Av. Rec	78.940	%	
		LFB Duplicate RPD	6.977	%	0-25
	2-Methylpentane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	5.852	mg/kg dry wt	
		Lab Fort Blk. % Rec.	87.288	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.460	mg/kg dry wt	
		Dup Lab Fort BI %Rec	81.440	%	70-130
		Lab Fort Blank Range	5.847	units	
		Lab Fort Bl. Av. Rec	84.364	%	
		LFB Duplicate RPD	6.931	%	0-25
	2,2,4-Trimethylpentane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	5.596	mg/kg dry wt	70 / 00
		Lab Fort Blk. % Rec.	83.474	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.267	mg/kg dry wt	
		Dup Lab Fort BI %Rec	78.559	%	70-130
		Lab Fort Blank Range	4.915	units	
		Lab Fort Bl. Av. Rec	81.016	%	o o=
		LFB Duplicate RPD	6.066	%	0-25



# QC SUMMARY REPORT

## SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates Method Blanks

Report Date:	3/6/2009	Lims Bat # : LIMT-23539		Page 8 of	15
QC Batch Number:	GC/FID-23207				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
FBLANK-92448					
	n-Decane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.193	mg/kg dry wt	
		Lab Fort Blk. % Rec.	92.372	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	6.306	mg/kg dry wt	
		Dup Lab Fort BI %Rec	94.067	%	70-130
		Lab Fort Blank Range	1.694	units	
		Lab Fort Bl. Av. Rec	93.220	%	
		LFB Duplicate RPD	1.818	%	0-25
	n-Butylcyclohexane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	5.522	mg/kg dry wt	
		Lab Fort Blk. % Rec.	82.372	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.556	mg/kg dry wt	
		Dup Lab Fort BI %Rec	82.881	%	70-130
		Lab Fort Blank Range	0.508	units	
		Lab Fort BI. Av. Rec	82.627	%	
		LFB Duplicate RPD	0.615	%	0-25



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:		is Bat # : LIMT-23539		Page 9 of	15
QC Batch Number	: GC/FID-23208				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
09B05754					
	2,5-Dibromotoluene (FID)	Sur. Recovery FID	125.5	%	
BLANK-130288					
	C5-C8 Aliphatics	Blank	<16.0	mg/kg dry wt	
	C9-C12 Aliphatics	Blank	<10.7	mg/kg dry wt	
	Unadjusted C5-C8 Aliphatics	Blank	<16.0	mg/kg dry wt	
	Unadjusted C9-C12 Aliphatics	Blank	<10.7	mg/kg dry wt	
FBLANK-92452			<u> </u>		
	Nonane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	5.590	mg/kg dry wt	
		Lab Fort Blk. % Rec.	83.389	%	30-130
		Dup Lab Fort Bl Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.738	mg/kg dry wt	00.400
		Dup Lab Fort BI %Rec	85.593	%	30-130
		Lab Fort Blank Range	2.203	units	
		Lab Fort Bl. Av. Rec	84.491	%	0.05
		LFB Duplicate RPD	2.607	%	0-25
	Pentane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.363	mg/kg dry wt	
		Lab Fort Blk. % Rec.	94.915	%	70-130
		Dup Lab Fort Bl Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	6.136	mg/kg dry wt	70.400
		Dup Lab Fort BI %Rec	91.525	%	70-130
		Lab Fort Blank Range	3.389	units	
		Lab Fort Bl. Av. Rec	93.220	% %	0.05
	2 Mothulaoatono	LFB Duplicate RPD	3.636		0-25
	2-Methylpentane	Lab Fort Blank Amt. Lab Fort Blk. Found	6.704	mg/kg dry wt	
		Lab Fort Blk. % Rec.	6.534	mg/kg dry wt	70 120
			97.457	%	70-130
		Dup Lab Fort Bl Amt. Dup Lab Fort Bl. Fnd	6.704 6.193	mg/kg dry wt	
		Dup Lab Fort BI %Rec	92.372	mg/kg dry wt %	70-130
		Lab Fort Blank Range	5.084		70-130
		Lab Fort Bl. Av. Rec		units %	
		LFB Duplicate RPD	94.915 5.357	70 %	0-25
	2,2,4-Trimethylpentane	Lab Fort Blank Amt.	6.704		0-25
	2,2,4-11111ethylpentalle			mg/kg dry wt	
		Lab Fort Blk. Found Lab Fort Blk. % Rec.	5.647 84.237	mg/kg dry wt %	70-130
			6.704		10-130
		Dup Lab Fort BI Amt.	6.704 5.522	mg/kg dry wt	
		Dup Lab Fort BI. Fnd	5.522 82.372	mg/kg dry wt %	70-130
		Dup Lab Fort BI %Rec	82.372 1.864		10-130
		Lab Fort Blank Range Lab Fort Bl. Av. Rec	83.305	units %	
		LFB Duplicate RPD	2.238	%	0-25



# QC SUMMARY REPORT

## SAMPLE QC: Sample Results with Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materia Method Blanks

Report Date:	3/6/2009	Lims Bat # : LIMT-23539		Page 10 o	f 15
QC Batch Number	:: GC/FID-23208				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-92452					
	n-Decane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.250	mg/kg dry wt	
		Lab Fort Blk. % Rec.	93.220	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	6.250	mg/kg dry wt	
		Dup Lab Fort BI %Rec	93.220	%	70-130
		Lab Fort Blank Range	0.000	units	
		Lab Fort Bl. Av. Rec	93.220	%	
		LFB Duplicate RPD	0.000	%	0-25
	n-Butylcyclohexane	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	5.568	mg/kg dry wt	
		Lab Fort Blk. % Rec.	83.050	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.482	mg/kg dry wt	
		Dup Lab Fort BI %Rec	81.779	%	70-130
		Lab Fort Blank Range	1.271	units	
		Lab Fort Bl. Av. Rec	82.415	%	
		LFB Duplicate RPD	1.542	%	0-25



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/6/2009	Lims Bat # : LIMT-23539		Page 11 o	f 15
QC Batch Numb Sample Id	per: GC/PID-9129 Analysis	QC Analysis	Values	Units	Limits
9B05752		QC / Halysis	Valueo	Onito	Linito
9000702	2,5-Dibromotoluene (PID)	Sur. Recovery (PID)	104.1	%	70-130
LANK-130284			10111	,,,	
	Benzene	Blank	<0.054	mg/kg dry wt	
	Ethylbenzene	Blank	< 0.054	mg/kg dry wt	
	Naphthalene	Blank	<0.532	mg/kg dry wt	
	Toluene	Blank	<0.054	mg/kg dry wt	
	o-Xylene	Blank	<0.054	mg/kg dry wt	
	m/p-Xylene	Blank	<0.107	mg/kg dry wt	
	C9-C10 Aromatics	Blank	<10.7	mg/kg dry wt	
	MTBE	Blank	<0.054	mg/kg dry wt	
BLANK-9244					
	Benzene	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.534	mg/kg dry wt	
		Lab Fort Blk. % Rec.	97.457	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	6.250	mg/kg dry wt	
		Dup Lab Fort BI %Rec	93.220	%	70-130
		Lab Fort Blank Range	4.237	units	
		Lab Fort Bl. Av. Rec	95.338	%	
		LFB Duplicate RPD	4.444	%	0-25
	Ethylbenzene	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	5.852	mg/kg dry wt	
		Lab Fort Blk. % Rec.	87.288	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.738	mg/kg dry wt	
		Dup Lab Fort BI %Rec	85.593	%	70-130
		Lab Fort Blank Range	1.694	units	
		Lab Fort Bl. Av. Rec	86.440	%	
		LFB Duplicate RPD	1.960	%	0-25
	Naphthalene	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.250	mg/kg dry wt	
		Lab Fort Blk. % Rec.	93.220	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.852	mg/kg dry wt	
		Dup Lab Fort BI %Rec	87.288	%	70-130
		Lab Fort Blank Range	5.932	units	
		Lab Fort Bl. Av. Rec	90.254	%	
		LFB Duplicate RPD	6.572	%	0-25
	Toluene	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.250	mg/kg dry wt	
		Lab Fort Blk. % Rec.	93.220	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	6.079	mg/kg dry wt	



## QC SUMMARY REPORT

## SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/6/2009	Lims Bat # : LIMT-23539		Page 12 o	f 15
QC Batch Numbe	r: GC/PID-9129				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-92447					
	Toluene	Dup Lab Fort BI %Rec	90.677	%	70-130
		Lab Fort Blank Range	2.542	units	
		Lab Fort Bl. Av. Rec	91.949	%	
		LFB Duplicate RPD	2.764	%	0-25
	o-Xylene	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.079	mg/kg dry wt	
		Lab Fort Blk. % Rec.	90.677	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	6.079	mg/kg dry wt	
		Dup Lab Fort BI %Rec	90.677	%	70-130
		Lab Fort Blank Range	0.000	units	
		Lab Fort Bl. Av. Rec	90.677	%	
		LFB Duplicate RPD	0.000	%	0-25
	m/p-Xylene	Lab Fort Blank Amt.	13.409	mg/kg dry wt	
		Lab Fort Blk. Found	11.590	mg/kg dry wt	
		Lab Fort Blk. % Rec.	86.440	%	70-130
		Dup Lab Fort BI Amt.	13.409	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	11.590	mg/kg dry wt	
		Dup Lab Fort BI %Rec	86.440	%	70-130
		Lab Fort Blank Range	0.000	units	
		Lab Fort Bl. Av. Rec	86.440	%	
		LFB Duplicate RPD	0.000	%	0-25
	MTBE	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.761	mg/kg dry wt	
		Lab Fort Blk. % Rec.	100.847	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	6.306	mg/kg dry wt	
		Dup Lab Fort BI %Rec	94.067	%	70-130
		Lab Fort Blank Range	6.779	units	
		Lab Fort Bl. Av. Rec	97.457	%	
		LFB Duplicate RPD	6.956	%	0-25
	1,2,4-TrimethylBenzene	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	5.852	mg/kg dry wt	
		Lab Fort Blk. % Rec.	87.288	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	5.909	mg/kg dry wt	
		Dup Lab Fort BI %Rec	88.135	%	70-130
		Lab Fort Blank Range	0.847	units	
		Lab Fort Bl. Av. Rec	87.711	%	
		LFB Duplicate RPD	0.966	%	0-25



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/6/2009	Lims Bat # : LIMT-23539	Page 13 of 15			
QC Batch Numbe	er: GC/PID-9130					
Sample Id	Analysis	QC Analysis	Values	Units	Limits	
09B05754						
	2,5-Dibromotoluene (PID)	Sur. Recovery (PID)	122.0	%	70-130	
BLANK-130287						
	Benzene	Blank	<0.054	mg/kg dry wt		
	Ethylbenzene	Blank	<0.054	mg/kg dry wt		
	Naphthalene	Blank	<0.532	mg/kg dry wt		
	Toluene	Blank	<0.054	mg/kg dry wt		
	o-Xylene	Blank	<0.054	mg/kg dry wt		
	m/p-Xylene	Blank	<0.107	mg/kg dry wt		
	C9-C10 Aromatics	Blank	<10.7	mg/kg dry wt		
	MTBE	Blank	<0.054	mg/kg dry wt		
LFBLANK-92450						
	Benzene	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	7.102	mg/kg dry wt		
		Lab Fort Blk. % Rec.	105.932	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	6.875	mg/kg dry wt		
		Dup Lab Fort BI %Rec	102.542	%	70-130	
		Lab Fort Blank Range	3.389	units		
		Lab Fort Bl. Av. Rec	104.237	%		
		LFB Duplicate RPD	3.252	%	0-25	
	Ethylbenzene	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	6.250	mg/kg dry wt		
		Lab Fort Blk. % Rec.	93.220	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	6.022	mg/kg dry wt		
		Dup Lab Fort BI %Rec	89.830	%	70-130	
		Lab Fort Blank Range	3.389	units		
		Lab Fort Bl. Av. Rec	91.525	%		
		LFB Duplicate RPD	3.703	%	0-25	
	Naphthalene	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	6.931	mg/kg dry wt		
		Lab Fort Blk. % Rec.	103.389	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	7.102	mg/kg dry wt		
		Dup Lab Fort BI %Rec	105.932	%	70-130	
		Lab Fort Blank Range	2.542	units		
		Lab Fort Bl. Av. Rec	104.661	%		
		LFB Duplicate RPD	2.429	%	0-25	
	Toluene	Lab Fort Blank Amt.	6.704	mg/kg dry wt		
		Lab Fort Blk. Found	6.761	mg/kg dry wt		
		Lab Fort Blk. % Rec.	100.847	%	70-130	
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt		
		Dup Lab Fort Bl. Fnd	6.534	mg/kg dry wt		



## QC SUMMARY REPORT

## SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	3/6/2009	Lims Bat # : LIMT-23539		Page 14 o	f 15
QC Batch Numb	er: GC/PID-9130				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-92450	)				
	Toluene	Dup Lab Fort BI %Rec	97.457	%	70-130
		Lab Fort Blank Range	3.389	units	
		Lab Fort Bl. Av. Rec	99.152	%	
		LFB Duplicate RPD	3.418	%	0-25
	o-Xylene	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.477	mg/kg dry wt	
		Lab Fort Blk. % Rec.	96.610	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	6.250	mg/kg dry wt	
		Dup Lab Fort BI %Rec	93.220	%	70-130
		Lab Fort Blank Range	3.389	units	
		Lab Fort Bl. Av. Rec	94.915	%	
		LFB Duplicate RPD	3.571	%	0-25
	m/p-Xylene	Lab Fort Blank Amt.	13.409	mg/kg dry wt	
		Lab Fort Blk. Found	12.443	mg/kg dry wt	
		Lab Fort Blk. % Rec.	92.796	%	70-130
		Dup Lab Fort BI Amt.	13.409	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	12.045	mg/kg dry wt	
		Dup Lab Fort BI %Rec	89.830	%	70-130
		Lab Fort Blank Range	2.966	units	
		Lab Fort Bl. Av. Rec	91.313	%	
		LFB Duplicate RPD	3.248	%	0-25
	MTBE	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	7.386	mg/kg dry wt	
		Lab Fort Blk. % Rec.	110.169	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	7.386	mg/kg dry wt	
		Dup Lab Fort BI %Rec	110.169	%	70-130
		Lab Fort Blank Range	0.000	units	
		Lab Fort Bl. Av. Rec	110.169	%	
		LFB Duplicate RPD	0.000	%	0-25
	1,2,4-TrimethylBenzene	Lab Fort Blank Amt.	6.704	mg/kg dry wt	
		Lab Fort Blk. Found	6.193	mg/kg dry wt	
		Lab Fort Blk. % Rec.	92.372	%	70-130
		Dup Lab Fort BI Amt.	6.704	mg/kg dry wt	
		Dup Lab Fort Bl. Fnd	6.079	mg/kg dry wt	
		Dup Lab Fort BI %Rec	90.677	%	70-130
		Lab Fort Blank Range	1.694	units	
		Lab Fort Bl. Av. Rec	91.525	%	
		LFB Duplicate RPD	1.851	%	0-25
			1.001	70	0 20



