Tighe&Bond

11 Crown Street
Meriden, Connecticut

Phase III Environmental Site Assessment

Prepared For:

City of Meriden

April 2014

22-0817
April 4, 2014

Juliet Burdelski
Director of Economic Development
City of Meriden
142 East Main Street
Meriden, CT 06450

Re: **Phase III Environmental Site Assessment**
Record Journal
11 Crown Street, Meriden, Connecticut

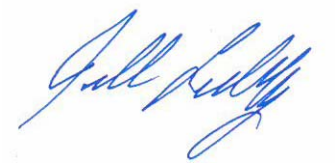
Dear Mrs Burdelski:

Please find enclosed the Phase III Environmental Site Assessment (ESA) report for the property located at 11 Crown Street in Meriden, Connecticut.

We appreciate the opportunity to provide our services. If you have any questions or comments, please contact us.

Very truly yours,

TIGHE & BOND, INC.



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Section 11 Summary and Recommendations

Appendices

List of Acronyms and Definitions

AOC	Area of Concern
bgs	Below Ground Surface
CTDEEP	Department of Energy and Environmental Protection
COC	Contaminant of Concern
CSM	Conceptual Site Model
DEC	Direct Exposure Criteria
DQA/DUE	Data Quality Assessment/Data Usability Evaluation
ELUR	Environmental Land Use Restriction
ESA	Environmental Site Assessment
ETPH	Extractable Total Petroleum Hydrocarbons
ft	Feet
GIS	Geographic Information System
GWPC	Groundwater Protection Criteria
GWVC	Groundwater Volatilization Criteria
LEP	Licensed Environmental Professional
mg/Kg	Milligrams per Kilogram
µg/Kg	Micrograms per Kilogram
NRCS	National Resources Conservation Service
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PID	Photoionization Detector
PMC	Pollutant Mobility Criteria
ppm	Parts Per Million
RCP	Reasonable Confidence Protocol
RSR	Remediation Standard Regulations
Sanborns	Sanborn Fire Insurance Maps
SCGD	Site Characterization Guidance Document
SPLP	Synthetic Precipitation Leaching Procedure
SWPC	Surface Water Protection Criteria
TCLP	Toxicity Characteristic Leaching Procedure
USGS	United States Geological Survey
VOCs	Volatile Organic Compounds

Section 1
Introduction

Tighe & Bond has prepared this Phase III Environmental Site Assessment (ESA) for the City of Meriden (City) for the property located at 11 Crown Street in Meriden, Connecticut (the site) as shown in Figure 1 (Appendix A). It is our understanding that the City is contemplating acquisition of the site for demolition and redevelopment or an adaptive re-use of the existing building. The purpose of this Phase III ESA was to delineate environmental impacts associated with on-site Areas of Concern (AOCs) and to identify the nature and extent of contaminated media that will require remediation or management as part of site redevelopment/reuse.

This Phase III ESA was completed in general accordance with the Connecticut Department of Energy and Environmental Protection (CTDEEP) Site Characterization Guidance Document (SCGD February 2007, revised December 2010).

Section 2 Objective

As stated in Tighe & Bond's proposal dated January 28, 2014, the primary objective of the Phase III investigation is to define the nature and extent of soil and groundwater contamination at the subject site and in the vicinity of identified AOCs. Secondary objectives include closing data gaps identified in the Phase II ESA:

- Assess soil conditions beneath the central and southern portions of the building.
- Determine the horizontal and vertical extent of fill across the site.
- Evaluate bedrock groundwater conditions.

Section 3
Site Description

3.1 Location

The site, depicted on Figure 1, consists of 1.67 acres of land at the intersection of Perkins Street and Crown Street. The site is located in close proximity to the downtown area and Meriden Railroad Station. The area surrounding the site consists of mixed uses including residential and commercial properties.

3.2 Site Operations and History

Current Use: The site currently consist of a multi-story building, occupied by The Record-Journal Publishing Company (Record-Journal), and associated parking areas. The current aerial photograph of the site is included as Figure 2.

Previous Uses: Historically, the site has been occupied by several printing companies including Record-Journal, The Meriden Record Company, Kelsey Printing, and Republican Publishing. Prior to the 1960's, portions of the site were developed as a foundry and machine shop that manufactured printing presses, an automotive repair garage, a blacksmith, a wallpaper and paint store, and various commercial businesses and residential properties.

3.3 Areas of Concern

An AOC is defined as locations or areas at a site where hazardous waste and/or hazardous substances (including petroleum products) have been or may have been used, stored, treated, handled, disposed, spilled, and/or released to the environment. The AOCs are depicted on Figure 2. AOCs were identified at the site by Lenard Engineering Inc during a Phase I ESA completed in July 2013. Tighe & Bond completed a Phase II report in November, 2013 to determine if releases of constituents of concern (COCs) had occurred at the AOCs. A description of the AOCs and results of the Phase II ESA are listed below.

AOC-1 Northern Portion of the building

The former graphics departments and photographic development lab were located on the second floor of this portion of the building. The basement in this area consisted of a garage, boiler room with floor drain, and was reportedly the location of the former printing department which stored inks, solvents, and oils. A paint and wall paper store reportedly existed in this area of the site prior to 1900.

COCs include volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals.

AOC-2 Central and Southern Portion of the building

This portion of the building is currently used for storage of unused chemicals and oils. Formerly, this area contained the paper storage room, pressroom, 3,000-gallon ink tank, and likely stored hazardous chemical wastes including waste ink mixture that may have contained methylene chloride, benzene, and xylene.

COCs include VOCs, PAHs, and metals.

AOC-3 Loading Dock A

This loading dock is located along the southern wall of the building and it was reported that hazardous chemicals were likely delivered to and/or removed from this area.

COCs include extractable petroleum hydrocarbons (ETPH), VOCs, PAHs, and metals.

AOC-4 Loading Dock B

This loading dock is located along the western side of the former paper storage room and it was reported that hazardous chemicals were likely delivered to and/or removed from this area.

COCs include ETPH, VOCs, PAHs, and metals.

AOC-5 Former Automotive Repair Garage

Historic Sanborn Fire Insurance Maps (Sanborns) identify this area as the former location of an automotive repair shop.

COCs include ETPH, VOCs, PAHs, and metals.

AOC-6 Former Press Manufacturing Company

Sanborns identify this area as the location of a former press manufacturing company. Historic operations in this area include a foundry, machine shop, and blacksmith.

COCs include VOCs, PAHs, and metals.

AOC-7 Transformer Pads

There are two transformer pads and five transformers currently exist on site, in the southwest corner and south of loading dock B.

COCs include Polychlorinated biphenyls (PCBs).

AOC-8 Southwestern Parking Log

Site records indicate that a release of 150 gallons of diesel fuel occurred on Crown Street and affected the Record-Journal parking lot and a nearby catch basin.

COCs include ETPH, VOCs, and PAHs.

Section 4
Hydrogeology

4.1 Geology

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) data for the State of Connecticut (NRCS Webpage, 2009), the site is identified as containing Udorthents-Urban land soils. Urban land soils is defined by NRCS as land mostly covered by streets, parking lots, buildings, and other structures of urban areas. Udorthents soils are defined as land that has had the original cover removed and replaced with fill material.

According to the *Surficial Materials Map of Connecticut* (United States Geological Survey/Department of Environmental Protection, Connecticut Geological and Natural History Survey, 1992), and CTDEEP Geographic Information Systems (GIS) surficial materials data, soils beneath the site are classified as sands and gravel in individual or alternating beds. Layers are well to poorly sorted; bedding may be distorted and faulted due to post-depositional collapse.

These descriptions are consistent with observations made during the conduct of the Phase II investigation. In addition, fill material, consisting of primarily sand with some asphalt, and brick was identified across the site to depths of 0-6 feet below ground surface (bgs). The brick and asphalt are likely remnants of the former on-site buildings that were historically demolished.

According to the *Bedrock Geologic Map of Connecticut* (U.S. Geological Survey, 1985), and CTDEEP Geology GIS data, the site is located within the New Haven Arkose formation. Specifically, the site is underlain by a reddish, poorly sorted arkose. Refusal was encountered between 2 and 12 feet across the site, rock fragments encountered during refusal were inferred to be bedrock. Rock fragments encountered were observed to be Arkose.

4.2 Groundwater

According to the 1984 USGS Meriden Quadrangle Topographic Map, the elevation of the site is approximately 130 to 150 feet above sea level. The contours found on the topographic map indicate the elevation slopes in a north-northwesterly direction. Groundwater flow direction is also inferred to be in a north-northwesterly direction. Harbor Brook runs through an underground culvert approximately 200 feet west of the site which could have an impact on groundwater flow at the site.

Groundwater at the site is classified as GB by the CTDEEP. Designated uses include industrial process water and cooling waters and baseflow for hydraulically connected surface water bodies. GB classified groundwater is presumed not suitable for human consumption without treatment.

Groundwater was not encountered in the overburden during the previous Phase II ESA drilling activities. During the Phase III drilling activities groundwater was encountered between 8 feet and 14 feet below ground surface and in the bedrock in the two western bedrock wells. Groundwater was not encountered in MW-3 in the southeastern parking lot.

Section 5
Previous Investigations

Tighe & Bond completed a phase II ESA at the site as detailed in a report dated November 2013. As part of the Phase II ESA, Tighe & Bond reviewed information presented in Phase I Environmental Site Assessment report provided by Lenard Engineering Inc dated June 2013. Information from the Phase I and II ESAs have been incorporated into the Conceptual Site Model presented in Section 11.

The following is a summary of the Phase II ESA findings:

- Significant releases of COCs to the environment as a result of former chemical storage and the printing press located in the northern portion of the building (AOC-1) were not identified. Fill material was identified beneath the building slab in these areas and is likely the reason for elevated concentrations of lead.
- The condition of soils beneath the southern and central portions of the building (AOC-2) were not able to be evaluated during the Phase II ESA due to thickness of the concrete slab.
- Significant releases related to chemical or petroleum releases were not identified at loading dock A or B (AOC-3 & AOC-4). However, fill material at least 1 to 2 feet thick was identified at these locations.
- Significant releases related to the former automotive repair shop (AOC-5) were not identified during site activities. However, fill material was identified up to 9 feet below the surface, resulting in elevated COCs.
- Significant releases related to the former Press Manufacturing Company (AOC-6) were not identified. However, fill material, with elevated concentrations of lead, was identified in one boring above RSR criteria.
- No significant releases were identified due to possible leaking transformers (AOC-7).
- Elevated concentrations of COCs above RSR criteria were reported in the southeastern parking lot (AOC-8) in an area where a documented release occurred. Based on reanalysis and observation of the sample by the laboratory and field observations it is likely that the elevated concentrations of COCs are due to fill material and not related to a release.

Based on these findings of the Phase II ESA Tighe & Bond recommended that a Phase III ESA be completed to delineate the vertical and horizontal extent of impacted soil and to close data gaps.

Section 6
Field Investigations

The following sections describe the field investigations completed by Tighe & Bond for the Phase III ESA. Field work and laboratory analysis performed by Tighe & Bond was conducted in accordance with the proposal dated January 28, 2014.

6.1 Well Installation and Soil Sampling

On February 20 and 21, 2014 Tighe & Bond observed the advancement of nine soil borings (B-100 through B-108) using direct push equipment operated by Martin Geo-Environmental (Martin) of Palmer, Massachusetts. The soil borings were advanced in the two western and one southeastern parking lots to depths ranging from two to nine feet below ground surface (bgs). Soils from each boring were field-evaluated in two-foot intervals for the presence of volatile contamination using a photo-ionization detector (PID) calibrated to manufacturers specifications. Visual and olfactory observations were also used to evaluate soils for the presence of fill material and other contaminants. No obvious signs of contamination (i.e. staining or odors) were observed in soils collected from any boring. Boring locations are depicted in Figure 3.

Material encountered consisted of sand, silt and weathered bedrock. Fill material consisting of asphalt and brick fragments was observed at boring B-101 (0-4') and crushed gravel fill was found in borings B-103 (0.3-1.5') and B-106 (0.3-6'). PID readings for the soil samples ranged from 0 parts per million (ppm) to 1.7 ppm (B-100).

Select soil samples were collected for laboratory analysis by Phoenix Environmental Laboratories, Inc. (Phoenix) of Manchester, Connecticut, a Connecticut-certified analytical laboratory using CTDEEP Reasonable Confidence Protocol (RCP) approved methods. Samples were selected from soil borings with a bias towards soils exhibiting evidence of environmental impact (e.g. staining and PID readings) or suspected fill material. Soil samples were analyzed for extractable total petroleum hydrocarbons (ETPH), total and synthetic precipitation leaching procedure (SPLP) polycyclic aromatic hydrocarbons (PAHs), and total and SPLP lead or polychlorinated biphenyls (PCBs).

Additionally, two cores (SS-101 and SS-102) were advanced through the southern and central portions of the building slab. The slab at SS-101 was 12 inches thick and was at least 16 inches thick at SS-102. A soil sample was collected from beneath the slab at SS-101; however, a soil sample could not be collected from SS-102 because the slab was greater than 16 inches and could not be cored through in a reasonable amount of time.

Three bedrock monitoring wells (MW-1 through MW-3) were installed using hollow-stem augers and air-hammer methodology on February 20, 2014. Bedrock was encountered at depths ranging from 4.5 feet bgs in monitoring well MW-3, 10 ft bgs in MW-1, and 14 ft bgs in MW-2. Monitoring wells MW-1 and MW-2 were advanced to 24 and 25 feet bgs, respectively, while MW-3 was completed at 76 ft bgs.

Boring logs and monitoring well completion logs are included in Appendix B. Refer to Figure 3 for the soil boring and monitoring well locations.

6.2 Groundwater Development and Sampling

On February 25, 2014, Tighe & Bond developed the three newly installed monitoring wells. Development was conducted using a surge block and whale pump to remove sediment from the well deposited during drilling activities. Approximately 5 gallons and 55 gallons were purged from MW-1 and MW-2, respectively. During an attempt to develop MW-3, it was discovered that the PVC riser pipe in MW-3 had been broken or dislodged at approximately 20 feet below the ground surface (bgs). Despite multiple attempts to salvage the well, it was determined that the well was damaged beyond repair.

On March 1, 2014, Tighe & Bond sampled bedrock wells MW-1 and MW-2 in general accordance with EPA low-flow sampling methodology. The purged volumes were based on the stabilization of field-measured water quality parameters including dissolved oxygen, specific conductance, temperature, pH, turbidity, and oxidation/reduction potential. These water quality parameters were generally measured at five-minute intervals along with purging rate and depth-to-water. Groundwater samples were collected upon stabilization of the field parameters as indicated by three consecutive readings within acceptable limits. Field data sheets for the groundwater sampling events are provided in Appendix C.

Groundwater samples were collected using appropriate sample containers as specified by the laboratory, immediately stored in an ice filled cooler and delivered to Phoenix Environmental Laboratories, Inc., of Manchester Connecticut (Phoenix) a Connecticut-certified analytical laboratory for analysis of ETPH, PAHs, VOCs, and RCP metals. Laboratory analytical reports are provided in Appendix D.

Section 7
Remediation Criteria

Analytical results reported in this investigation are compared to remediation criteria listed in the CTDEEP RSRs. CTDEEP's intent in developing the RSRs was to define the following:

- Minimum remediation performance standards
- Specific numeric clean-up criteria
- A process for establishing alternative site-specific standards, if warranted

In general, RSR criteria are used to remediate contaminated environmental media (i.e., soils, groundwater, and soil vapor). RSR criteria are not specifically applicable to building interiors and sediment.