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332 QC SUMMARY REPORT SAMPLE QC: Sample Results with Duplicates BATCH QC: Lab fortified Blanks and Duplicates Sample Matrix Spikes and Matrix Spike Duplicates Standard Reference Materials and Duplicates Method Blanks Report Date: 3/6/2009 Lims Bat # : LIMT-23539 Page 15 of 15 QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS This is the number assigned to all samples analyzed together that QC BATCH NUMBER would be subject to comparison with a particular set of Quality Control Data. LIMITS Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined. Amount of analyte found in a sample. Sample Amount Method Blank that has been taken though all the steps of the Blank analysis. LFBLANK Laboratory Fortified Blank (a control sample) STDADD Standard Added (a laboratory control sample) Matrix Spk Amt Added Amount of analyte spiked into a sample Amount of analyte found including amount that was spiked MS Amt Measured Matrix Spike % Rec. % Recovery of spiked amount in sample. Duplicate Value The result from the Duplicate analysis of the sample. The Relative Percent Difference between two Duplicate Analyses. Duplicate RPD Surrogate Recovery The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods. Sur. Recovery (ELCD) Surrogate Recovery on the Electrolytic Conductivity Detector. Sur. Recovery (PID) Surrogate Recovery on the Photoionization Detector. Standard Measured Amount measured for a laboratory control sample Standard Amt Added Known value for a laboratory control sample Standard % Recovery % recovered for a laboratory control sample with a known value. Lab Fort Blank Amt Laboratory Fortified Blank Amount Added Lab Fort Blk. Found Laboratory Fortified Blank Amount Found Lab Fort Blk % Rec Laboratory Fortified Blank % Recovered Dup Lab Fort Bl Amt Duplicate Laboratory Fortified Blank Amount Added Duplicate Laboratory Fortified Blank Amount Found Dup Lab Fort Bl Fnd Duplicate Laboratory Fortified Blank % Recovery Dup Lab Fort Bl % Rec Laboratory Fortified Blank Range (Absolute value of difference Lab Fort Blank Range between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate). Lab Fort Bl. Av. Rec. Laboratory Fortified Blank Average Recovery Duplicate Sample Amt Sample Value for Duplicate used with Matrix Spike Duplicate Matrix Spike Duplicate Amount Added (Spiked) MSD Amount Added MSD Amt Measured Matrix Spike Duplicate Amount Measured MSD % Recovery Matrix Spike Duplicate % Recovery MSD Range Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries

MADEP MCP ANALYTICAL METHOD REPORT CERTIFICATION FORM									
Labor	Laboratory Name: CON-TEST Analytical Laboratory Project #: LIMT-23539								
Proje	ct Location: 23	5 TYLER	STREET, PIT	TSFIELD	MADEP RTI	N <sup>1</sup> :			
	Project Location: 235 TYLER STREET, PITTSFIELD MADEP RTN <sup>1</sup> : This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)] 								
Samp	ble Matrices:	Groundwater	Soil/Sediment 🛛 Dri	nking Water	🛛 Other:				
MCI	P SW-846	8260B()	8151A()	8330 ( )	6010B (	) 7470A/1A ( )			
Met	hods Used	8270C()	8081A()	VPH 🕅	6020 (	) 9014M <sup>2</sup> ()			
,	ecified in MADEP	8082()	8021B()	EPH (X)	7000 S <sup>3</sup> (	) 7196A ( )			
Analyt	endium of ical Methods. k all that apply)	2 M – SW-846 M	acking Number (RTN), ethod 9014 or MADEP ethods 7000 Series Lis	Physiologically	Available Cya	nide (PAC) Method yte.			
An a			ns A, B, C and D is r	·····		e Certainty" status			
Α	Were all samp that described	les received by f on the Chain-of-C	he laboratory in a co Custody documentatic	ondition cons on for the data	istent with a set?	Yes DNo <sup>1</sup>			
в	included in th	is report followe arrative QC data	quired for the specifiend, including the rec that did not meet a	juirement to	note and	Ƴ¶∵Yes □ No¹			
с	for "Presumpti (d) of the MAD	ve Certainty", as EP document C	eport meet all the an described in Section AM VII A, "Quality As isition and Reporting	2.0 (a), (b), surance and	(c) and Quality	≸ Yes □ No <sup>1</sup>			
D	VPH and EPH without signific	Methods only: ant modifications	Was the VPH or EPH (see Section 11.3 of	l Method con respective M	ducted ethods)	AYes DNo <sup>1</sup>			
	A response to	questions E and	d F below is required	l for "Presur	mptive Certai	inty" status			
E		tical QC perform nethods achieved	ance standards and I I?	recommenda	tions for	□ Yes XNo <sup>1</sup>			
F	F Were results for all analyte-list compounds/elements for the specified → Yes □ No <sup>1</sup>								
			ldressed in an attach						
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.									
Sigr	Signature: Edward Demon Position: Technical Director								
Prin	ited Name: Ed	ward Denson		Date: <u>3</u>	6/09				

April 2004

# Frac. Check Gilson Fractionator (FCS)

Silica Lot:	S212-44	Vendor:	PHENOMENEX
Frac Check Lot:	120408 PJG	Amount of DCM collected:	5000 uL
Hexane Lot:	48130	Amount of Hexane collected:	1800 uL
DCM Lot:	CX673		
Acetone Lot:	48268	Data File:	120408 B011/B012

Compound	Conc.(ppm)	2000ul	% REC	Limits
Naphthalene	50	46.803	94%	40-140
2-Methylnaphthalene	50	49.892	100%	40-140
Acenaphthalene	50	51.654	103%	40-140
Acenaphthene	50	50.707	101%	40-140
Fluorene	50	51.992	104%	40-140
Phenanthrene	50	51.620	103%	40-140
Anthracene	50	53.824	108%	40-140
o-Terphenyl (surr)	50	53.325	107%	40-140
Fluoranthene	50	51.318	103%	40-140
Pyrene	50	53.427	107%	40-140
Benzo(a)anthracene	50	49.693	99%	40-140
Chrysene	50	52.239	104%	40-140
Benzo(b)fluoranthene	50	51.942	104%	40-140
Benzo(k)fluoranthene	50	50.335	101%	40-140
Benzo(a)pyrene	50	49.109	98%	40-140
Indeno(123cd)pyrene	50	48.503	97%	40-140
Dibenzo(ah)anthracene	50	49.190	98%	40-140
Benzo(ghi)perylene	50	49.342	99%	40-140
C9	50	37.246	74%	30-140
C10	50	39.046	78%	40-140
C12	50	42.204	84%	40-140
C14	50	45.294	91%	40-140
C16	50	45.650	91%	40-140
C18	50	44.744	89%	40-140
C19	50	44.757	90%	40-140
C20	50	43.918	88%	40-140
1-Chloro-octadecane (surr)	50	41.800	84%	40-140
C22	50	45.928	92%	40-140
C24	50	44.108	88%	40-140
C26	50	45.847	92%	40-140
C28	50	44.466	89%	40-140
C30	50	43.350	87%	40-140
C36	50	48.193	96%	40-140
Fractionation Surrogates				
2-Flourobiphenyl	50	49.032	98%	40-140
2-Bromonaphthalene	50	49.386	99%	40-140
Aliphatic Bleed thru			% (<	:5%)
Naphthalene	0		0.0	000
2-Methylnaphthalene	0		0.0	000

8

AIHA,
NELAC
& WBE/DE
BE Certified

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

n bisulfate		- O ≕ other					-	* Require lab approval	Remuire la				
	B = Sodium bisulfate	SL = sludge						*4-Day	🗅 *72-Hr 🗆 *4-Day	Date/Time:		Received by: (signature)	Received I
c Acid	S = Sulfuric Acid	S = soil/solid		DL's:	Special Requirements or DL's:	Require	Special	*48-Hr	□ *24-Hr □ *48-Hr			0	
Acid	N = Nitric Acid	A = air	:					ΙΞ́	JC UF	-1		Relinquished by: (signature)	Relinquish
	M = Methanol	DW= drinking water	শ্বি ০ ০	ct/RCP?	Data Enhancement Project/RCP?	nhancer	Data Et	Other		2/2/109	(2c)	1000	(NK)
$\mathbf{T} = \mathbf{N}\mathbf{a}$ thiosulfate		WW= wastewater		1				10-Dav				w. (signature)	Received
X = Na hydroxide	I = Iced	GW= groundwater	5-2	5115	MCP	tions?	Regulations?	7-Day		2/26/03 1030	Ę		
**Preservation Codes:	**Preserva	*Matrix Code:	nents	auiren	Detection Limit Requirements	ction L	Dete	** punc	Turnaround **	Date/Time:	£	Relinquished by (signature)	Relinquish
	ω	<b>C</b> - Clean; <b>U</b> - Unknown	High; M - Medium; L - Low;	M - Medi	H - High; I								
mple may	f a specific sa	Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:	lowing codes ration in Mat	e the fol- concent	Please us be high in	547801874000824Daa						Laboratory Comments:	Laboratory
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			EP		*Matrix   Conc. Code   Code	Grab	) osite	Stop Date/ime	Start) Stop Date/Time Pate/Time	Lab # ONG	ription	Sample Description	Field ID
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T=tedlar bag								D OTHER		State Form Required?	Proposal Provided? (For Billing purposes)	Provided? (For I	Proposal
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P=plastic ST=sterile					CLIENT		OWEBSITE	XEMAIL	Fax #:	AM, PIAJSKE	Then St. P.H.	Project Location:	Project L
G=glass			·····			1	heck o	IVERY (c	DATA DELIVERY (check one):	1000	Biolsi	Tom	Attention:
- <u>Cont. Code:</u>		ANALYSIS REQUESTED				*****			Client PO #		ell ma	Lowell	
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**Preservation				3	00	970 - 5600	970		Telephone:(97%)_		C C	Name: Th	Company Name:
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ö	)W, MA 0102	EAST LONGMEADOW, MA 01028			20	ية جلا	· ~ + ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	anning and a star	2.com	Fax: 413-525-6405 Email: info@contestlabs.com			
Page of	) FLOOR	39 SPRUCE ST, 2ND FLOOR	õ	ECOF	YOY R	ŬSTC	or C	CHAIN OF CUSTODY RECORD		Phone: 413-525-2332			

www.contestlabs.com	Sample Receipt	ABORATORY	39 Spruce St. East Longmeadow, MA. 01028 P: 413-525-2332 F: 413-525-6405
LIENT NAME TRCLO		VED BY: <u>ML</u>	DATE: 2/20109
) Was the chain(s) of custody re ) Does the chain agree with the If not, explain: ) Are all the samples in good co If not, explain: ) How were the samples received On Ice Direct from Si Vere the samples received in Te Temperature °C by Temp blank 5) Are there Dissolved samples for Who was notified	samples? ndition? ed: ampling Ambier mperature Compliance of (2 Tempe	2-6°C)? Yes No erature °C by Temp gun Yes No	200
<ul> <li>Are there any samples "On Ho</li> <li>Are there any RUSH or SHOR"</li> <li>Who was notified</li> <li>Location where samples are s</li> </ul>	T HOLDING TIME samples?	Time Permission to subc	ontract samples? Yes No y) if not already approved
	Containers sent in	n to Con-Test	
	# of containers		# of containers
1 Liter Amber	<u> </u>	8 oz clear jar	
500 mL Amber		4 oz clear jar	
250 mL Amber (8oz amber)		2 oz clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziplo	<u>)C</u>
250 mL plastic		Air Cassette	
40 mL Vial - type listed below	14	Brass Sleeves	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Summa Cans	
Flashpoint bottle		Regulators	
Encore		Other	
Laboratory Comments:			
40 mL vials: # HCl	# Methanol	 Time and Date F	rozen:



REPORT DATE 4/8/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

## ANALYTICAL SUMMARY

LIMS BAT #: LIMT-24377

JOB NUMBER: -

## PROJECT LOCATION: 235 TYLER ST. PITTSFIELD MA

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST	Subcontract Lab (if any) Cert. Nos.
DUP-1	09B09998	GRND WATER	Not Specified	eph - water 04	
DUP-1	09B09998	GRND WATER	Not Specified	pb (mg/l) icp	
DUP-1	09B09998	GRND WATER	Not Specified	vph - water 04	
MW-1	09B09995	GRND WATER	Not Specified	eph - water 04	
MW-1	09B09995	GRND WATER	Not Specified	pb (mg/l) icp	
MW-1	09B09995	GRND WATER	Not Specified	vph - water 04	
MW-2	09B09996	GRND WATER	Not Specified	eph - water 04	
MW-2	09B09996	GRND WATER	Not Specified	pb (mg/l) icp	
MW-2	09B09996	GRND WATER	Not Specified	vph - water 04	
MW-3	09B09997	GRND WATER	Not Specified	eph - water 04	
MW-3	09B09997	GRND WATER	Not Specified	pb (mg/l) icp	
MW-3	09B09997	GRND WATER	Not Specified	vph - water 04	
TRIP BLANK	09B09999	WATER OTHE	Not Specified	vph - water 04	



REPORT DATE 4/8/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMT-24377

JOB NUMBER: -

Comments :

LIMS BATCH NO. : LIMT-24377

## CASE NARRATIVE SUMMARY

Recommended sample holding times were not exceeded for all samples unless listed below: None Exceeded

All samples for the method(s) listed were received preserved properly in the proper containers at 4°C +/- 2 degrees as specified on the chain-of-custody form unless listed below: All properly preserved

There are no (other) analytical issues which affect the usability of the data.

DETAILED CASE NARRATIVE

## VOLATILE PETROLEUM HYDROCARBONS (VPH) MADEP-VPH-04-1.1 ADDITIONAL DETAILS

Target compounds are subtracted from the summed ranges, but not from the unadjusted ranges. C9-C12 aliphatic hydrocarbons exclude the concentration of C9-C10 aromatic hydrocarbons. No significant modifications were made to the method.

All VPH samples were received preserved properly (water samples pH <2; soil samples in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol) in the proper containers at 4° C. +/- 2° as specified on the chain-of-custody form unless specified below: All properly preserved

All VPH surrogate standard recoveries were within control limits specified by the method unless listed below: None outside of control limits

VPH QC SURROGATE RECOVERIES

BLANK-131538 2,5-DIBROMOTOLUENE PID	99.3%	
BLANK-131539 2,5-DIBROMOTOLUENE FID	117%	
LFBLANK-93783	LFB	LFB DUPLICATE
2,5-DIBROMOTOLUENE PID	97.9%	111%
LFBLANK-93784	LFB	LFB DUPLICATE
2,5-DIBROMOTOLUENE FID	99.3%	112%

## EXTRACTABLE PETROLEUM HYDROCARBONS (EPH) MADEP-EPH-04-1.1 ADDITIONAL DETAILS

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch.

Target compounds are subtracted from the C11-C22 aromatic range but not from the unadjusted C11-C22 aromatic range.



REPORT DATE 4/8/2009

TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 ATTN: TOM BIOLSI

CONTRACT NUMBER: PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMT-24377

JOB NUMBER: -

No significant modifications were made to the method.

All EPH surrogate standard recoveries were within control limits specified by the method unless listed below: None outside of control limits

EPH QC Surrogate Recoveries

BLANK-131540		
2-Fluorobiphenyl:	102%	
2-Bromonaphthalene:	101%	
1-Chlorooctadecane:	84.6%	
o-Terphenyl:	92.1%	
LFBLANK-93785	LFB	LFB Duplicate
2-Fluorobiphenyl:	105%	102%
2-Bromonaphthalene	103%	99.0%
1-Chlorooctadecane:	86.8%	75.4%

95.4%

METHOD SW846-6010 - ADDITIONAL DETAILS

Only Pb was requested and reported.

O-Terphenyl:

The results of analyses performed are based on samples as submitted to the laboratory and relate only to the items collected and tested.

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations. AIHA accreditations only apply to NIOSH methods and Environmental Lead Analyses.

83.8%

AIHA 100033 MASSACHUSETTS MA0100 CONNECTICUT PH-0567 NEW YORK ELAP/NELAP 10899 AIHA ELLAP (LEAD) 100033 NEW HAMPSHIRE NELAP 2516 VERMONT DOH (LEAD) No. LL015036 RHODE ISLAND (LIC. No. 112) NORTH CAROLINA CERT. # 652 NEW JERSEY NELAP NJ MA007 (AIR) FLORIDA DOH E871027 (AIR)

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.

Too Kappenl	418/09	Tod Kopyscinski Air Laboratory Manager	Michael Erickson Assistant Laboratory Director
SIGNATURE	DATE		
		Edward Denson Technical Director	Daren Damboragian Organics Department Supervisor

\* See end of data tabulation for notes and comments pertaining to this sample

6



Sample Matrix:

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

 TOM BIOLSI

 TRC SOLUTIONS - LOWELL

 650 SUFFOLK STREET

 LOWELL, MA 01852

 Project Location:
 235 TYLER ST. PITTSFIELD MA

 Date Received:
 3/31/2009

 Field Sample #:
 DUP-1

 Sample ID:
 09B09998
 \$Sampled : 3/31/2009

4/8/2009 Page 1 of 15

LIMS-BAT #: LIMT-24377 Job Number: -

GRND WATER

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	ug/l	ND	04/07/09	CJM	150			
C19-C36 Aliphatics	ug/l	ND	04/07/09	CJM	150			
Unadjusted C11-C22 Aromatics	ug/l	ND	04/07/09	CJM	100			
C11-C22 Aromatics	ug/l	ND	04/07/09	CJM	100			
Acenaphthene	ug/l	ND	04/07/09	CJM	2.0			
Acenaphthylene	ug/l	ND	04/07/09	CJM	2.0			
Anthracene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(a)anthracene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(a)pyrene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(b)fluoranthene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(g,h,i)perylene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(k)fluoranthene	ug/l	ND	04/07/09	CJM	2.0			
Chrysene	ug/l	ND	04/07/09	CJM	2.0			
Dibenzo(a,h)anthracene	ug/l	ND	04/07/09	CJM	2.0			
Fluoranthene	ug/l	ND	04/07/09	CJM	2.0			
Fluorene	ug/l	ND	04/07/09	CJM	2.0			
Indeno(1,2,3-cd)pyrene	ug/l	ND	04/07/09	CJM	2.0			
2-Methylnaphthalene	ug/l	ND	04/07/09	CJM	2.0			
Naphthalene	ug/l	ND	04/07/09	CJM	2.0			
Phenanthrene	ug/l	ND	04/07/09	CJM	2.0			
Pyrene	ug/l	ND	04/07/09	CJM	2.0			
Date Extracted EPH Water		4/2/2009	04/07/09	CJM				

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No.: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample #: DUP-1 Analytical Method: MADEP-EPH-04-1

SAMPLES ARE PRESERVED TO pH < 2.0 WITH HYDROCHLORIC ACID (HCL). SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE ACCORDING TO SW846 3510C, EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample

**‡** = See attached chain-of-custody record for time sampled

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LIMS-BAT #: LIMT-24377 Job Number: -



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 0185∠ Purchase Order No.: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample #: MW-1 Sample ID: 09B09955 \$Sampled : 3/31/2009

Not Specified

4/8/2009 Page 3 of 15

LIMS-BAT #: LIMT-24377 Job Number: -

Sample Matrix: GRND WATER

	Units	Results	Date Analyzed	Analyst	RL	SPEC Lo	Limit Hi	P/ F
C9-C18 Aliphatics	ug/l	ND	04/06/09	CJM	150			
C19-C36 Aliphatics	ug/l	ND	04/06/09	CJM	150			
Unadjusted C11-C22 Aromatics	ug/l	ND	04/06/09	CJM	100			
C11-C22 Aromatics	ug/l	ND	04/06/09	CJM	100			
Acenaphthene	ug/l	ND	04/06/09	CJM	2.0			
Acenaphthylene	ug/l	ND	04/06/09	CJM	2.0			
Anthracene	ug/l	ND	04/06/09	CJM	2.0			
Benzo(a)anthracene	ug/l	ND	04/06/09	CJM	2.0			
Benzo(a)pyrene	ug/l	ND	04/06/09	CJM	2.0			
Benzo(b)fluoranthene	ug/l	ND	04/06/09	CJM	2.0			
Benzo(g,h,i)perylene	ug/l	ND	04/06/09	CJM	2.0			
Benzo(k)fluoranthene	ug/l	ND	04/06/09	CJM	2.0			
Chrysene	ug/l	ND	04/06/09	CJM	2.0			
Dibenzo(a,h)anthracene	ug/l	ND	04/06/09	CJM	2.0			
Fluoranthene	ug/l	ND	04/06/09	CJM	2.0			
Fluorene	ug/l	ND	04/06/09	CJM	2.0			
Indeno(1,2,3-cd)pyrene	ug/l	ND	04/06/09	CJM	2.0			
2-Methylnaphthalene	ug/l	ND	04/06/09	CJM	2.0			
Naphthalene	ug/l	ND	04/06/09	CJM	2.0			
Phenanthrene	ug/l	ND	04/06/09	CJM	2.0			
Pyrene	ug/l	ND	04/06/09	CJM	2.0			
Date Extracted EPH Water		4/2/2009	04/06/09	CJM				

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ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No.: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample #: MW-1 Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE PRESERVED TO pH < 2.0 WITH HYDROCHLORIC ACID (HCL). SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE ACCORDING TO SW846 3510C, EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

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ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample

**‡** = See attached chain-of-custody record for time sampled

4/8/2009 Page 4 of 15

LIMS-BAT #: LIMT-24377 Job Number: -



Not Specified

TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No.: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample #: WW-2 Sample ID: 09B09996 \$Sampled : 3/31/2009

4/8/2009 Page 5 of 15

LIMS-BAT #: LIMT-24377 Job Number: -

Sample Matrix: GRND WATER

	Units	Results	Date Analyzed	Analyst	RL	SPEC Lo	Limit Hi	P/ F
C9-C18 Aliphatics	ug/l	ND	04/07/09	CJM	150			
C19-C36 Aliphatics	ug/l	ND	04/07/09	CJM	150			
Unadjusted C11-C22 Aromatics	ug/l	ND	04/07/09	CJM	100			
C11-C22 Aromatics	ug/l	ND	04/07/09	CJM	100			
Acenaphthene	ug/l	ND	04/07/09	CJM	2.0			
Acenaphthylene	ug/l	ND	04/07/09	CJM	2.0			
Anthracene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(a)anthracene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(a)pyrene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(b)fluoranthene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(g,h,i)perylene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(k)fluoranthene	ug/l	ND	04/07/09	CJM	2.0			
Chrysene	ug/l	ND	04/07/09	CJM	2.0			
Dibenzo(a,h)anthracene	ug/l	ND	04/07/09	CJM	2.0			
Fluoranthene	ug/l	ND	04/07/09	CJM	2.0			
Fluorene	ug/l	ND	04/07/09	CJM	2.0			
Indeno(1,2,3-cd)pyrene	ug/l	ND	04/07/09	CJM	2.0			
2-Methylnaphthalene	ug/l	ND	04/07/09	CJM	2.0			
Naphthalene	ug/l	ND	04/07/09	CJM	2.0			
Phenanthrene	ug/l	ND	04/07/09	CJM	2.0			
Pyrene	ug/l	ND	04/07/09	CJM	2.0			
Date Extracted EPH Water		4/2/2009	04/07/09	CJM				

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NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No.: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample #: MW-2 Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE PRESERVED TO pH < 2.0 WITH HYDROCHLORIC ACID (HCL). SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE ACCORDING TO SW846 3510C, EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

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\* = See end of report for comments and notes applying to this sample

**‡** = See attached chain-of-custody record for time sampled

4/8/2009 Page 6 of 15

LIMS-BAT #: LIMT-24377 Job Number: -



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No.: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample #: MW-3 Sample ID: 09B09997 \$Sampled : 3/31/2009

4/8/2009 Page 7 of 15

LIMS-BAT #: LIMT-24377 Job Number: -

Not Specified

Sample Matrix: GRND WATER

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
C9-C18 Aliphatics	ug/l	ND	04/07/09	CJM	150			
C19-C36 Aliphatics	ug/l	ND	04/07/09	CJM	150			
Unadjusted C11-C22 Aromatics	ug/l	ND	04/07/09	CJM	100			
C11-C22 Aromatics	ug/l	ND	04/07/09	CJM	100			
Acenaphthene	ug/l	ND	04/07/09	CJM	2.0			
Acenaphthylene	ug/l	ND	04/07/09	CJM	2.0			
Anthracene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(a)anthracene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(a)pyrene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(b)fluoranthene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(g,h,i)perylene	ug/l	ND	04/07/09	CJM	2.0			
Benzo(k)fluoranthene	ug/l	ND	04/07/09	CJM	2.0			
Chrysene	ug/l	ND	04/07/09	CJM	2.0			
Dibenzo(a,h)anthracene	ug/l	ND	04/07/09	CJM	2.0			
Fluoranthene	ug/l	ND	04/07/09	CJM	2.0			
Fluorene	ug/l	ND	04/07/09	CJM	2.0			
Indeno(1,2,3-cd)pyrene	ug/l	ND	04/07/09	CJM	2.0			
2-Methylnaphthalene	ug/l	ND	04/07/09	CJM	2.0			
Naphthalene	ug/l	ND	04/07/09	CJM	2.0			
Phenanthrene	ug/l	ND	04/07/09	CJM	2.0			
Pyrene	ug/l	ND	04/07/09	CJM	2.0			
Date Extracted EPH Water		4/2/2009	04/07/09	CJM				

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\* = See end of report for comments and notes applying to this sample



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No.: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample #: MW-3 Analytical Method:

MADEP-EPH-04-1

SAMPLES ARE PRESERVED TO pH < 2.0 WITH HYDROCHLORIC ACID (HCL). SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE ACCORDING TO SW846 3510C, EXCHANGED INTO HEXANE AND CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C11-C22 AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE, BUT NOT FROM THE UNADJUSTED C11-C22 AROMATIC RANGE.

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\* = See end of report for comments and notes applying to this sample

**‡** = See attached chain-of-custody record for time sampled

4/8/2009 Page 8 of 15

LIMS-BAT #: LIMT-24377 Job Number: -



TOM BIOLSI TRC SOLUTIONS 650 SUFFOLK ST							4/8/20 Page	009 9 of 15
LOWELL, MA 018	52		Purchase Order N	No.:				
Project Location: Date Received: Field Sample # :	3/31/2009	PITTSFIE	LD MA				LIMS-BAT #: LI Job Number: -	MT-24377
Sample ID :	09B09998		‡Sampled : 3/31/2009 Not Specified					
Sample Matrix:	GRND WATER							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Limit Lo Hi	P/ F
Lead		mg/l	ND	04/07/09	KSH	0.0075		
Field Sample # :	MW-1							
Sample ID :	09B09995		‡Sampled : 3/31/2009 Not Specified					
Sample Matrix:	GRND WATER							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Limit Lo Hi	P/ F
Lead		mg/l	ND	04/07/09	KSH	0.0075		
Field Sample # :	MW-2							
Sample ID :	09B09996		‡Sampled : 3/31/2009 Not Specified					
Sample Matrix:	GRND WATER							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Limit Lo Hi	P/ F
Lead		mg/l	ND	04/07/09	KSH	0.0075		
Field Sample # :	MW-3							
Sample ID :	09B09997		‡Sampled : 3/31/2009 Not Specified					
Sample Matrix:	GRND WATER							
		Units	Results	Date Analyzed	Analyst	RL	SPEC Limit Lo Hi	P/ F
Lead		mg/l	ND	04/07/09	KSH	0.0075		

EPA 200.7/SW846 6010

LFA 200.7/30/040 0010

SAMPLES ARE ANALYZED BY INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETRY (ICP).