The RSRs apply to efforts to remediate contaminated soil, surface water, soil vapors, or a groundwater plume at or emanating from a release area or AOC, provided that the remedial action is required by the following:

- CGS Chapter 445 (Hazardous Waste) or Chapter 446K (Water Pollution Control); or
- Relevant subsections of CGS 22a-133 (Voluntary Clean-up) or 22a-134 (Property Transfer) including but not limited, any such action required to be taken or verified by a Licensed Environmental Professional, except as otherwise provided in the regulations.

7.1 Soil Remediation Criteria

The CTDEEP soil remediation criteria integrate two risk-based goals: (1) Direct Exposure Criteria (DEC) to protect human health and the environment from risks associated with direct exposure (ingestion) to contaminated soil; and (2) Pollutant Mobility Criteria (PMC) to protect groundwater quality from contaminants that migrate or leach from the soil to groundwater. Soils to which both criteria apply must be remediated to a level, which is equal to the more stringent criteria.

7.1.1 Direct Exposure Criteria

Specific numeric exposure criteria for a broad range of contaminants in soil have been established by the CTDEEP, based on exposure assumptions relative to incidental ingestion of contaminants in soils. The DEC applies to accessible soil to a depth of 15'. The DEC for substances other than PCBs does not apply to inaccessible soil at a release area provided that, if such inaccessible soil is less than 15' below the ground surface, an environmental land-use restriction (ELUR) is in effect with respect to the subject release area. Inaccessible soil generally means polluted soil, which is the following:

- More than 4' below the ground surface
- More than 2' below a paved surface comprised of a minimum of three inches of bituminous pavement or concrete
- Beneath 3" of a paved surface if it is fill polluted with semi-volatile organic compounds or ETPH; or metals not in excess of twice the applicable DEC
- Beneath an existing building

- Beneath another permanent structure(s) approved by the CTDEEP Commissioner. Buildings can be constructed and/or clean fill can be placed over contaminated soils rendering them inaccessible

The CTDEEP has established two sets of DEC using exposure assumptions appropriate for residential land use (RES DEC) or for industrial and certain commercial land use (I/C DEC). In general, all sites are required to be remediated to the residential criteria. If the I/C land use criteria are applicable and used, an ELUR notification is required in accordance with the RSRs.

7.1.2 Pollutant Mobility Criteria

The PMC that will apply to remediation of a site depends on the groundwater classification of the site. The purpose of these criteria is to prevent any contamination to groundwater in GA classified areas, and to prevent unacceptable further degradation to groundwater in GB classified areas. The applicable PMC for the site is the PMC for a GB classified area. The PMC generally apply to all soil in the unsaturated zone, from the ground surface to the seasonal high water table in GB classified areas. The criteria do not apply to environmentally isolated soils that are polluted with substances other than VOCs provided that an ELUR is recorded for the release area which ensures that such soils will not be exposed (unless approved in writing by the CTDEEP Commissioner). Environmentally isolated soils are defined as certain contaminated soils, which are above the seasonal low water table, beneath an existing building and not a source of ongoing contamination. An ELUR must be recorded for the site, which ensures that such soils will not be exposed as a result of building demolition or other activities. Buildings can be constructed over contaminated soils rendering them environmentally isolated.

The site is located in a GB classified area. Remediation based upon the listed PMC requires that a substance, other than an inorganic substance or PCB, in soil be remediated to at least that concentration at which the results of a mass analysis of soil for such substances does not exceed the PMC applicable to the groundwater classification (i.e., GA or GB) of the area in which the soil is located. An inorganic substance (metals) or PCBs in soil must be remediated to at least that concentration at which the analytical results of leachate produced from either the Toxicity Characteristic Leaching Procedure (TCLP) or the Synthetic Precipitation Leaching Procedure (SPLP) does not exceed the PMC applicable to the groundwater classification of the area in which the soil is located.

According to CGS 22a-133k-2(c)(2)(D), impacted soils above the seasonal high water table in a GB area may alternatively be remediated to a level at which the results of a SPLP analysis do not exceed the groundwater protection criterion (GWPC) for any such substance 1) multiplied by 10, 2) multiplied by the ratio of the areas downgradient and upgradient of the release area to the release area, provided that the ratio does not exceed 500, or 3) multiplied by an alternative factor approved by the Commissioner of the CTDEEP.

Based on site specific conditions, certain impacted soils will be compared to ten times the appropriate GWPC using SPLP analysis.

7.2 Groundwater Remediation Criteria

Groundwater remediation requirements are dependent upon the groundwater classification of the site. The objectives of these standards are the following:

- Protect and preserve groundwater in GA areas as a natural resource

- Protect existing use of groundwater regardless of the area's groundwater classification
- Prevent further degradation of groundwater quality
- Prevent degradation of surface water from discharges of contaminated groundwater
- Protect human health

Portions of the RSRs governing groundwater regulate remediation of groundwater based on each substance present in plume and by each distinct plume of contamination. Several factors influence the remediation goal at a given site, including background water quality, groundwater classification, proximity of nearby surface water, existing groundwater uses, and existing buildings and their use. When assessing general groundwater remediation requirements, all of these factors must be considered in conjunction with the major numeric components of the RSRs.

The site is situated within a GB classified area by the CTDEEP. Therefore, Surface Water Protection Criteria (SWPC) and Volatilization Criteria (VC) would apply to the site

7.2.1 Surface Water Protection Criteria

The SWPC applies to all groundwater, which discharges to surface water, therefore the SWPC will apply to the site. The SWPC ensure the groundwater contamination resulting from on-site sources, which exceed background, is remediated to levels that adequately protect surface water quality. In general, compliance with the SWPC is achieved when the average concentration of a compound in groundwater emanating from a site is equal to or less than the SWPC established by the CTDEEP or an alternative SWPC established in accordance with the RSRs.

7.2.2 Volatilization Criteria

The GWVC apply to all groundwater contaminated with a VOC within 15 feet of the ground surface or a building. According to the regulations, the VOC of concern will be remediated to a concentration that is equal to or less than the applicable residential volatilization criterion for groundwater. If groundwater contaminated with a VOC is below a building used solely for industrial or commercial activity, groundwater may be remediated such that the concentration of the substance is equal to or less than the applicable I/C GWVC in lieu of the RES GWVC for groundwater, provided that an ELUR is in effect with respect to the parcel (or portion of the parcel covered by the building). The ELUR must also ensure that the parcel (or portion thereof beneath the building) will not be used for any residential purpose in the future and that future use is limited to industrial or commercial activity.

Section 8
Results of Investigation

8.1 Soil Analytical Results

Tighe & Bond observed the advancement of 9 soil borings and two sub-slab cores during the Phase III ESA investigations. The borings were advanced at AOCs 2, 4, 6 and 8. A total of 9 soil samples were collected for laboratory analysis of one or more of the following COCs: ETPH, total and SPLP PAHs, and total and SPLP lead. Soil analytical results compared to applicable RSR criteria are summarized in Table 2 (Appendix E) and are discussed below.

Soil sample locations with reported concentrations of COCs above applicable RSR criteria are shown on Figure 4 (Appendix A).

8.1.1 AOC-2 Southern and Central Portion of Building

Two sub-slab cores were advanced through the floor in the central and southern portion of the building. A soil sample was collected from beneath the slab at SS-101, located in the former paper storage room and was submitted for laboratory analysis of ETPH. Laboratory analytical results indicated that ETPH was not detected above laboratory reporting limits.

A soil sample was not collected from SS-102 because it was advanced into the slab 14 inches without reaching soil or bedrock. Bedrock was encountered at SS-101 approximately 2 inches below the bottom of the slab; therefore, It is assumed that the former pressroom was constructed directly on top of bedrock and the slab is thicker than 14 inches.

8.1.2 AOC-5 Former Automotive Repair Shop

Three borings (B-100, B-101, and B-106) advanced within AOC-5 during the Phase III ESA investigation. A soil sample was collected from each boring and were submitted for laboratory analysis of total and SPLP PAHs and total and SPLP lead.

Laboratory analytical results indicated that total PAHs were not detected above laboratory reporting limits in B-100 (0-2') and B-101(0-2'). Total PAHs were, however, detected in B-106 (6-7.5') at concentrations ranging from 0.37 milligrams per kilogram (mg/Kg) to 9.6 mg/Kg. Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, and Benzo(k)fluoranthene were detected above at least one applicable RSR criteria.

SPLP PAHs were detected in all three samples from 0.02 micrograms per liter (µg/L) to 0.68 µg/L. No detections of SPLP PAHs were above 10 times the groundwater protection criteria (GWPC). As mentioned in Section 7.1.2, impacted soils in a GB area may remediated to a level at which the results of SPLP analysis do not exceed the GWPC for any such substance multiplied by 10.

Total lead was detected in all three soil samples collected from this area , while the concentrations detected at B-106 and B-101 were below the direct exposure criteria (DEC), total lead was reported in B-100 (0-2') at a concentration of 7,070 mg/Kg, which is above the residential and industrial/commercial DEC.

SPLP lead was detected in B-106 (6-7.5') at 0.036 µg/L, which is below the GB pollutant mobility criteria (GB PMC). SPLP lead was not detected above laboratory reporting limits in the other two samples collected from this AOC.

8.1.3 AOC-6 Former Press Manufacturing Company

During the Phase III ESA investigation, two soil borings (B-104 and B-105) were advanced in this AOC. Two soil samples (B-104 (0-2.5') and B-105 (0-2')) were collected and submitted to the laboratory for analysis of total and SPLP lead. Both samples had detections of total lead that were well below the DEC, while neither had detections of SPLP lead above laboratory reporting limits.

8.1.4 AOC-8 Southeastern Parking Lot

Four soil borings were advanced in this AOC and one soil sample was collected from each of the boring (B-102 (0-2'), B-103 (0-1.5), B-107 (0-2'), and B-108 (0-2')). Soil sample B-108 (0-2') was broken during courier transport to the lab and could not be salvaged for analysis. The three remaining soil samples were submitted to the laboratory for analysis of ETPH and total and SPLP PAHs.

It was reported that ETPH and total PAHs were not detected above laboratory reporting limits, except fluoranthene was detected at 0.28 mg/Kg in B-103 (0-1.5'). SPLP PAHs were detected in all three samples ranging from 0.02 to 0.68 µg/l, which is below 10 times the GWPC.

8.2 Groundwater Analytical Results

Groundwater samples were collected from MW-1 and MW-2 for laboratory analysis of the following constituents: volatile organic compounds (VOCs), PAHs, ETPH, and reasonable confidence protocol (RCP) metals. Groundwater analytical results are summarized below and in Table 3 by constituent of concern and compared to:

- RES GWVC
- I/C GWVC
- SWPC

8.2.1 VOCs

Concentrations of VOCs were not reported at concentrations above laboratory reporting limits in groundwater samples.

8.2.2 PAHs

Concentrations of PAHs were not reported at concentrations above laboratory reporting limits in groundwater samples.

8.2.3 ETPH

Concentrations of ETPH were not reported at concentrations above laboratory reporting limits in groundwater samples.

8.2.4 Metals

Barium was detected in MW-1 and MW-2 at concentrations ranging from 450 µg/L to 539 µg/L. It is noted that there is no applicable RSR criterion established for barium. Nickel and zinc were detected in MW-1 at concentrations well below SWPC.

Section 9
Quality Assurance / Quality Control

The Quality Assurance/Quality Control (QA/QC) procedures for field work and laboratory analyses during the Phase III ESA were evaluated as part a Data Quality Assessment/Data Usability Evaluation (DQA/DUE) that was conducted during the preparation of this Phase III ESA report. The following CTDEEP Guidance Documents were used in this evaluation:

- *Laboratory Quality Assurance and Quality Control, Reasonable Confidence Protocols Guidance Document, November 2007*
- *Laboratory Quality Assurance and Quality Control, Data Quality Assessment and Data Usability Evaluation Guidance Document (May 2009, Revised December 2010)*
- *Quality Assurance and Quality Control Requirements for various analytical methods*

Based on the review of soil and groundwater analytical results, and on the review of the laboratory QA/QC results, the data was determined to be analytically usable for the purpose of the report. A detailed summary of the results of the QA/QC evaluation and DQA/DUE for field work and laboratory analyses are provided in Appendix F.

Section 10
Conceptual Site Model

A conceptual site model (CSM) is a representation of an environmental system at a site that is used as a tool to identify releases, pathways of migrations, potential receptors, and ultimately risk. The CSM is used to develop work plans and provide a framework to address issues that arise during the investigation of a site. The CSM is refined throughout the site characterization process as new data are acquired. The final CSM will fully define the environmental system at a site and validate the hypotheses regarding the environmental fate of released contaminants. A summary of the CSM is included as Table 4.

The CSM includes the following:

- Description of the site, environments, and AOCs
- Nature and extent of contaminants
- Potential release mechanisms for such contaminants
- Evaluation of migration pathways and locations at which environmental media are most likely to have been impacted by a release
- Identification of AOCs at which releases have occurred as well as AOCs at which no releases have occurred
- Data and rationale to support the conclusion

10.1 Description of Site, Environments, and AOCs

A description of the site, history, and operations as derived from previous reports is provided in Section 3. A description of site hydrogeology is provided in Section 4.

10.2 Nature and Extent of Contamination

The following summarizes the COCs reported above applicable RSR criteria during the previous Phase II ESA.

- AOC-5 Former Automotive Repair Shop– Elevated concentrations of PAHs were identified in this AOC between four and six feet bgs.
- AOC-6 Former Print Manufacturing Area – An elevated concentration of lead were identified in this AOC between zero to two feet bgs.
- AOC-8 Southeastern Parking Lot – Elevated concentrations of PAHs and ETPH were identified in this AOC between zero and two feet bgs.

A Phase III ESA was performed to determine the extent of fill materials identified during the Phase II ESA and determine if a release had occurred in AOC 2, the central and southern portion of the building. The extent of impacted soils have been delineated horizontally and vertically within the property lines of the site in accordance with the CTDEEP SCGD. Results of the Phase III ESA soil sampling are discussed in Section 8 and presented in Tables 1 and 2.

Results of groundwater monitoring conducted during the Phase III ESAs indicate that concentrations of VOCs, PAHs, ETPH and RCP metals are below applicable RSR criteria. Groundwater impacts have not been detected at concentrations above applicable RSRs. Results of the Phase III ESA groundwater sampling are discussed in Section 8 and presented in Table 3.

10.3 Potential Release Mechanisms

The potential release mechanisms for each AOC are identified below. Potential release mechanisms fall into two general types depending on the source. The first potential release mechanism is a release directly onto the ground, asphalt or building slab. Releases onto asphalt or building slabs can migrate through cracks over time. The second potential release mechanism is current or historical deposition of polluted fill material directly onto the surface. Polluted fill material could currently be underneath buildings, parking lots, or other areas of the site.

10.4 Migration Pathways

Potential migration pathways for each AOC are identified below. The migration pathway or transport mechanisms fall into two general types depending upon the sources. The first migration pathway consists of spills, leaks or deposition at or below the ground surface with vertical migration to the water table within the bedrock, then horizontally with groundwater. The second migration pathway is contaminant transport through overland flow at the ground surface.

10.5 Phase III ESA Findings

The findings of the Phase III ESA are provided below by AOC along with a discussion of the data relative to the final CSM. A summary of well completion data is provided in the boring logs included as Appendix B. A summary of soil data collected during the Phase II and Phase III ESAs is provided in Table 1 and Table 2, respectively. A summary of groundwater analytical data from the Phase III ESA is provided in Table 3.

AOC-1 Northern Portion of the building

A small parking garage and boiler room are located in the northern portion of the building. During the Phase II ESA two sub-slab soil samples (SS-1 and SS-2) were collected in AOC-1. Visual/olfactory evidence of a release of COCs in the form of soil staining and/or odors was not observed and there were no PID readings above background (0.0 parts per million (ppm)) in the soil samples screened. Samples were taken directly beneath the slab and submitted for laboratory analysis for ETPH, PAHs, and RCP Metals.