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4/8/2009

LIMS-BAT #: LIMT-24377

Job Number: -

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Sample Matrix: GRND WATER

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
Unadjusted C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C10 Aromatics	ug/l	ND	04/03/09	EH	100			
Benzene	ug/l	ND	04/03/09	EH	1.0			
Ethyl Benzene	ug/l	ND	04/03/09	EH	1.0			
MTBE	ug/l	ND	04/03/09	EH	1.0			
Naphthalene	ug/l	ND	04/03/09	EH	10.0			
Toluene	ug/l	ND	04/03/09	EH	1.0			
m/p-Xylene	ug/l	ND	04/03/09	EH	2.0			
o-Xylene	ug/l	ND	04/03/09	EH	1.0			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFOMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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\* = See end of report for comments and notes applying to this sample



4/8/2009

LIMS-BAT #: LIMT-24377

Job Number: -

Page 11 of 15

TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No.: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample #: MW-1 Sample ID: 09B09995 \$\$Sampled : 3/31/2009 Not Specified

Sample Matrix: GRND WATER

	Units	Results	Date Analyzed	Analyst	RL	SPEC Lo	Limit Hi	P/ F
Unadjusted C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
Unadjusted C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C10 Aromatics	ug/l	ND	04/03/09	EH	100			
Benzene	ug/l	ND	04/03/09	EH	1.0			
Ethyl Benzene	ug/l	ND	04/03/09	EH	1.0			
MTBE	ug/l	ND	04/03/09	EH	1.0			
Naphthalene	ug/l	ND	04/03/09	EH	10.0			
Toluene	ug/l	ND	04/03/09	EH	1.0			
m/p-Xylene	ug/l	ND	04/03/09	EH	2.0			
o-Xylene	ug/l	ND	04/03/09	EH	1.0			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFOMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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\* = See end of report for comments and notes applying to this sample



TOM BIOLSI **TRC SOLUTIONS - LOWELL** 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No .: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample # : MW-2 09B09996 ‡Sampled : 3/31/2009 Sample ID : Not Specified

Sample Matrix: **GRND WATER** 

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
Unadjusted C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C10 Aromatics	ug/l	ND	04/03/09	EH	100			
Benzene	ug/l	ND	04/03/09	EH	1.0			
Ethyl Benzene	ug/l	ND	04/03/09	EH	1.0			
MTBE	ug/l	ND	04/03/09	EH	1.0			
Naphthalene	ug/l	ND	04/03/09	EH	10.0			
Toluene	ug/l	ND	04/03/09	EH	1.0			
m/p-Xylene	ug/l	ND	04/03/09	EH	2.0			
o-Xylene	ug/l	ND	04/03/09	EH	1.0			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFOMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

RL = Reporting Limit

ND = Not Detected at or above the Reporting Limit

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

\* = See end of report for comments and notes applying to this sample

**‡** = See attached chain-of-custody record for time sampled

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LIMS-BAT #: LIMT-24377 Job Number: -



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LIMS-BAT #: LIMT-24377

Job Number: -

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TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No.: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample #: MW-3 Sample ID : 09B09997 \$\$Sampled : 3/31/2009 Not Specified

Sample Matrix: GRND WATER

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
Unadjusted C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C10 Aromatics	ug/l	ND	04/03/09	EH	100			
Benzene	ug/l	ND	04/03/09	EH	1.0			
Ethyl Benzene	ug/l	ND	04/03/09	EH	1.0			
MTBE	ug/l	ND	04/03/09	EH	1.0			
Naphthalene	ug/l	ND	04/03/09	EH	10.0			
Toluene	ug/l	ND	04/03/09	EH	1.0			
m/p-Xylene	ug/l	ND	04/03/09	EH	2.0			
o-Xylene	ug/l	ND	04/03/09	EH	1.0			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFOMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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TOM BIOLSI **TRC SOLUTIONS - LOWELL** 650 SUFFOLK STREET LOWELL, MA 01852 Purchase Order No .: Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009 Field Sample # : TRIP BLANK 09B09999 ‡Sampled : 3/31/2009 Sample ID : Not Specified

Sample Matrix: WATER OTHER

	Units	Results	Date	Analyst	RL	SPEC	Limit	P/ F
			Analyzed			Lo	Hi	
Unadjusted C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
C5-C8 Aliphatics	ug/l	ND	04/03/09	EH	100			
Unadjusted C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C12 Aliphatics	ug/l	ND	04/03/09	EH	100			
C9-C10 Aromatics	ug/l	ND	04/03/09	EH	100			
Benzene	ug/l	ND	04/03/09	EH	1.0			
Ethyl Benzene	ug/l	ND	04/03/09	EH	1.0			
MTBE	ug/l	ND	04/03/09	EH	1.0			
Naphthalene	ug/l	ND	04/03/09	EH	10.0			
Toluene	ug/l	ND	04/03/09	EH	1.0			
m/p-Xylene	ug/l	ND	04/03/09	EH	2.0			
o-Xylene	ug/l	ND	04/03/09	EH	1.0			

Analytical Method:

MADEP-VPH-04-1.1

SAMPLES ARE CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH PID/FID DETECTION. SUMMED RANGES ARE REPORTED WITH TARGET COMPOUND CONTRIBUTIONS SUBTRACTED. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

NO SIGNIFICANT MODIFICATIONS WERE MADE TO THE METHOD.

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFOMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

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SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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**‡** = See attached chain-of-custody record for time sampled

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LIMS-BAT #: LIMT-24377 Job Number: -



TOM BIOLSI TRC SOLUTIONS - LOWELL 650 SUFFOLK STREET LOWELL, MA 01852 Project Location: 235 TYLER ST. PITTSFIELD MA Date Received: 3/31/2009

Purchase Order No.:

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LIMS-BAT #: LIMT-24377 Job Number: -

\*\* END OF REPORT \*\*

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\* = See end of report for comments and notes applying to this sample



## QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates Method Blanks

Report Date:	4/8/2009	Lims Bat # : LIMT-24377		Page 1 of 12				
QC Batch Number:	GC/FID-23393							
Sample Id	Analysis	QC Analysis	Values	Units	Limits			
9B09995								
	2,5-Dibromotoluene (FID)	Sur. Recovery FID	113.5	%				
9B09996								
	2,5-Dibromotoluene (FID)	Sur. Recovery FID	112.7	%				
9B09997								
	2,5-Dibromotoluene (FID)	Sur. Recovery FID	111.7	%				
9B09998								
	2,5-Dibromotoluene (FID)	Sur. Recovery FID	114.5	%				
9B09999			400 -	0/				
	2,5-Dibromotoluene (FID)	Sur. Recovery FID	106.7	%				
LANK-131539	OF CO Alishatian	Diarte	-100					
	C5-C8 Aliphatics	Blank	<100.	ug/l				
	C9-C12 Aliphatics	Blank Blank	<100. <100.	ug/l				
	Unadjusted C5-C8 Aliphatics			ug/l				
BLANK-93784	Unadjusted C9-C12 Aliphatics	Blank	<100.	ug/l				
FBLAINK-93704	Nonane	Lab Fort Blank Amt.	100.0	ug/l				
	Nonane	Lab Fort Blk. Found	86.2	ug/l				
		Lab Fort Blk. % Rec.	86.2	%	30-130			
		Dup Lab Fort Bl Amt.	100.0	ug/l	30-130			
		Dup Lab Fort Bl. Fnd	81.2	ug/l				
		Dup Lab Fort BI %Rec	81.2	%	30-130			
		Lab Fort Blank Range	4.9	units	00 100			
		Lab Fort Bl. Av. Rec	83.7	%				
		LFB Duplicate RPD	5.9	%	0-25			
	Pentane	Lab Fort Blank Amt.	100.0	ug/l				
		Lab Fort Blk. Found	123.0	ug/l				
		Lab Fort Blk. % Rec.	123.0	%	70-130			
		Dup Lab Fort Bl Amt.	100.0	ug/l				
		Dup Lab Fort Bl. Fnd	116.0	ug/l				
		Dup Lab Fort Bl %Rec	116.0	%	70-130			
		Lab Fort Blank Range	7.0	units				
		Lab Fort Bl. Av. Rec	119.5	%				
		LFB Duplicate RPD	5.8	%	0-25			
	2-Methylpentane	Lab Fort Blank Amt.	100.0	ug/l				
		Lab Fort Blk. Found	120.0	ug/l				
		Lab Fort Blk. % Rec.	120.0	%	70-130			
		Dup Lab Fort BI Amt.	100.0	ug/l				
		Dup Lab Fort Bl. Fnd	114.0	ug/l				
		Dup Lab Fort BI %Rec	114.0	%	70-130			
		Lab Fort Blank Range	6.0	units				
		Lab Fort Bl. Av. Rec	117.0	%				
		LFB Duplicate RPD	5.1	%	0-25			
	2,2,4-Trimethylpentane	Lab Fort Blank Amt.	100.0	ug/l				



# QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	4/8/2009	Lims Bat # : LIMT-24377		Page 2 of 12				
QC Batch Number:	GC/FID-23393							
Sample Id	Analysis	QC Analysis	Values	Units	Limits			
LFBLANK-93784								
	2,2,4-Trimethylpentane	Lab Fort Blk. Found	107.0	ug/l				
		Lab Fort Blk. % Rec.	107.0	%	70-130			
		Dup Lab Fort BI Amt.	100.0	ug/l				
		Dup Lab Fort Bl. Fnd	101.0	ug/l				
		Dup Lab Fort BI %Rec	101.0	%	70-130			
		Lab Fort Blank Range	6.0	units				
		Lab Fort Bl. Av. Rec	104.0	%				
		LFB Duplicate RPD	5.7	%	0-25			
	n-Decane	Lab Fort Blank Amt.	100.0	ug/l				
		Lab Fort Blk. Found	92.4	ug/l				
		Lab Fort Blk. % Rec.	92.4	%	70-130			
		Dup Lab Fort BI Amt.	100.0	ug/l				
		Dup Lab Fort Bl. Fnd	89.3	ug/l				
		Dup Lab Fort BI %Rec	89.3	%	70-130			
		Lab Fort Blank Range	3.1	units				
		Lab Fort Bl. Av. Rec	90.8	%				
		LFB Duplicate RPD	3.4	%	0-25			
	n-Butylcyclohexane	Lab Fort Blank Amt.	100.0	ug/l				
		Lab Fort Blk. Found	88.3	ug/l				
		Lab Fort Blk. % Rec.	88.3	%	70-130			
		Dup Lab Fort BI Amt.	100.0	ug/l				
		Dup Lab Fort Bl. Fnd	83.9	ug/l				
		Dup Lab Fort BI %Rec	83.9	%	70-130			
		Lab Fort Blank Range	4.3	units				
		Lab Fort Bl. Av. Rec	86.1	%				
		LFB Duplicate RPD	5.1	%	0-25			



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:		Lims Bat # : LIMT-24377		Page 3 of 12		
QC Batch Numbe	er: GC/FID-23394					
Sample Id	Analysis	QC Analysis	Values	Units	Limits	
09B09995						
	2-Fluorobiphenyl	Surrogate Recovery	104.5	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	101.5	%	40-140	
	Chlorooctadecane	Sur. Recovery	64.8	%	40-140	
	Terphenyl	Sur. Recovery	84.3	%	40-140	
09B09996						
	2-Fluorobiphenyl	Surrogate Recovery	104.7	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	94.6	%	40-140	
	Chlorooctadecane	Sur. Recovery	70.2	%	40-140	
	Terphenyl	Sur. Recovery	78.9	%	40-140	
09B09997						
	2-Fluorobiphenyl	Surrogate Recovery	100.4	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	92.6	%	40-140	
	Chlorooctadecane	Sur. Recovery	60.7	%	40-140	
	Terphenyl	Sur. Recovery	74.8	%	40-140	
09B09998						
	2-Fluorobiphenyl	Surrogate Recovery	107.8	%	40-140	
	2-Bromonaphthalene	Surrogate Recovery	101.4	%	40-140	
	Chlorooctadecane	Sur. Recovery	72.1	%	40-140	
	Terphenyl	Sur. Recovery	89.0	%	40-140	
BLANK-131540						
	Naphthalene	Blank	<2.0	ug/l		
	Acenaphthene	Blank	<2.0	ug/l		
	Acenaphthylene	Blank	<2.0	ug/l		
	Anthracene	Blank	<2.0	ug/l		
	Benzo(a)anthracene	Blank	<2.0	ug/l		
	Benzo(a)pyrene	Blank	<2.0	ug/l		
	Benzo(b)fluoranthene	Blank	<2.0	ug/l		
	Benzo(g,h,i)perylene	Blank	<2.0	ug/l		
	Chrysene	Blank	<2.0	ug/l		
	Dibenzo(a,h)anthracene	Blank	<2.0	ug/l		
	Fluoranthene	Blank	<2.0	ug/l		
	Fluorene	Blank	<2.0	ug/l		
	Indeno(1,2,3-cd)pyrene	Blank	<2.0	ug/l		
	2-Methylnaphthalene	Blank	<2.0	ug/l		
	Phenanthrene	Blank	<2.0	ug/l		
	Pyrene	Blank	<2.0	ug/l		
	Benzo(k)fluoranthene	Blank	<2.0	ug/l		
	n-Nonane	Blank	<2.0	ug/l		
	Naphthalene Aliphatic Fraction	Blank	<2.0	ug/l		
	2-Methylnaphthalene Aliphatic Fractio	n Blank	<2.0	ug/l		
	Unadjusted C11-C22 Aromatics	Blank	<100.	ug/l		
	C9-C18 Aliphatics	Blank	<150.	ug/l		
	C19-C36 Aliphatics	Blank	<150.	ug/l		