The two samples did not have detections above applicable RSR criteria. Low levels of PAHs were detected beneath the boiler room. Lead detected in these borings is elevated above naturally occurring conditions, but not in exceedance of RSR criteria. The sub-slab material consisted of fine sand with what appeared to be small pieces of brick and concrete. It is likely that fill material beneath the building is the source of elevated PAHs and lead.

Based upon this information, it does not appear that a release to soil has occurred within this AOC and no further investigation or remediation is warranted.

AOC-2 Central and Southern Portion of the Building

The central and southern portions of the building are currently used for storage of unused chemicals and oils. Formerly, these areas contained the paper storage room, the pressroom, a 3,000-gallon ink tank, and likely stored hazardous chemical wastes. Wastes identified include waste ink mixture that may have contained methylene chloride, benzene, and xylene. No investigations were conducted at this AOC during the Phase II ESA due to the concrete slab being greater than 8 inches thick. The lack of investigation was considered a data gap.

During the Phase III ESA a 12 inch core was drilled through the central portion of the building and a sample SS-101 was submitted to the laboratory for analysis of ETPH. A second core (SS-102) was attempted in the former pressroom; however, the slab was greater than 14 inches thick. Based on depth to bedrock around that site it is likely that the pressroom was constructed directly on top of bedrock.

Visual/olfactory evidence of a release of COCs in the form of soil staining and/or odors was not observed and there were no PID readings above background (0.0 ppm) in the soil sample screened. The sample (SS-101) collected from the central portion of the building was not reported as having ETPH above laboratory reporting limits.

No COCs were detected above applicable RSR criteria in the samples collected from two down gradient monitoring wells (MW-1 and MW-2). This data suggests that a release did not occur at this AOC.

At this time, it appears that remediation is not warranted. However, the investigation was limited due to the thickness of the concrete slab. If the building is demolished, additional evaluation of subsurface conditions should be conducted to confirm that releases of COCs have not occurred.

AOC-3 Loading Dock A

This loading dock is located along the southern side of the building and it was reported that hazardous chemicals were likely delivered to and/or removed from this area. Two borings (B-1 and B-2) were advanced near loading dock A during the Phase II ESA. Bedrock was encountered between 2 and 11 feet below the ground surface. Visual/olfactory evidence of a release of COCs in the form of soil staining and/or odors was not observed and there were no PID readings above background (0.0 ppm) in the soil samples screened. Materials encountered were red sand, silt, and rock fragments.

Two samples (B-1 (0-2') and B-2 (4-6')) were collected and submitted to the laboratory for analysis of ETPH, PAHs, and RCP Metals. ETPH and PAHs were not detected above laboratory reporting limits. Metals were not detected above background levels or applicable RSR criteria.

Based on these findings no further investigation or remediation is warranted.

AOC-4 Loading Dock B

This loading dock is located along the western side of the former paper storage room. Reportedly, hazardous chemicals were likely delivered to and/or removed from this area. During the Phase II ESA one boring (B-9) was advanced to approximately 7 feet below ground surface. Visual/olfactory evidence of a release of COCs in the form of soil staining and/or odors was not observed and there were no PID readings above

background (0.0 ppm) in the soil sample screened. Crushed gravel was encountered to 6 feet bgs and it was likely added during development of the Record-Journal building. Fill material was also encountered between 6 and 7 feet bgs.

The sample (B-9 (6-7')) was submitted to the laboratory for total RCP metals, ETPH, and total PAHs. There were no detections of PAHs or ETPH. Detected metals are within naturally occurring concentrations.

Based on these findings no further investigation or remediation is warranted.

AOC-5 Former Automotive Repair Shop

An automotive repair shop formerly existed in the northwestern portion of the site. Visual/olfactory evidence of a release of COCs in the form of soil staining and/or odors was not observed, PID readings ranged from 0.0 ppm to 3.8 ppm in the soil samples screened. Fill material including bricks and asphalt were observed in the top 8 feet of the borings advanced in this area. Four samples (B-3 (4-6'), B-8(4.5-5.5'), B-100(0-2') and B-101 (0-2')) in this area were submitted to the laboratory for analysis. The samples collected during the Phase II were submitted for analysis of total RCP metals, ETPH, VOCs, and PAHs. The samples collected during the Phase III ESA were submitted for total and SPLP lead and total and SPLP PAHs.

Acetone was the only VOC detected above laboratory reporting limits, but was well below applicable RSR criteria. Three samples (B-3 (4-6'), B-8 (4.5-5.5), and B-106 (6-7.5')) had detections of total PAHs above laboratory reporting limits. PAH detections were reported above RES DEC, I/C DEC, or GB PMC in these three borings. Low level SPLP PAHs were detected in three of the borings, they were well below applicable RSR criteria. Soil sample B-100 (0-2') had a detection of total lead above RES DEC and I/C DEC, SPLP lead was not detected above laboratory reporting limits. ETPH was also not detected above laboratory reporting limits.

It is likely that these elevated concentrations of PAHs and lead are indicative of a fill material located between zero and six feet below ground surface and not of a significant release from the automotive repair facility historically located in this area.

Site-wide fill material is discussed in AOC-9.

AOC-6 Former Press Manufacturing Company

Historical Sanborn Fire Insurance Maps (Sanborns) indicate that the western portion of the site was formerly a press manufacturing company. As part of the Phase II and III ESAs four soil samples (B-4 (0-2'), B-7 (0-10"), B-104 (0-2.5'), and B-105 (0-2')) were collected from this AOC. Visual/olfactory evidence of a release of COCs in the form of soil staining and/or odors was not observed and there were no PID readings above background (0.2 ppm) in the soil samples screened. Samples collected during the Phase II ESA were submitted to the laboratory for analysis of ETPH, RCP metals, and PAHs. Samples collected during the Phase III ESA were submitted for total and SPLP lead.

Soil samples B-4 (0-2') and B-7 (0-10") were reported not have detections of ETPH or PAHs. Soil boring B-4 (0-2') had a detection of total lead above RES DEC and I/C DEC. SPLP lead was not detected above laboratory reporting limits. Fill material observed in B-4 was similar to fill observed in B-100; therefore, it is likely that the elevated lead concentration is indicative of the same fill material and not of a significant release from the manufacturing facility historically located in this area.

Site-wide fill material is discussed in AOC-9.

AOC-7 Transformers

Five transformers exist in two locations on the site, south of loading dock B (two transformers) and the southwestern corner of the site (three transformers). During the Phase II ESA no labels were observed on the transformer indicating PCB concentrations. No evidence of release from these transformers were observed.

Two hand borings, identified as B-5 and B-6 were completed around the former transformer pads. Visual/olfactory evidence of a release of COCs in the form of soil staining and/or odors was not observed and there were no PID readings above background (0.0 ppm) in the soil sample screened. The soil samples, collected from zero to 0.5 feet bgs, were submitted to the laboratory for analysis for the presence of PCBs and were not detected at concentrations above the laboratory detection limits in the soil sample analyzed.

Based upon this information, it does not appear that a release to soil has occurred within this AOC and no further investigation or remediation is warranted.

AOC-8 Southeastern Parking Lot

According to the Phase I ESA, a release of 150 gallons of diesel fuel occurred on Crown Street. The report listed the release as affecting a drainage basin on Crown Street and the Record-Journal parking lot. The report stated the drainage basin was cleaned out but did not list any action taken on the Record-Journal parking lot.

During the Phase II ESA one soil boring (B-10) was advanced within the southeastern parking lot along Crown Street. The sample was submitted to the laboratory for analysis of PAHs, ETPH, and total RCP metals. The sample was reported as having concentrations of Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, and Pyrene above at least one RSR criterion. Benzo(a)pyrene was reported at 32 mg/Kg, above the Significant Environmental Hazard Notification (SEHN) threshold concentration of 30 mg/Kg. The laboratory reported significant amounts of fine soft black material, inferred to be asphalt, present in the sample. Re-analysis of the sample reported concentration of Benzo(a)pyrene to be 13 mg/Kg, below the SEHN reportable concentration. Since this sample was taken at the 0-2 feet interval, it is likely that the concentrations of PAHs and ETPH in soil boring B-10 are due to fill material beneath the parking lot and not the reported release of diesel.

During the Phase III ESA four additional borings were advanced around B-10 to confirm the detection of PAHs and delineate the horizontal and vertical extent of impacted fill. The four soil samples (B-102 (0-2'), B-103 (0-1.5'), B-107 (0-2), and B-108 (0-2')) were collected surrounding the previously advanced soil boring B-10. During courier transport of the samples to the laboratory, B-108 was broken and was unable to be salvaged for analysis. The remaining three samples were submitted for analysis of total and SPLP PAHs and for B-102, ETPH and lead.

ETPH and total PAHs were not detected at concentrations above laboratory detection limits in the soil samples analyzed. SPLP PAHs were detected in B-102, but were significantly lower than applicable RSR criteria. Lead was detected in B-102 below applicable RSR criteria and at levels consistent with background concentrations.

Based on the exceedances only occurring at B-10, it is likely that the exceedances are due to localized fill material and not due to the release that occurred on Crown Street.

Site-wide fill material is discussed in AOC-9.

AOC-9 Site-Wide Fill Material

AOC-9, site-wide fill material, has been defined during this Phase III ESA based on fill material observed in borings throughout the site and similar RSR exceedances overlapping AOCs.

Soil samples B-3 (4-6'), B-8(4.5-5.5') and B-106 (6-7.5') were collected in the northwestern corner of the site and had detections of PAHs exceeding the DEC and/or GB PMC. According to Section 22a-133k-1(c)(2)(D) of the RSRs (amended June 27, 2013) compliance with the GB PMC is achieved when "the results of a TCLP or SPLP analysis of such soil does not exceed the ground-water protection for any such substance (i)(aa) multiplied by 10." In accordance with this definition, the fill material between four and seven feet bgs is in compliance with GB PMC because SPLP analysis was well below 10 times the GWPC. Additionally, this fill material is considered an "inaccessible soil" because it is polluted fill material at least four feet below the ground surface and is below at least three inches of bituminous concrete as defined by section 22a-133k-1(a)(32) of the RSRs (amended June 27, 2013). Based on this definition, the DEC does not apply to this fill material. As such, no further investigation or remediation is warranted for the fill material located in the northwestern corner of the site.

In the southeastern parking lot, fill material was observed in B-10 from zero to two feet bgs and PAHs were detected exceeding DEC and GB PMC. According to Section 22a-133k-1(c)(2)(D) of the RSRs compliance with the GB PMC is achieved when "the results of a TCLP or SPLP analysis of such soil does not exceed the ground-water protection for any such substance (i)(aa) multiplied by 10." Additionally, this fill material is considered an "inaccessible soil" because it is polluted fill material with PAHs that are normal constituents of bituminous concrete and is below at least three inches of bituminous concrete as defined by Section 22a-133k-1(a)(32) of the RSRs. Based on the above, these soils are in compliance with the DEC and GB PMC and no further investigation or remediation is warranted.

Along the western portion of the site two samples collected from zero to two feet bgs from B-4 and B-100 were reported as having total lead in exceedance of DEC. This fill material is located on top of the crushed gravel which was placed on top of the fill material previously mentioned. The RSR definition of "inaccessible soil" also states that soil polluted by metals is not to exceed concentrations two times the applicable DEC. The detection of lead in B-100 is more than two times the I/C DEC; as such, the fill material located between zero and two feet below the ground surface will need to be remediated to bring into compliance with the RSRs.

To use the "inaccessible soil" exemption of the RSRs an Environmental Land Use Restriction (ELUR) would have to be filed on the land records for the site to ensure soils will not be exposed as a result of excavation, demolition, or other activities and pavement is maintained in good condition.

Groundwater Investigation

As part of the Phase III ESA, three bedrock wells, identified as MW-1, MW-2 and MW-3, were installed across the site to assess bedrock groundwater conditions and flow direction. Following installation, it was discovered that MW-3 had been damaged beyond repair and therefore, was not utilized as part of the groundwater investigation. Samples collected from MW-1 and MW-2 were submitted to the laboratory for analysis of ETPH, PAHs, VOCs, and RCP metals. Barium, nickel, and zinc were detected in at least one sample, but below the established SWPC. There were no other detections above laboratory reporting limits.

Based upon this information, it does not appear that a release to bedrock groundwater has occurred and no further investigation or remediation is warranted.

Section 11
Summary and Recommendations

Tighe & Bond has completed this Phase III ESA for the City of Meriden for the site located at 11 Crown Street, Meriden, CT. Nine soil borings and two sub-slab cores were advanced, and three monitoring wells were installed as part of the Phase III investigations. A total of 10 soil samples and two groundwater samples were submitted to the laboratory for analysis of COCs.

11.1 Summary

Soil impacts above RSR criteria were identified at AOCs 5 (Former Automotive Repair Shop), 6 (Former Print Manufacturing Company), and 8 (Southeastern Parking lot) during the Phase II ESA. A Phase III ESA was performed to determine the source, extent and degree of reported impacts. Based on information gathered during the Phase III ESA the source and extent of soil impacts identified at the property have been delineated. No releases to the environment above RSR cleanup criteria were observed as part of this Phase III ESA. Site-wide impacted fill material (AOC-9) was found as having several COCs above RSR cleanup criteria. The following is a summary of impacted fill materials encountered at the site.

- Impacted fill material observed from four to six feet below ground surface (bgs) in the northwestern portion of the site is the source of polycyclic aromatic hydrocarbons (PAHs). This fill is prevalent throughout the site and would have to be managed during site redevelopment.
    - Section 22a-133k-1(a)(32) of the Connecticut Remediation Standard Regulations (RSRs) states that the DEC does not apply to “inaccessible soils”. The RSRs define such soils as “polluted fill beneath a bituminous concrete or concrete surface comprised of a minimum of three inches of bituminous concrete or concrete if such fill is polluted in excess of applicable direct exposure criteria only by semi-volatile substances or petroleum hydrocarbons that are normal constituents of bituminous concrete, and polluted by metals in concentrations not in excess of two times the applicable DEC.”
    - Section 22a-133k-1(c)(2)(D) of the RSRs describes polluted soils in a GB area. Compliance with the GB PMC is achieved when “the results of a SPLP analysis of such soil does not exceed the ground-water protection for any such substance (i)(aa) multiplied by 10.”
    - Based on these definitions by the RSRs, compliance with the DEC and GB PMC can be achieved for this fill material. An Environmental Land Use Restriction (ELUR) would have to be filed on the land records for the site to ensure soils will not be exposed as a result of excavation, demolition, or other activities and pavement is maintained in good condition.
- Impacted fill material observed from zero to two feet below ground surface at AOC-8 (southeastern parking lot) is the source of PAH and ETPH exceedances at soil boring B-10. Based on the fact that exceedances were only identified at B-10, it is likely that the exceedances are due to localized fill material and not due to the diesel release that occurred on Crown Street.

  - Based on the RSR definitions previously mentioned compliance with the DEC and GB PMC can be achieved with the filing of an ELUR and maintaining the pavement in good condition, as such no further investigation or remediation is warranted.

- Shallow impacted fill material observed from zero to two feet bgs along the western portion of the site is the source of two reported lead exceedances.
  - The impacted fill material has a lead exceedance in access of two times the DEC, and requires remediation to achieve compliance. The impacted area is limited to a portion of the western parking lot; as such it is estimated to only be 150 cubic yards of impacted material.

Groundwater at the site was investigated as part of the Phase III investigation. Two wells were installed and sampled along the western portion of the site in order to observe groundwater in the perceived down gradient direction from the site.

- Barium, nickel and zinc were detected below the established SWPC in at least one groundwater sample. There were no other detections above laboratory reporting limits. Based upon this information, it does not appear that a release to bedrock groundwater has occurred and no further investigation or remediation is warranted.