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	4/8/2009	Lims Bat # : LIMT-24377		Page 4	4 of 12
QC Batch Number	: GC/FID-23394				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LANK-131540					
	C11-C22 Aromatics	Blank	<100.	ug/l	
FBLANK-93785					
	Naphthalene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	76.6	ug/l	
		Lab Fort Blk. % Rec.	76.6	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	65.9	ug/l	
		Dup Lab Fort BI %Rec	65.9	%	40-140
		Lab Fort Blank Range	10.7	units	
		Lab Fort Bl. Av. Rec	71.2	%	
		LFB Duplicate RPD	15.0	%	0-25
	Acenaphthene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	85.7	ug/l	
		Lab Fort Blk. % Rec.	85.7	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	76.0	ug/l	
		Dup Lab Fort BI %Rec	76.0	%	40-140
		Lab Fort Blank Range	9.6	units	
		Lab Fort Bl. Av. Rec	80.8	%	
		LFB Duplicate RPD	11.9	%	0-25
	Acenaphthylene	Lab Fort Blank Amt	100.0	ug/l	
		Lab Fort Blk. Found	89.4	ug/l	
		Lab Fort Blk. % Rec.	89.4	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	78.5	ug/l	
		Dup Lab Fort BI %Rec	78.5	%	40-140
		Lab Fort Blank Range	10.9	units	
		Lab Fort Bl. Av. Rec	83.9	%	
		LFB Duplicate RPD	13.0	%	0-25
	Anthracene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	101.0	ug/l	
		Lab Fort Blk. % Rec.	101.0	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort BI. Fnd	89.4	ug/l	
		Dup Lab Fort BI %Rec	89.4	%	40-140
		Lab Fort Blank Range	11.5	units	
		Lab Fort Bl. Av. Rec	95.2	%	
		LFB Duplicate RPD	12.1	%	0-25
	Benzo(a)anthracene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	101.6	ug/l	
		Lab Fort Blk. % Rec.	101.6	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	91.7	ug/l	



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	4/8/2009	Lims Bat # : LIMT-24377	Page 5 of 12		
QC Batch Number	GC/FID-23394				
ample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-93785					
	Benzo(a)anthracene	Dup Lab Fort BI %Rec	91.7	%	40-140
		Lab Fort Blank Range	9.8	units	
		Lab Fort Bl. Av. Rec	96.7	%	
		LFB Duplicate RPD	10.1	%	0-25
	Benzo(a)pyrene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	101.6	ug/l	
		Lab Fort Blk. % Rec.	101.6	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	92.0	ug/l	
		Dup Lab Fort BI %Rec	92.0	%	40-140
		Lab Fort Blank Range	9.6	units	
		Lab Fort Bl. Av. Rec	96.8	%	
		LFB Duplicate RPD	9.9	%	0-25
	Benzo(b)fluoranthene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	107.4	ug/l	
		Lab Fort Blk. % Rec.	107.4	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	97.0	ug/l	
		Dup Lab Fort BI %Rec	97.0	%	40-140
		Lab Fort Blank Range	10.3	units	
		Lab Fort Bl. Av. Rec	102.2	%	
		LFB Duplicate RPD	10.1	%	0-25
	Benzo(g,h,i)perylene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	101.2	ug/l	
		Lab Fort Blk. % Rec.	101.2	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	91.6	ug/l	
		Dup Lab Fort BI %Rec	91.6	%	40-140
		Lab Fort Blank Range	9.6	units	
		Lab Fort Bl. Av. Rec	96.4	%	
		LFB Duplicate RPD	9.9	%	0-25
	Chrysene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	101.5	ug/l	
		Lab Fort Blk. % Rec.	101.5	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	91.9	ug/l	
		Dup Lab Fort BI %Rec	91.9	%	40-140
		Lab Fort Blank Range	9.6	units	
		Lab Fort Bl. Av. Rec	96.7	%	
		LFB Duplicate RPD	9.9	%	0-25
	Dibenzo(a,h)anthracene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	100.9	ug/l	
		Lab Fort Blk. % Rec.	100.9	%	40-140



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	4/8/2009	Lims Bat # : LIMT-24377	377		e 6 of 12
QC Batch Number:	GC/FID-23394				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-93785					
	Dibenzo(a,h)anthracene	Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	91.5	ug/l	
		Dup Lab Fort BI %Rec	91.5	%	40-140
		Lab Fort Blank Range	9.4	units	
		Lab Fort Bl. Av. Rec	96.2	%	
		LFB Duplicate RPD	9.7	%	0-25
	Fluoranthene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	101.2	ug/l	
		Lab Fort Blk. % Rec.	101.2	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort BI. Fnd	89.7	ug/l	
		Dup Lab Fort BI %Rec	89.7	%	40-140
		Lab Fort Blank Range	11.4	units	
		Lab Fort Bl. Av. Rec	95.4	%	
		LFB Duplicate RPD	11.9	%	0-25
	Fluorene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	93.2	ug/l	
		Lab Fort Blk. % Rec.	93.2	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	82.8	ug/l	
		Dup Lab Fort BI %Rec	82.8	%	40-140
		Lab Fort Blank Range	10.3	units	
		Lab Fort Bl. Av. Rec	88.0	%	
		LFB Duplicate RPD	11.7	%	0-25
	Indeno(1,2,3-cd)pyrene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	100.7	ug/l	
		Lab Fort Blk. % Rec.	100.7	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	91.0	ug/l	
		Dup Lab Fort BI %Rec	91.0	%	40-140
		Lab Fort Blank Range	9.6	units	
		Lab Fort Bl. Av. Rec	95.8	%	
		LFB Duplicate RPD	10.0	%	0-25
	2-Methylnaphthalene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	84.4	ug/l	
		Lab Fort Blk. % Rec.	84.4	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	73.0	ug/l	
		Dup Lab Fort BI %Rec	73.0	%	40-140
		Lab Fort Blank Range	11.4	units	
		Lab Fort Bl. Av. Rec	78.7	%	
		LFB Duplicate RPD	14.5	%	0-25
	Phenanthrene	Lab Fort Blank Amt.	100.0	ug/l	



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date: QC Batch Number:	4/8/2009 GC/FID-23394	Lims Bat # : LIMT-24377		Page	7 of 12
Sample Id	Analysis	QC Analysis	Values	Units	Limits
FBLANK-93785					
	Phenanthrene	Lab Fort Blk. Found	96.8	ug/l	
		Lab Fort Blk. % Rec.	96.8	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	85.6	ug/l	
		Dup Lab Fort BI %Rec	85.6	%	40-140
		Lab Fort Blank Range	11.2	units	
		Lab Fort Bl. Av. Rec	91.2	%	
		LFB Duplicate RPD	12.3	%	0-25
	Pyrene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	104.2	ug/l	
		Lab Fort Blk. % Rec.	104.2	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	92.6	ug/l	
		Dup Lab Fort BI %Rec	92.6	%	40-140
		Lab Fort Blank Range	11.6	units	
		Lab Fort Bl. Av. Rec	98.4	%	
		LFB Duplicate RPD	11.8	%	0-25
	Benzo(k)fluoranthene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	103.5	ug/l	
		Lab Fort Blk. % Rec.	103.5	%	40-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	93.3	ug/l	
		Dup Lab Fort BI %Rec	93.3	%	40-140
		Lab Fort Blank Range	10.2	units	
		Lab Fort Bl. Av. Rec	98.4	%	
		LFB Duplicate RPD	10.3	%	0-25
	n-Nonane	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	41.6	ug/l	
		Lab Fort Blk. % Rec.	41.6	%	30-140
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	33.6	ug/l	
		Dup Lab Fort BI %Rec	33.6	%	30-140
		Lab Fort Blank Range	8.0	units	
		Lab Fort Bl. Av. Rec	37.6	%	
		LFB Duplicate RPD	21.2	%	
	Naphthalene Aliphatic Fraction	Lab Fort Blank Amt.	76.6	ug/l	
		Lab Fort Blk. Found	0.0	ug/l	
		Lab Fort Blk. % Rec.	0.0	%	0-5
		Dup Lab Fort BI Amt.	66.0	ug/l	
		Dup Lab Fort Bl. Fnd	0.0	ug/l	
		Dup Lab Fort BI %Rec	0.0	%	0-5
		Lab Fort Blank Range	0.0	units	
		Lab Fort Bl. Av. Rec	0.0	%	



# QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	4/8/2009 Lims Bat	#: LIMT-24377		Page 8 c	f 12
QC Batch Number	: GC/FID-23394				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
LFBLANK-93785					
	2-Methylnaphthalene Aliphatic Fraction	Lab Fort Blank Amt.	84.4	ug/l	
		Lab Fort Blk. Found	0.0	ug/l	
		Lab Fort Blk. % Rec.	0.0	%	0-5
		Dup Lab Fort BI Amt.	73.0	ug/l	
		Dup Lab Fort Bl. Fnd	0.0	ug/l	
		Dup Lab Fort BI %Rec	0.0	%	0-5
		Lab Fort Blank Range	0.0	units	
		Lab Fort Bl. Av. Rec	0.0	%	
	Unadjusted C11-C22 Aromatics	Lab Fort Blank Amt.	1700.0	ug/l	
		Lab Fort Blk. Found	1970.8	ug/l	
		Lab Fort Blk. % Rec.	115.9	%	40-140
		Dup Lab Fort BI Amt.	1700.0	ug/l	
		Dup Lab Fort Bl. Fnd	1768.3	ug/l	
		Dup Lab Fort BI %Rec	104.0	%	40-140
		Lab Fort Blank Range	11.9	units	
		Lab Fort Bl. Av. Rec	109.9	%	
		LFB Duplicate RPD	10.8	%	0-25
	C9-C18 Aliphatics	Lab Fort Blank Amt.	600.0	ug/l	
		Lab Fort Blk. Found	481.2	ug/l	
		Lab Fort Blk. % Rec.	80.2	%	40-140
		Dup Lab Fort BI Amt.	600.0	ug/l	
		Dup Lab Fort Bl. Fnd	414.5	ug/l	
		Dup Lab Fort BI %Rec	69.0	%	40-140
		Lab Fort Blank Range	11.1	units	
		Lab Fort Bl. Av. Rec	74.6	%	
		LFB Duplicate RPD	14.9	%	0-25
	C19-C36 Aliphatics	Lab Fort Blank Amt.	800.0	ug/l	
		Lab Fort Blk. Found	861.5	ug/l	
		Lab Fort Blk. % Rec.	107.6	%	40-140
		Dup Lab Fort BI Amt.	800.0	ug/l	
		Dup Lab Fort Bl. Fnd	766.8	ug/l	
		Dup Lab Fort BI %Rec	95.8	%	40-140
		Lab Fort Blank Range	11.8	units	
		Lab Fort Bl. Av. Rec	101.7	%	
		LFB Duplicate RPD	11.6	%	0-25



## QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates Method Blanks

Report Date:	4/8/2009	Lims Bat # : LIMT-24377		Page 9 of 12		
QC Batch Number:	GC/PID-9182					
Sample Id	Analysis	Q	C Analysis	Values	Units	Limits
)9B09995						
	2,5-Dibromotoluene (PID)	Su	r. Recovery (PID)	97.0	%	70-130
)9B09996						
	2,5-Dibromotoluene (PID)	Su	r. Recovery (PID)	95.2	%	70-130
)9B09997						
	2,5-Dibromotoluene (PID)	Su	r. Recovery (PID)	94.7	%	70-130
9B09998		0		04.0	0/	70.400
000000	2,5-Dibromotoluene (PID)	Su	r. Recovery (PID)	94.0	%	70-130
9B09999	2.5. Dibromotolyana (DID)	<u>.</u>		07.7	%	70-130
LANK-131538	2,5-Dibromotoluene (PID)	Su	r. Recovery (PID)	97.7	70	70-130
LUNIX- 19 1990	Benzene	Bla	ink	<1.0	ug/l	
	Ethyl Benzene	Bla		<1.0	ug/l	
	Naphthalene	Bla		<10.0	ug/l	
	Toluene	Bla		<1.0	ug/l	
	o-Xylene	Bla		<1.0	ug/l	
	m/p-Xylene	Bla		<2.0	ug/l	
	C9-C10 Aromatics	Bla		<100.	ug/l	
	MTBE	Bla		<1.0	ug/l	
FBLANK-93783		210			~ <u>5</u>	
	Benzene	Lal	o Fort Blank Amt.	100.0	ug/l	
			o Fort Blk. Found	102.0	ug/l	
		Lal	o Fort Blk. % Rec.	102.0	%	70-130
		Du	p Lab Fort Bl Amt.	100.0	ug/l	
			p Lab Fort Bl. Fnd	99.3	ug/l	
		Du	p Lab Fort BI %Rec	99.3	%	70-130
		Lal	o Fort Blank Range	2.7	units	
		Lal	o Fort Bl. Av. Rec	100.6	%	
		LF	B Duplicate RPD	2.6	%	0-25
	Ethyl Benzene	Lal	o Fort Blank Amt.	100.0	ug/l	
		Lal	o Fort Blk. Found	97.6	ug/l	
		Lal	o Fort Blk. % Rec.	97.6	%	70-130
		Du	p Lab Fort Bl Amt.	100.0	ug/l	
		Du	p Lab Fort Bl. Fnd	95.0	ug/l	
		Du	p Lab Fort BI %Rec	95.0	%	70-130
		Lal	o Fort Blank Range	2.6	units	
			o Fort Bl. Av. Rec	96.3	%	
		LF	B Duplicate RPD	2.6	%	0-25
	Naphthalene		o Fort Blank Amt.	100.0	ug/l	
		Lal	o Fort Blk. Found	95.2	ug/l	
			o Fort Blk. % Rec.	95.2	%	70-130
			p Lab Fort Bl Amt.	100.0	ug/l	
			p Lab Fort Bl. Fnd	96.1	ug/l	
		Du	p Lab Fort BI %Rec	96.1	%	70-130



## QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	4/8/2009	Lims Bat # : LIMT-24377		Page ?	10 of 12
QC Batch Numbe	er: GC/PID-9182				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
FBLANK-93783					
	Naphthalene	Lab Fort Blank Range	0.8	units	
		Lab Fort Bl. Av. Rec	95.6	%	
		LFB Duplicate RPD	0.9	%	0-25
	Toluene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	98.7	ug/l	
		Lab Fort Blk. % Rec.	98.7	%	70-130
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	96.0	ug/l	
		Dup Lab Fort BI %Rec	96.0	%	70-130
		Lab Fort Blank Range	2.7	units	
		Lab Fort Bl. Av. Rec	97.3	%	
		LFB Duplicate RPD	2.7	%	0-25
	o-Xylene	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	95.5	ug/l	
		Lab Fort Blk. % Rec.	95.5	%	70-130
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	93.3	ug/l	
		Dup Lab Fort BI %Rec	93.3	%	70-130
		Lab Fort Blank Range	2.2	units	
		Lab Fort Bl. Av. Rec	94.4	%	
		LFB Duplicate RPD	2.3	%	0-25
	m/p-Xylene	Lab Fort Blank Amt.	200.0	ug/l	
		Lab Fort Blk. Found	196.0	ug/l	
		Lab Fort Blk. % Rec.	98.0	%	70-130
		Dup Lab Fort BI Amt.	200.0	ug/l	
		Dup Lab Fort Bl. Fnd	190.0	ug/l	
		Dup Lab Fort BI %Rec	95.0	%	70-130
		Lab Fort Blank Range	3.0	units	
		Lab Fort Bl. Av. Rec	96.5	%	
		LFB Duplicate RPD	3.1	%	0-25
	MTBE	Lab Fort Blank Amt.	100.0	ug/l	
		Lab Fort Blk. Found	104.0	ug/l	
		Lab Fort Blk. % Rec.	104.0	%	70-130
		Dup Lab Fort BI Amt.	100.0	ug/l	
		Dup Lab Fort Bl. Fnd	104.0	ug/l	
		Dup Lab Fort Bl %Rec	104.0	%	70-130
		Lab Fort Blank Range	0.0	units	
		Lab Fort Bl. Av. Rec	104.0	%	
		LFB Duplicate RPD	0.0	%	0-25



# QC SUMMARY REPORT

# SAMPLE QC: Sample Results with Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates Standard Reference Materials and Duplicates

Report Date:	4/8/2009	Lims Bat # : LIMT-24377	Page		11 of 12
QC Batch Numb	er: ICP-21529				
Sample Id	Analysis	QC Analysis	Values	Units	Limits
BLANK-131569					
	Lead	Blank	<0.0075	mg/l	
LFBLANK-93816	3				
	Lead	Lab Fort Blank Amt.	0.5000	mg/l	
		Lab Fort Blk. Found	0.5006	mg/l	
		Lab Fort Blk. % Rec.	100.1300	%	85-115
		Dup Lab Fort BI Amt.	0.5000	mg/l	
		Dup Lab Fort Bl. Fnd	0.5053	mg/l	
		Dup Lab Fort BI %Rec	101.0699	%	85-115
		Lab Fort Blank Range	0.9400	units	
		Lab Fort Bl. Av. Rec	100.6000	%	
		LFB Duplicate RPD	0.9343	%	0-20



39 Spruce Street ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332 QC SUMMARY REPORT SAMPLE QC: Sample Results with Duplicates BATCH QC: Lab fortified Blanks and Duplicates Sample Matrix Spikes and Matrix Spike Duplicates Standard Reference Materials and Duplicates Method Blanks Report Date: 4/8/2009 Lims Bat # : LIMT-24377 Page 12 of 12 QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS This is the number assigned to all samples analyzed together that QC BATCH NUMBER would be subject to comparison with a particular set of Quality Control Data. LIMITS Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined. Amount of analyte found in a sample. Sample Amount Method Blank that has been taken though all the steps of the Blank analysis. LFBLANK Laboratory Fortified Blank (a control sample) STDADD Standard Added (a laboratory control sample) Matrix Spk Amt Added Amount of analyte spiked into a sample Amount of analyte found including amount that was spiked MS Amt Measured Matrix Spike % Rec. % Recovery of spiked amount in sample. Duplicate Value The result from the Duplicate analysis of the sample. The Relative Percent Difference between two Duplicate Analyses. Duplicate RPD Surrogate Recovery The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods. Sur. Recovery (ELCD) Surrogate Recovery on the Electrolytic Conductivity Detector. Sur. Recovery (PID) Surrogate Recovery on the Photoionization Detector. Standard Measured Amount measured for a laboratory control sample Standard Amt Added Known value for a laboratory control sample Standard % Recovery % recovered for a laboratory control sample with a known value. Lab Fort Blank Amt Laboratory Fortified Blank Amount Added Lab Fort Blk. Found Laboratory Fortified Blank Amount Found Lab Fort Blk % Rec Laboratory Fortified Blank % Recovered Dup Lab Fort Bl Amt Duplicate Laboratory Fortified Blank Amount Added Duplicate Laboratory Fortified Blank Amount Found Dup Lab Fort Bl Fnd Duplicate Laboratory Fortified Blank % Recovery Dup Lab Fort Bl % Rec Laboratory Fortified Blank Range (Absolute value of difference Lab Fort Blank Range between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate). Lab Fort Bl. Av. Rec. Laboratory Fortified Blank Average Recovery Duplicate Sample Amt Sample Value for Duplicate used with Matrix Spike Duplicate Matrix Spike Duplicate Amount Added (Spiked) MSD Amount Added MSD Amt Measured Matrix Spike Duplicate Amount Measured MSD % Recovery Matrix Spike Duplicate % Recovery MSD Range Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries

	M	IADEP MCP ANA	lytical Method F	REPORT CERTI	FICATION FO	ORM		
Labo	pratory Name: CC	N-TEST Analytic	al Laboratory		Project #:	LIN	NT-24377	
Proje	ect Location: 23	5 TYLER ST	, PITTSFIELD	, ma	MADEP R	TN <sup>1</sup> :		
This I	•	rtifications for the 5 - 098099	following data set:   ૧૧૧	list Laboratory	Sample ID	Numt	per(s)]	
Sam	ple Matrices: 🄉	Groundwater 🗆 S	Soil/Sediment 🛛 D	rinking Water	□ Other:			
MC	P SW-846	8260B()	8151A()	8330 ( )	6010B	$(\mathbf{X})$	7470A/1A()	
Me	thods Used	8270C()	8081A()	VPH (X)	6020	()	9014M <sup>2</sup> ()	
f -	ecified in MADEP	8082()	8021B()	EPH (X)	7000 S <sup>3</sup>	( )	7196Á()	
Analy	endium of tical Methods. k all that apply)	2 M – SW-846 Me	cking Number (RTN), thod 9014 or MADEP hods 7000 Series Li	Physiologically			(PAC) Method	
An a	affirmative resp	onse to question	s A, B, C and D is	required for "	Presumptiv	ve Ce	rtainty" status	
A	•		e laboratory in a c ustody documentati			χ́ү	′es    □  No <sup>1</sup>	
в	included in thi	s report followed arrative QC data t	uired for the specifi , including the re hat did not meet a	quirement to	note and	X	Yes □ No <sup>1</sup>	
С	for "Presumptiv (d) of the MAD	e Certainty", as d EP document CAI	port meet all the ar lescribed in Sectior M VII A, "Quality As ition and Reporting	n 2.0 (a), (b), ( ssurance and (	c) and Quality	×	Yes □ No <sup>1</sup>	
D	VPH and EPH without significa	Methods only: Want modifications (	/as the VPH or EPH see Section 11.3 of	H Method cond respective Me	ucted thods)	Ż	KYes □ No <sup>1</sup>	
ii	A response to a	questions E and I	F below is require	d for "Presum	ptive Certa	ainty"	status	
Е		ical QC performar ethods achieved?	nce standards and	recommendati	ons for	×	Yes 🗆 No <sup>1</sup>	
F	Were results f method(s) repo	-	compounds/eleme	nts for the sp	ecified		Yes 🗶 No <sup>1</sup>	
<sup>1</sup> Ai	ll Negative respo	nses must be add	ressed in an attach	ed Environmer	ntal Laborat	ory ca	ise narrative.	
inqui	<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case narrative. I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.							
Sign	nature: <u>lend</u>	Kappenl		Position: Di	rector of C	perat	ions	
Prin	ted Name: Tod	Kopyscinski		Date: 4-	8-09			

بہ

# Frac. Check Gilson Fractionator (FCS)

Silica Lot:	S212-44	Vendor:	PHENOMENEX
Frac Check Lot:	120408 PJG	Amount of DCM collected:	5000 uL
Hexane Lot:	48130	Amount of Hexane collected:	1800 uL
DCM Lot:	CX673		
Acetone Lot:	48268	Data File:	120408 B011/B012

Compound	Conc.(ppm)	2000ul	% REC	Limits
Naphthalene	50	46.803	94%	40-140
2-Methylnaphthalene	50	49.892	100%	40-140
Acenaphthalene	50	51.654	103%	40-140
Acenaphthene	50	50.707	101%	40-140
Fluorene	50	51.992	104%	40-140
Phenanthrene	50	51.620	103%	40-140
Anthracene	50	53.824	108%	40-140
o-Terphenyl (surr)	50	53.325	107%	40-140
Fluoranthene	50	51.318	103%	40-140
Pyrene	50	53.427	107%	40-140
Benzo(a)anthracene	50	49.693	99%	40-140
Chrysene	50	52.239	104%	40-140
Benzo(b)fluoranthene	50	51.942	104%	40-140
Benzo(k)fluoranthene	50	50.335	101%	40-140
Benzo(a)pyrene	50	49.109	98%	40-140
Indeno(123cd)pyrene	50	48.503	97%	40-140
Dibenzo(ah)anthracene	50	49.190	98%	40-140
Benzo(ghi)perylene	50	49.342	99%	40-140
C9	50	37.246	74%	30-140
C10	50	39.046	78%	40-140
C12	50	42.204	84%	40-140
C14	50	45.294	91%	40-140
C16	50	45.650	91%	40-140
C18	50	44.744	89%	40-140
C19	50	44.757	90%	40-140
C20	50	43.918	88%	40-140
1-Chloro-octadecane (surr)	50	41.800	84%	40-140
C22	50	45.928	92%	40-140
C24	50	44.108	88%	40-140
C26	50	45.847	92%	40-140
C28	50	44.466	89%	40-140
C30	50	43.350	87%	40-140
C36	50	48.193	96%	40-140
Fractionation Surrogates				
2-Flourobiphenyl	50	49.032	98%	40-140
2-Bromonaphthalene	50	49.386	99%	40-140
Aliphatic Bleed thru			% (<	:5%)
Vaphthalene	0	T	0.0	
2-Methylnaphthalene	0	-	0.0	00

AIHA,
NELAC J
& WBE/DBE
Certified

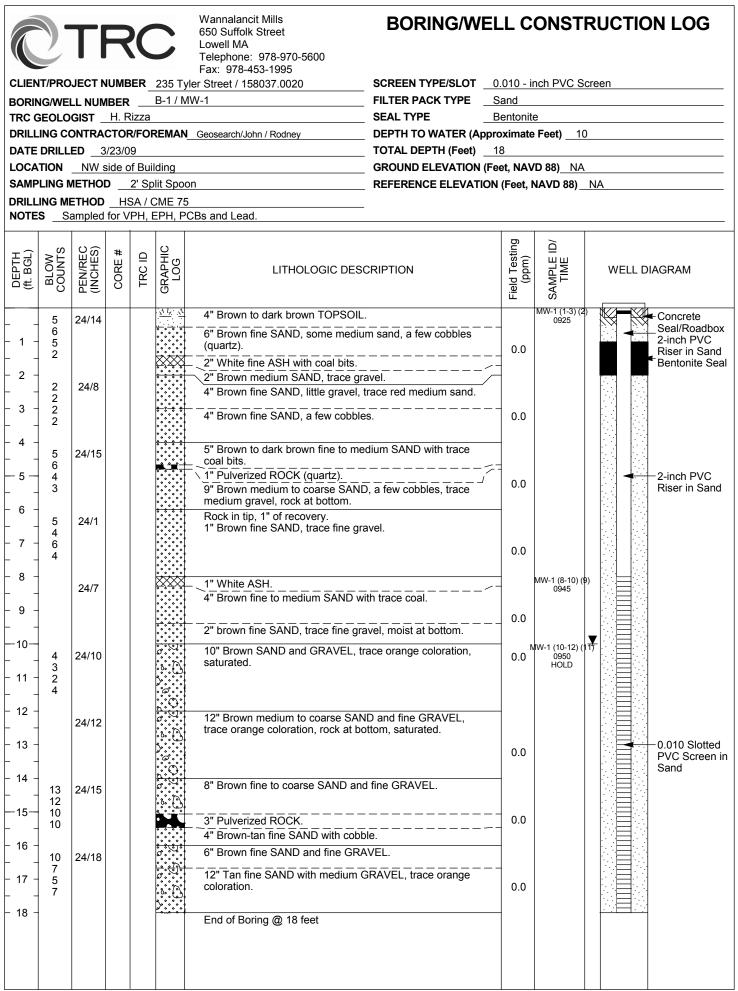
INCURRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

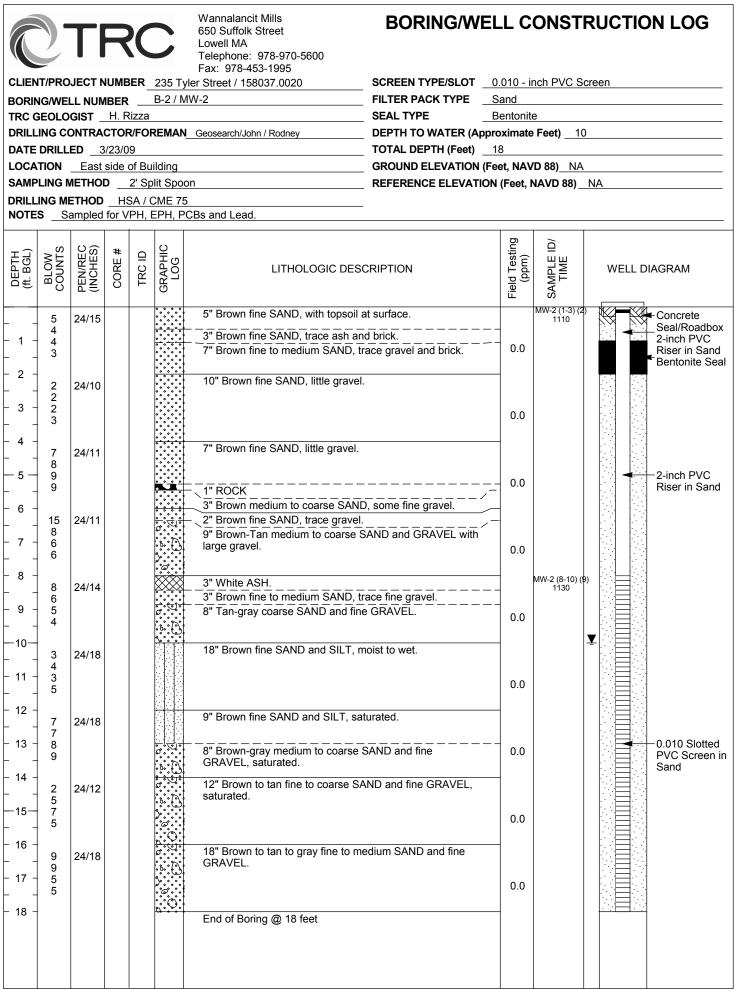
"TU , NAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE			C,	Helinduished by (signature)	18	Received by: (sugpature)	Mill ronth	Hellinguished by: (signature)	Co H	1, 1 th 1 d Dissolved u		ahoraton/ Commente:			 11 to the state of	Troßlank	DUP-1	MW C3	mw-2-	JWIN -	Field ID Sample Description	U yes proposal date	Proposal Provided? (For Billing purposes)	· · · · ·	Sampled By: H.L.ZZA	Project Location: 255 TULCA.		Attention: Try Biols	Lowell Mill	Address: 655 Suffork St		Company variation	· P WITT ANALYTICAL LABORATORY		
IE DAY AFTER SAMPLE RI			1101	Date/Time:	5-51-5 1600	Date/Time:	000/ 20/00	Time:		ad					 0 111	6000 C	8000	07197	9860	29995	Lab # 098	U yes U no	3			type and						www.contestlabs.com	Email: info@contestlabs.com	Fax: 413-525-6405	Phone: 413-525-2332
ECEIPT UNLESS THERE /	* Require lab approval	0 *72-Hr 0 *4-Day		RUSH *	er	10-Day	7-Day	haround **	_			-			 <	********* **,		1310	130	3/5/01/010	Date/Time Date/Time o	ate Sampled		Format: CKEXCEL X	$\leq$		OFAX MEMAIL OW	DATA DEI IVERV (check one):	Client PO #	Project #		Tomo Arton On Con	<b>T</b>		CHAIN O
ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS			Special Requirements or DL's:		Data Enhancement Project/RCP?		Regulations? CW-2	Lim	H - High; M		he hinh in co						500	<ul> <li>CO</li> </ul>	<u>v</u> 090	1 GW	osite Grab Code Code			PDF DI GIS KEY	OTECS JUSTIUNS, UM		DWEBSITE CLIENT	rk ona).				N-C7.07	11542-4W		CHAIN OF CLISTODY RECORD
OUR CHAIN. IF THIS F	0	IS ST		A		W	16W-5 0	)  <i>(</i> ,	Low;		Please use the following codes to let Con-Lest know he high in concentration in Matrix/Conc. Code Box.						X X X X X X X	XXXX	XXXX	XXXX	1	V1 51	2 1 1	1	× Lai	1			/ >		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		······		
ORM IS NOT FILLED C	O = other	SL = sludge B =	3		er	WW= wastewater H =	GW= groundwater  I =	*Matrix Code: **P	C - Clean; U - Unknown		Please use the following codes to let Con-Lest know it a specific sample may be high in concentration in Matrix/Conc. Code Box:										<u></u>		591		<u>&amp;</u>		<u>ed</u>	*	ANALYSIS REQUESTED					EAST LONGMEADOW, MA 01028	
JUT COMPLETELY O	O = Other	B = Sodium bisulfate	S = Sulfuric Acid	N = Nitric Acid	M = Methanol	H = HCL $T = Na the theorem is the two sets of two sets of the two sets of two$	l = lced X = Na h	**Preservation Codes:	· · · · · · · · · · · · · · · · · · ·		écitic sample may											O H		05 JL	VII	<u>8</u>	Ø G	) <b>2</b>		 		# 0		A 01028	_
RIS				ζ Υ	8	T = Na thiosulfate	X = Na hydroxide						110000 V-1000	6 - 40						<u>Client</u> <u>Comments:</u>		O=Other	T=tedlar bag	S=summa can	V= vial	ST-sterile		A-amper glass	-Cont. Code:	~Cont.Code	**Preservation	# of containers			

www.contestlabs.com			CESE BORATORY	39 Spruce St. East Longmeadow, MA. 01028 P: 413-525-2332
	Sample Re	<u>eceipt C</u>	hecklist	F: 413-525-2332
CLIENT NAME: TRE-LO			ED BY: CEC	DATE: 3/ 31/04
<ol> <li>Was the chain(s) of custody re</li> <li>Does the chain agree with the If not, explain:</li> </ol>		ned?	Yes No Tes No	
3) Are all the samples in good co If not, explain:	ndition?		Yes No	,
4) How were the samples receive On Ice Direct from Sa Were the samples received in Te	ampling  mperature Complia		6°C)? Yes No	
Temperature °C by Temp blank	,	Tempera	ature °C by Temp gun	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>
5) Are there Dissolved samples f	or the lab to filter?		Yes No	
Who was notified	Date	Tim	e	
6) Are there any samples "On Ho	ld"?		Yes (No	Stored where:
7) Are there any RUSH or SHORT	HOLDING TIME sa	imples?	Yes No	
Who was notified	Date	Tim	ie	
8) Location where samples are s	tored:			ntract samples? Yes No ) if not already approved
			Client Signature:	
<u> </u>	containers s	ent in	to Con-Test	
	# of containers			# of containers
1 Liter Amber	<u> </u>		8 oz clear jar	
500 mL Amber	· · · · · · · · · · · · · · · · · · ·	_	4 oz clear jar	
250 mL Amber (8oz amber)			2 oz clear jar	
1 Liter Plastic			Other glass jar	
500 mL Plastic	0		Plastic Bag / Ziploc	
250 mL plastic	00	_	Air Cassette Brass Sleeves	
40 mL Vial - type listed below	0		Tubes	
Colisure / bacteria bottle		-	Summa Cans	
Dissolved Oxygen bottle	·····	-	Regulators	······································
Flashpoint bottle Encore			Other	
Elicole				
	H	1999,0200		· · · · · · · · · · · · · · · · · · ·
Laboratory Comments: りんぐチ	<b>9</b>			
40 mL vials: # HCI				
8		<u> </u>	Time and Date Fro	zen:

# **APPENDIX E**

# BORING LOGS, WELL CONSTRUCTION DIAGRAMS, AND GROUNDWATER SAMPLE LOGS





BORIN TRC G	T/PRO IG/WEI EOLO	JECT N LL NUN GIST _	IUME IBER H. F	BER Rizza	B-3 / M	Wannalancit Mills 650 Suffolk Street Lowell MA Telephone: 978-970-5600 Fax: 978-453-1995 er Street / 158037.0020 W-3 Geosearch/John / Rodney	SCREEN TYPE/SLOT FILTER PACK TYPE SEAL TYPE DEPTH TO WATER (AP	0.010 Sand Bento	- inch PVC	Scre	een	
		ED 3				Geosearch/John / Rodney	TOTAL DEPTH (Feet)		ale reel) _	10		
		-			of Build	ling	_ 、 / .		AVD 88)!	٨٨		
SAMP	LING N	IETHO	D	2' Sp	olit Spoo	n		ON (Fee	t, NAVD 88	8)_N	IA	
					<u>СМЕ 75</u> Ерн рс							
						CBs and Lead.						
DEPTH (ft. BGL)	BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DES	SCRIPTION	Field Testing	(ppm) SAMPLE ID/ TIME		WELL D	DIAGRAM
	4	24/12				1" ASPHALT		· 0.	MW-3 (1-3 0 1250			Concrete
· 1 -	13 6					9" Brown fine to medium SAND,			Dup-1 (1-3	5) (2)		2-inch PVC Riser in Sand
2 -	4 4	24/6				<ul> <li>2" Pulverized ROCK, piece of cla 6" Tan to whitish fine to medium</li> </ul>						Bentonite Seal
3 -	5 6					pulverized rock at bottom with tra		0.	0			
4 -	4 8	24/11				11" Brown fine SAND, some grav	vel, black mixed @ top 2"					
- 5 -	8	2-1/11				(possible coal), wire with cloth wr	apping mixed in.	0.	0			
6 -	6 8	24/10				10" Brown fine to medium SAND	, some gravel, trace black	_				
7 -	7 12	24/10				at 8".		0.	2			
8 -	7 6					9" Brown to reddish fine SAND, I	ittle gravel trace white		-			
9 -	2 5	24/14				fine sand at top.		0.			-	2-inch PVC
-10-	9 7					5" Brown fine to medium SAND, bottom.	some gravel, rock at		MW-3 (10-1)	2) (11)		Riser in Sand
 - 11 -	5	24/11				11" Brown fine to medium SAND fine sand at 9", trace reddish colo	, some gravel, trace white		1330			•
 - 12 -	6 6					-	1. 0	7.	0			
 - 13 -	6 9	24/14				9" Brown fine to medium SAND,	some gravel.					
· 14 -	7 6					5" Brown-tan SAND, some grave		0.	0			
- 15	5 4	24/18				18" Tan-gray medium to coarse \$	SAND, some gravel.					· •
· -	4							0.	0			
· 16 -	5 6	24/10				10" Brown fine to medium SAND wet at 18'.	, some medium gravel,					
17 -	14 11							0.	0			
18 -	12 12	24/0				18-20' No Recovery				Ţ	-1 =	
19 -	7 8							0.	0			
-20-	12 8	24/18				18" Tan-gray fine to coarse SAN	D and GRAVEL,	$\neg$				.]
21 -	9				ۿؘڹٞ	saturated.		0.	0			0.010 Slotted
22 -	12 9	24145				8" Gray to dark gray coarse SAN	D, trace gravel.	_				Sand
- 23 -	9 12	24/15				7" Tan SILT.		0.	0			
- 24 -	4 7					Tan SILT.		0.	~			
- 25	7	24/										
- 26 -						End of Paring @ 26 fact		0.				.'
						End of Boring @ 26 feet						

CLIENT/PRO BORING/WE TRC GEOLO DRILLING CO DATE DRILL LOCATION SAMPLING I DRILLING M	DJECT N ILL NUN IGIST _ ONTRA ED _3 _20 fe METHOI ETHOD	H. Rizza       SEAL TYPE       NA         CTOR/FOREMAN_Geosearch/John / Rodney       DEPTH TO WATER (Approximate Feet)16         3/23/09       TOTAL DEPTH (Feet)14         set west of B-3/MW-3       GROUND ELEVATION (Feet, NAVD 88) _ NA         D       2' Split Spoon         HSA / CME 75         for VPH, EPH, PCBs and Lead.										
DEPTH (ft. BGL) BLOW COUNTS	PEN/REC (INCHES)	CORE #	TRC ID	GRAPHIC LOG	LITHOLOGIC DES	SCRIPTION	Field Testing (ppm)	SAMPLE ID/ TIME	WELL DIAGRAM			
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	24/5 24/0 24/14				2" White pulverized ROCK. 3" Brown fine to medium SAND, No Recovery. 14" Brown medium to coarse SA End of Boring @ 14 feet	_	0.0 7.0 0.0	/W-3 (12-14) ( 1540 HOLD	13)			

		P	roject:		Project	No.:	Date/Tir	ne <b>9</b> 20				
	<u>`</u>		235741	lerst.	158	No.: 0 <b>37. 5020</b>	3/31/09		Sheet <u>1</u>	of		
Low-flow Ground Sampling Data Re			TRC Perso		Aiz							
Well	Identifica	tion:	MN-1	······································		<b>.</b> .						
WELL INTEGRITY			Protoctivo		1.	Well I/ 🗸	To V	top of rise	r II'r	neasured		
Protect. Casing Secu Concrete Collar Intac	ire 🚺		Casing Stick from ground		<u>~</u> ft.	Well Depth <u>16-5</u>		top of casi	_	historical		
PVC Stick-up Intact	$\overline{\checkmark}$		Riser Stick-u from ground		ft.	Water 9.3 Depth 9.3	<u>3</u> <sub>ft.</sub>	LNAPL/DN		:h =/VAC		
Well Cap Present					/_  _	LOW FLOW		Thickness	-			
		·  لي	VELL DIAME		2 inch 4 inch	Static water level after pump put into well						
					6 inch	9.33 Initial purge	Rate/ Wa	tor Lovel (*	100-400 m	1/min):		
						22	5 MI	Im.n		1.1990-11 1.199		
PID SCREENING MEA	NS.	· · ·	VELL/MATE	RIAL		Adjusted pu	irge Rates	/time/WL(r	record cha	inges)		
Background 0.0	_						,					
Well Mouth 0.0			PVC	SS		Flow rate at	time of s	ampling:	225 N	1/min		
FIELD WATER QUALI				at 3-5 min	ite inte							
Tíme	0945	0949	8 0951	0954	095		1003	1006	1009			
Temp. (C)	8-60	8.7	<u></u>	8.70	8-74	9.01	9.14	9.03	9.00			
Conduct. (µmhos/cm)	0.622	0.84	50.868	0.877	0 .88	1 0.887	0.889	0.893	0.897			
DO (mg/l)	10.17	9.8	1 9.79	9.78	9.75	- 9.74	9.74	9.74	9.74			
pH (Std. Units)	7.38	7.30	7.30	7.29	7.28	7.28	7.27	7.27	7.26			
Eh (millivolts)	211.0	208.4	F 204.8	200.6	194.0	1 1875	181.8	179.7	179.6	the second		
Turb. (NTU)	5.70	5.32	5.26	4.19	4.14	+ 5.86	4.23	1.78	0.68	•		
Flow (ml/min)	225	225	225	225	225	225	225	225	225			
Depth To Water (ft)	9.33	9.3	3 9.33	9.83	9.3		9.33	9.33	9.33			
Time		•										
Temp. (C)							· · · · · · · · · · · · · · · · · · ·					
Conduct. (µmhos/cm)												
DO (mg/l)												
pH (Std. Units)								1				
Eh (millivolts)												
Turb. (NTU)		• • • • • • • • • • • • • • • • • • • •	· · · · ·									
Flow (ml/min)												
Depth To Water (ft)								· .				
Pump Type	Purge	Samp	le Descript	tion of Sa	npling	Equipment a	nd Flow F	Rate:				
Peristaltic Pump		M	YSI	booxL,	1650.	mds						
Submersible Pump Bladder Pump		H	6100	mo	12	dicated	+ubih	1 ~ kin	sotte 2	020		
Other:			TP	robe				U				
Analytical Parameter F	iltered (Y/I	N) Pr	eservation	Vo	lume	Time Col	lected	Sample #	# Ca	se #		
velt	N		4c1	Vie	n t	1010	<u>5</u>	MW-1				
EKH			HCI	16								
Total lead	<u></u>		HN03		m							
Dissolved lead	<u> </u>		HN03	250	DWI	$+ \mathbf{V}$		<u> </u>				
	-					-1/ n-		· · · · · · · · · · · · · · · · · · ·		v: 1 Feb 200		
K:\geosci\fieldforms\lowflowred	ord.ppt			Si	gned:	- <u>t</u>   c/M/	Vi					