11.2 Recommendations

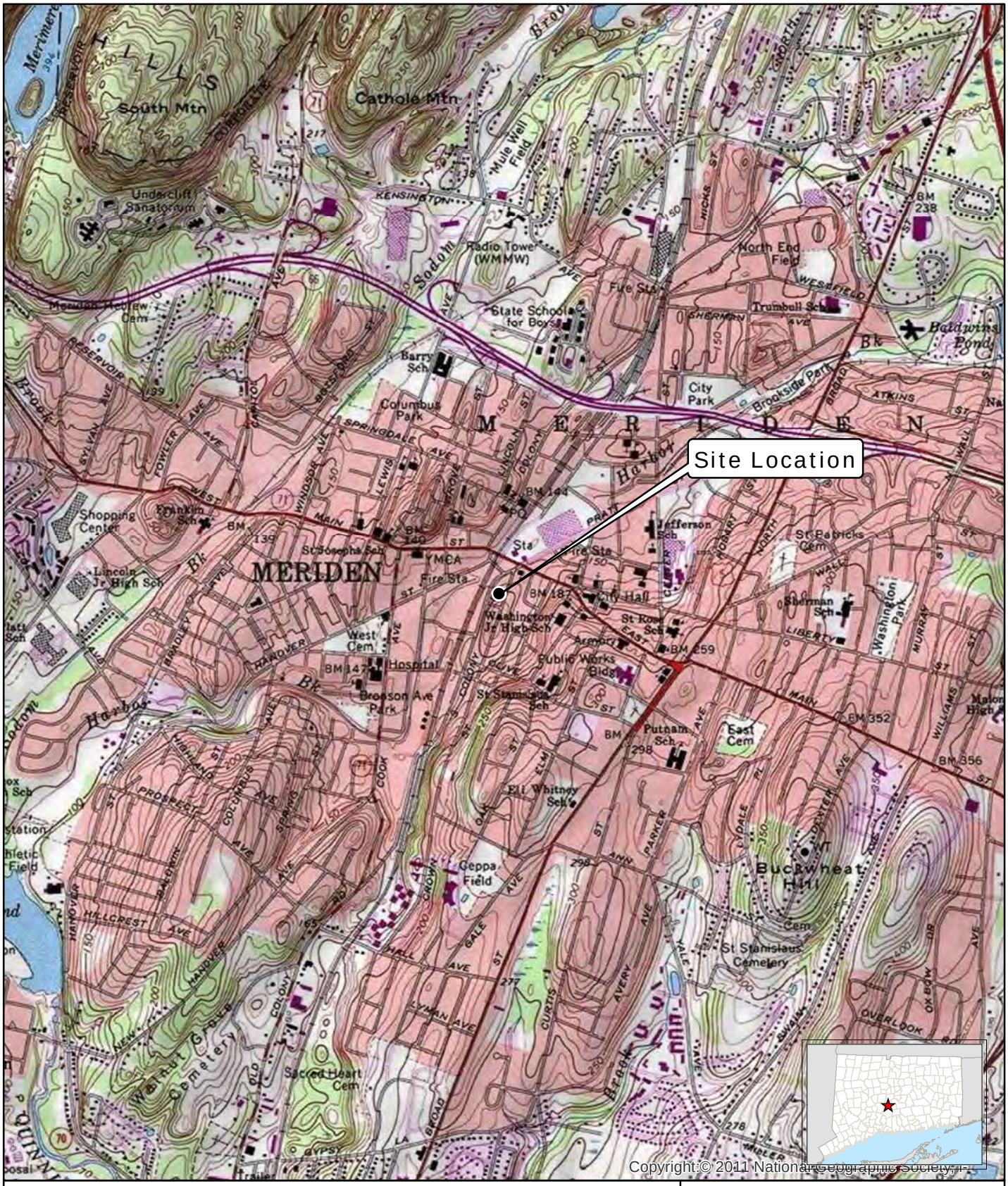
In order to further assess and remediate the environmental impacts at the site, we recommend the following actions:

- Preparation of a Remedial Action Plan (RAP) to address the fill materials across the site and lead-impacted soils (approximately 150 cubic yards) in the western parking lot in the vicinity of B-4.
- Lead-impacted soils in the western parking lot in the vicinity of B-4 should be excavated and disposed of as remediation waste if the building will be reused. If the building will be demolished, the soils can be relocated and capped with future buildings as part of site redevelopment.
- Preparation of Remedial Design and Technical Specifications for the excavation of lead-impacted soils and bidding including four additional borings to further delineate the extent of lead-impacted soils. Approximate Cost: $10,000.
- Following completion of the remedial action, at least one year of quarterly monitoring is required before site closure can be achieved. Two additional monitoring wells will likely be required to provide coverage of the excavation area. Approximate Cost: $15,000 for one year of quarterly monitoring and two monitoring wells.
- Preparation of the Completion of Investigation Form and LEP Verification Report once the site investigation and remediation have been completed. This is a requirement of the Property Transfer Program. Approximate Cost: $12,000.

An Opinion of Probable Cost for excavation of disposal of lead-impacted soil in the western parking lot in the vicinity of B-4 is approximately $30,000 to $50,000 for on-site remediation only. If impact extends off site and remediation is required, costs will be higher.

Tighe&Bond

APPENDIX A



LEGEND

- Site Location

Source: U.S Geological Survey, in cooperation with CTDEEP, Office of Information Management

Based on USGS Topographic Map for Meriden, CT, Rev. 1992, 1:24,000

Map Date: March 2014

1:24,000

0 1,000 2,000

Feet

N

FIGURE 1
SITE LOCATION MAP

11 Crown Street

Meriden, Connecticut

March 2014

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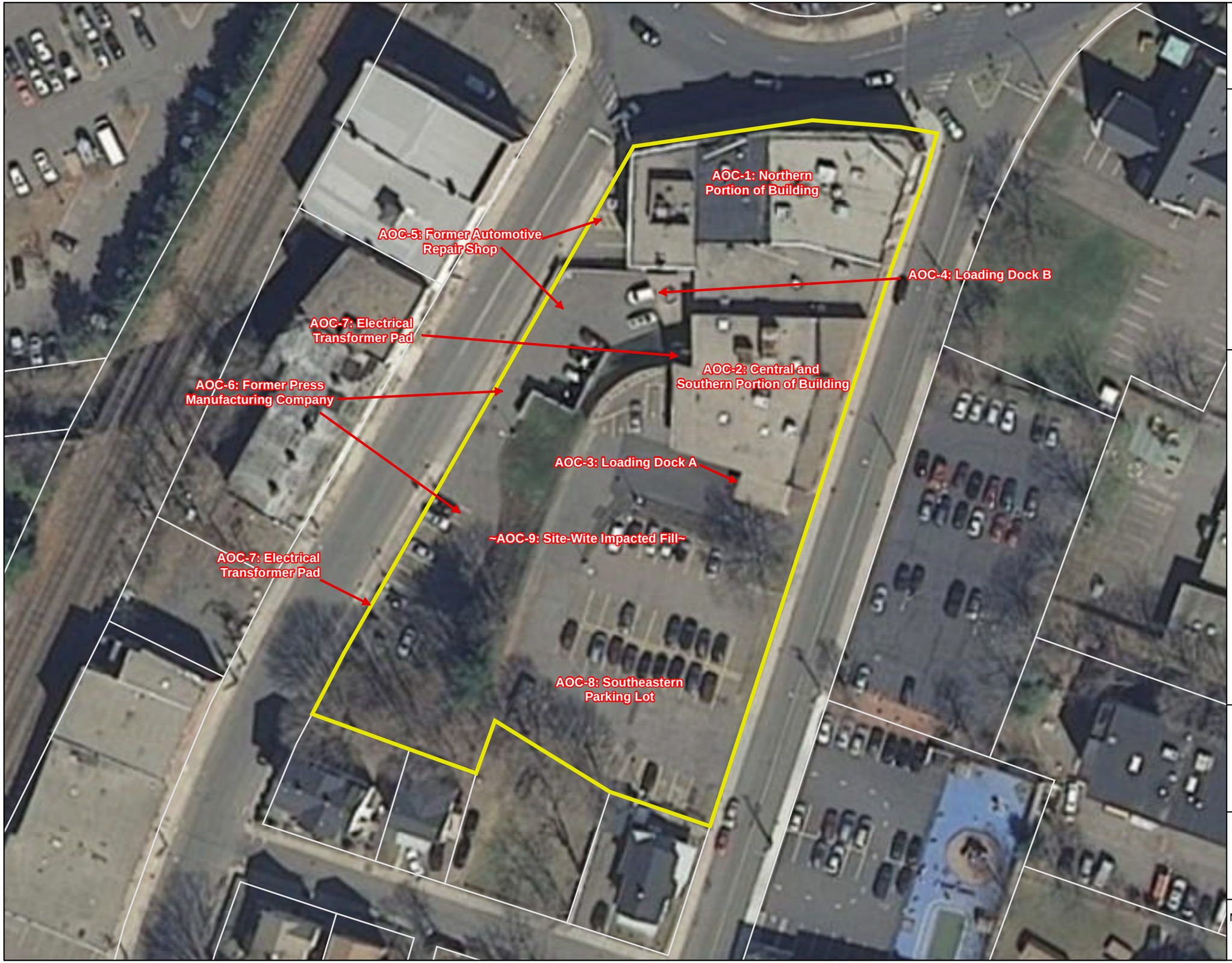
22-0817