	· · · · · · · · · · · · · · · · · · ·	·	,											
		2		roject: 35 Ty (l	- 1	Project   SS 037	No.:		ne: 1076 1	Sheet <u>1</u>	of			
	Low-flow Ground Sampling Data R			TRC Perso		Rizz								
	Well	Identifica	tion: //	MW-2		<u> </u>								
	WELL INTEGRITY			Protective		6 1	Woll to a	- 17	∠ top of riser		measured			
	Protect. Casing Sect Concrete Collar Intac PVC Stick-up Intact Well Cap Present Security Lock Presen			Casing Stick (from ground Riser Stick-u (from ground WELL DIAME	i) 	 ft. 2 inch 4 inch	Well Depth <u>17.2</u> Water <u>6.2</u> Depth <u>6.2</u> LOW FLOW Depth of pu Static water	ft. <u>7</u> ft. <u>DATA</u> mp intake level afte	top of casin LNAPL/DN Thickness :	ng      APL Dept ; = 7 <u>3</u> t into well	historical th <del>= 1/14 -</del>			
					H		Initial purge	Rate/Wa 27ら		100-400 m	1/min):			
	PID SCREENING MEA	NS.	·····		·	==-17	Adjusted purge Rates/time/WL(record changes)							
	Background 0.0		٧		RIAL	-								
Í	Well Mouth 0.0				 SS						1			
ł			<u> </u>			[[	Flow rate at	time of sa	ampling: 4	-15 MI	/mar			
	FIELD WATER QUALIT	1/00	1/03		at 3-5 mine	ute interv		1110	1121	112.1	1122			
[	Temp. (C)	8.42	8.50		N/J	8,38	- <u>11/5</u> 8-37	110	615	IILT BIT	967			
f	Conduct. (µmhos/cm)				8.61	0120	6.889	8.51	8.65	8.65	8.63			
Ì	DO (mg/l)	7.82	781	7.87	7 QL	7.92	8.00	0.888	0884	0.884	0.05			
ŀ	pH (Std. Units)	7.27	72-	7 7.25	7.24	7.22		7.23	7.22	1.22	7.22			
F	Eh (millivolts)	167.4	11.10	1585	156.4	158.0		1110						
F	Turb. (NTU)	5.80	166.1	6 4.06	2.00	2,19	2.01	161.5	7.08	1.69	162.2			
ľ	Flow (ml/min)	275	275	275	275	235	275	275	275	275	275			
	Depth To Water (ft)	10.30	10.31	0 10.30	/0.3D	10.3t		· · · · · · · · · · · · · · · · · · ·	10.30	1				
	Time			1 10 100	10.00	170.00	1 10100	10.00	110.00					
Γ	Temp. (C)			1							·····			
Ē	Conduct. (µmhos/cm)			-				· · · · · · · · · · · · · · · · · · ·			·			
Γ	DO (mg/l)		1.				-	· · ·	1					
	pH (Std. Units)						-							
	Eh (millivolts)													
	Furb. (NTU)													
	Flow (ml/min)						·							
	Depth To Water (ft)													
	Pump Type       Purge       Sample       Description of Sampling Equipment and Flow Rate:         Peristaltic Pump       V       V       V       V         Submersible Pump       V       V       V       V       V         Bladder Pump       V       V       V       V       V       V         Other:       V       V       V       V       V       V													
A	nalytical Parameter Fi	Itered (Y/I	N) Pr	eservation	Vo	lume	Time Col	lected	Sample #	Са	se #			
	Velt	N	1	HCT	Vìo		11.3		Jumpic #					
1	ERH	N		HCI_	11	-			<u>.</u>		· · · · · · · · · · · · · · · · · · ·			
10	tal lead	<u></u>		ANO3		Dunl					-			
<u>ν</u> ,	scolved had	<u> </u>	<u> </u>	HNO2	<u> </u>	<u>50m1</u>	↓							
K:\ç	eosci\fieldforms\lowflowrec	ord.ppt	- <b>L</b>		Si	gned:	IRAN	14	<del></del>	Re	v: 1 Feb 200			

1			~										
	CTRO	2	Pro 2	oject: 35 Tu	ler St	Projec		: 31.0020	Date/T	ime: 09 1 <sup>2</sup>	elQ <sub>sh</sub>	eet <u>1</u>	of
	Low-flow Ground Sampling Data R		Т	RC Perso	nnel:	l.li							
	Well	Identifica	tion: N	11N-3				<u>_</u>					
Ì	WELL INTEGRITY				~	.1	Ma			top of	ricor	1	measured
	Protect. Casing Sect	ure 才 [	NO Ca	otective sing Stick om ground	-up <u>FM</u> 1) 	<u>5</u> N <sub>ft.</sub>	Dep	nth <u>25.</u>	3 <sub>ft.</sub>	top of			historical
	Concrete Collar Inta PVC Stick-up Intact	ct V		ser Stick-u				Water 7.1 ft. LNAPL/DNAPL Depth =					
	Well Cap Present	Ĭ	(fro	om ground	()	ft.		W FLOW	<u>ι</u> π. DATA		ness =		
	Security Lock Prese	nt 🗌 [				2 inch	Dep	oth of pur	np intak		1.2		
						4 inch		tic water	level afi LO	er pump	put int	o weli	
		· · · · · · · · · · · · · · · · · · ·	 			6 inch		ial purge 200	m1/1	u.n			
	PID SCREENING MEA		- Twe				Adj	usted pu	rge Rate	es/time/\	NL(reco	rd cha	inges)
ĺ	Background 0.0		1 -	ব া					14				,
	Well Mouth ().0		P	vc	SS		Flo	w rate at	time of	samplin	g: 250	Dm1	Imin
	FIELD WATER QUALI	TY MEASU	REMENT	S (record :	at 3-5 min	ute inte				124			· · · · · · ·
Ē	Time	1225	1278	1231	1234	123	7	1240	124	124	CHA 12	52	1255
·	Temp. (C)	9.85	9.83	985	9.76	9.6	9	9.60	9.61	9.5		51	9.56
Γ	Conduct. (µmhos/cm)		1.686	1.666	1.601	1.4	1	1.372	1.30			238	1.227
	DO (mg/l)	6.30	6.15	6.12	6.09	6.3	7		7.30			55	775
.  -	pH (Std. Units)	7.50	7.40	7.48	7.19	1.5	- 4	6.68 7.52				<u>55</u> 51	7.51
	Eh (millivolts)	-98.7	102.2	-999	-93.5			-75.4	7.52				1.14
F	Turb. (NTU)	4.67	3.83	3.53	3.28	-81. 2-3		2.23	-70.3	0.9		3.4	0.73
	Flow (ml/min)	2572	20	247	250				0.17			<u>"</u> 50	
	Depth To Water (ft)	17.20	17.20	17.20		25		250 17.20	250			1.20	250
F	Time	1258	1301	1304	1307	1/20		11.00	11.0			<u>. 0</u>	11.00
F	Temp. (C)	9.55	9.49	953	9.41		_						· · ·
1	Conduct. (µmhos/cm)	1,227	1-221	1.226								· · ·	
H	DO (mg/l)	8.03		0 11	1.225								
	pH (Std. Units)	200	$\frac{2}{2}$	750	8.31	· · ·				<u> </u>			[
<u> </u>	Eh (millivolts)	431	- and	1.50	7.50	· · · ·				<u> </u>		·	
	furb. (NTU)	665	NIL	-58.0	762								· · · ·
E.	Flow (ml/min)	6.65	250	250	0.52	 	-+						
	Depth To Water (ft)	17.20	17.7	10	10	· ·							
	<sup>2</sup> ump Type	Purge	Sampje	17.20	17.20			nmont	ad Eleve	Pate:			<u>I</u>
•	Peristaltic Pump		Sampe	let 1		nping	Equi				6 1		last.
l	Submersible Pump			424 1	<u>) 17600</u>	<u>650</u>		, grof	ump	n/de	of and	a t	voiry,
	Bladder Pump			<u> </u>	offer 2	010	1	1 406	<u>r.</u>				
	Other:			·									
	nalytical Parameter F	iltered (Y/N	I) Pres	ervation	Vo	lume	1	Time Coll	ected	Samp	ole #	Ca	se #
	MAH -	N	H	ц	Vic	J.		316	2	MW-3	Dur-		
_	titt uge 1	N	+ ++	1					6	muz	Dup-1		
-	10 tal Malter	<u> </u>	<u>  </u> <u> </u>	103		Dml				ľ		<u> </u>	
s	issolved lead	- <u>-</u>	-  <u>+</u> #/	VOZ	25	DMI		V.			/	<u> </u>	
					1		_,	<u> </u>		,			v: 1 Feb 200
∧:\g	eosci\fieldforms\lowflowrec	xord.ppt	2		Si	gned:	H	. Knn	Ur.			Re	7. 1160 200
							<b>₩</b> ₩						
		· ·				1	<b>~</b>				· .		•

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# **APPENDIX F**

# DATA USABILITY ASSESSMENT

# Data Usability Assessment: 235 Tyler Street, Pittsfield, MA

	About About and About And About And About And About
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.	<ul> <li>Appropriateness of Analytical Methods Used</li> <li>The following methods were utilized to respond to all contaminants of concern in soil: VPH, EPH, PCB Aroclors, and lead</li> <li>The following methods were utilized to respond to all contaminants of concern in groundwater: VPH, EPH, and total lead.</li> <li>Table DUA-1 summarizes all samples used for the RAO and included in this data usability assessment.</li> <li>All soil and groundwater sample analyses were performed using the CAM.</li> </ul>
<b>2:</b> Discuss appropriateness of selected analytical methods' Reporting Limits (RL) to quantitatively support the disposal site's RAO.	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 and groundwater.
3: Discuss laboratory performance criteria and data quality indicators utilized to assess overall <u>Analytical</u> <u>Accuracy</u> (continuing calibration, laboratory control spikes, etc.) and <u>Analytical Precision</u> (laboratory duplicates, laboratory control spike duplicates, etc.) <u>CAM Data:</u> Review Certification Form and discuss data quality issues noted in narrative. <u>Non-CAM Data:</u> Discuss data quality indicators used to assess data and any data quality issues noted.	<ul> <li>(√) Meets all CAM requirements and performance standards without qualification.</li> <li>( ) Does not meet all CAM requirements and performance standards without qualification. If NO, discuss data usability implications</li> <li>There were no analytical accuracy or precision nonconformances associated with the CAM data.</li> </ul>
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 and groundwater sampling.         Field QC:         Accuracy: soil and groundwater data assessed using trip blanks for VPH analyses and cooler temperature blanks for all coolers.         Precision: soil and groundwater data assessed using field duplicates.         •       Soil Field Duplicates: MW-3/1-3' (EPH, PCB Aroclors, lead), MW-3/2' (VPH)         •       Groundwater Field Duplicates: MW-3 (VPH, EPH, total lead)         Accuracy of Field QC:       No issues were noted in regards to the accuracy of field QC analyses.         Precision of Field QC (Field duplicate criteria: RPD ≤30 for aqueous and ≤50 for soils):         No issues were noted in regards to the precision of field QC analyses.         NOTE: It should be noted that MS/MSD analyses were not performed with the soil or groundwater samples for this program. Potential matrix effects for all lead analyses could not be assessed due to the lack of MS/MSD analyses. Potential matrix effects associated with EPH, VPH, and PCB Aroclor analyses were assessed through the use of surrogates only.
<b>5:</b> Analytical Completeness of Data Used to Support the RAO: Discuss any data rejected pursuant to Appendix II, Rejection Criteria – Analytical Data Usability Assessments	<ul> <li>100% analytical completeness achieved for all site data.</li> <li>No gross failures of quality control in the analytical procedures.</li> </ul>

Table DUA-1           Summary of Soil and Groundwater Samples and Parameters Included in RAO and Data Usability Assessment           235 Tyler Street, Pittsfield, MA											
Sample Location	VPH	EPH	PCB Aroclors	Lead							
Soil Samples: Febru	uary 2009										
BOT-1	х	Х									
BOT-2	х	Х									
COMP-1		Х									
COMP-2		Х									
Soil Samples: March 2009											
MW-1/1-3'	х	Х	X	Х							
MW-1/8-10'	х	Х	X	Х							
MW-2/1-3'	х	Х	X	Х							
MW-2/8-10'	х	Х	X	Х							
MW-3/1-3'	х	Х	X	Х							
MW-3/10-12'	х	Х	X	Х							
MW-3/16-18'	х	Х	X	Х							
Groundwater Samp	les: March 2009										
MW-1	Х	Х		Х							
MW-2	Х	Х		Х							
MW-3	х	Х		Х							

# **APPENDIX G**

# LIMITATIONS

# Limitations

- 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 subject property 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 (DEP) audit.
- 2. This study and report have been prepared on behalf of and for the exclusive use of the **City of Pittsfield** solely for use in a RAO Report for the Former Morningside Fire Station, located in Pittsfield, Massachusetts (subject property) under the Massachusetts Contingency Plan (MCP 310 CMR 40.0000). This submittal 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, the Client, or the property owner.
- 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 proposals to the Client.
- 4. In the event that the Client or others authorized to use this report obtain information on environmental or hazardous waste issues at the subject property 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 this evaluation, may modify the conclusions stated in this report.
- 5. The purpose of this report was to assess the subject property 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.