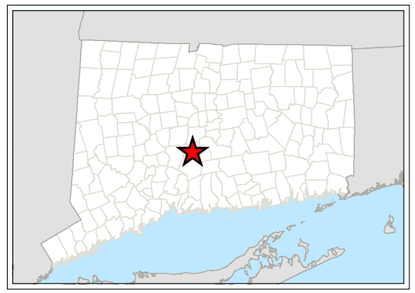
FIGURE 2
AREAS OF CONCERN



LEGEND

- Approximate Site Boundary
- Approximate Parcel Boundary
- Boring Location
- Areas of Concern (AOCs)

LOCUS MAP



N

0 25 50
Feet

Map Scale:1 " = 50 '

Notes:
AOCs interpreted from Sanborn Fire Insurance Maps from CT State Library

Source:
Ortho Base Map: State of Connecticut 2012 aerial imagery with 1-ft ground resolution provided by CTECO
GIS data layers displayed on this map were obtained from CTDEEP's data library (http://www.ct.gov/deep).

11 CROWN STREET
MERIDEN, CONNECTICUT

Map Date: March 2014	Tighe&Bond Consulting Engineers Environmental Specialists	FIGURE 2

Y:\Site_Locus_Figures\MeridenCT\11CrownSt\MXDs\Phase III\Figure3_AOCsTEXT.mxd

22-0817

FIGURE 3
SAMPLE LOCATIONS MAP

LEGEND

- Approximate Site Boundary
- Approximate Parcel Boundary

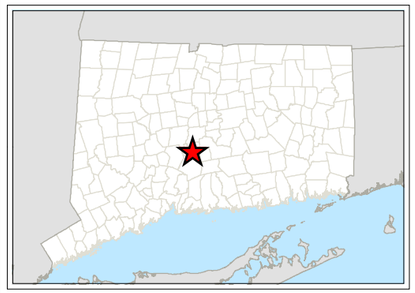
Phae II Activities

- Boring Location
- Sub-Slab Location

Phase III Activities

- Monitoring Well
- Boring Location
- Sub-Slab Location

LOCUS MAP



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0 25 50
Feet

Map Scale:1 " = 50 '

Notes:
AOCs interpreted from Sanborn Fire Insurance Maps from CT State Library

Source:
Ortho Base Map: State of Connecticut 2012 aerial imagery with 1-ft ground resolution provided by CTECO
GIS data layers displayed on this map were obtained from CTDEEP's data library (http://www.ct.gov/deep).

11 CROWN STREET
MERIDEN, CONNECTICUT

Map Date: March 2014	Tighe&Bond Consulting Engineers Environmental Specialists	FIGURE 3

Y:\Site_Locus_Figures\MeridenCT\11CrownSt\MXDs\Phase III\Figure 3 Sample Locations.mxd

22-0817

FIGURE 4
SOIL EXCEEDENCE MAP

B-8 (4.5-5.5 ft)	
SVOCs (mg/Kg)	
Benz(a)anthracene	1.4 (RES DEC & GB PMC)
Benzo(a)pyrene	1.2 (RES DEC, I/C DEC & GB PMC)
Benzo(b)fluoranthene	1.6 (RES DEC & GB PMC)

B-3 (4-6 ft)	
SVOCs (mg/Kg)	
Benz(a)anthracene	1.1 (RES DEC & GB PMC)
Benzo(b)fluoranthene	1.3 (RES DEC & GB PMC)

B-100 (0-2')	
Total Metals (mg/Kg)	
Lead	7,070 (RES DEC & I/C DEC)

B-106 (6-7.5)	
SVOCs (mg/Kg)	
Benz(a)anthracene	3 (RES DEC)
Benzo(a)pyrene	2.4 (RES DEC, I/C DEC)
Benzo(b)fluoranthene	4 (RES DEC)

B-4 (0-2 ft)	
Total Metals (mg/Kg)	
Lead	1,290 (RES DEC & I/C DEC)

B-10 (0-2 ft)	
CT ETPH (mg/Kg)	580 (RES DEC)
SVOCs (mg/Kg)	
Benz(a)anthracene	39 (RES DEC, I/C DEC & GB PMC)
Benzo(a)pyrene	32 (RES DEC, I/C DEC & GB PMC)
Benzo(b)fluoranthene	51 (RES DEC, I/C DEC & GB PMC)
Benzo(k)fluoranthene	15 (RES DEC & GB PMC)
Pyrene	43 (GB PMC)

SS-1
B-101 / MW-2
B-3
SS-2
B-8
B-9
B-106
B-100 / MW-1
B-5
SS-101
SS-102
B-4
B-105
B-2
B-1
B-104
B-7
B-6
B-102 / MW-3
B-107
B-10
B-108
B-103

LEGEND

- Approximate Site Boundary
- Approximate Parcel Boundary

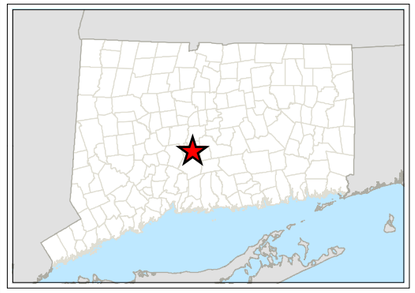
Phase III Activities

- Monitoring Well
- Boring Location
- Sub-Slab Location

Phae II Activities

- Boring Location
- Sub-Slab Location

LOCUS MAP



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0 25 50 Feet

Map Scale:1 " = 50 '

Notes:
AOCs interpreted from Sanborn Fire Insurance Maps from CT State Library

Source:
Ortho Base Map: State of Connecticut 2012 aerial imagery with 1-ft ground resolution provided by CTECO
GIS data layers displayed on this map were obtained from CTDEEP's data library (http://www.ct.gov/deep).

11 CROWN STREET
MERIDEN, CONNECTICUT

Map Date: March 2014

Tighe&Bond Consulting Engineers Environmental Specialists

FIGURE 4

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22-0817

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APPENDIX B

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-100/MW-1**
Page 1 of 1
File No. M-0817
Checked by: SKW

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Drilling Co.: Martin Geo-Environmental
Foreman: Doug Godard
T&B Rep.: JLL
Date Start: 02/20/14 End: 02/20/14
Location See Site Plan
GS. Elev. Datum:

	Casing	Sampler
Type	HSA	Split Spoon
I.D./O.D.	3 1/4 X 6 1/2	1 1/2 X 2
Hammer Wt.	140	
Hammer Fall	30	
Other		

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			
3/1/2014	13:00	14.92		

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
	-		0	0.25	Black ASPHALT	ASPHALT		NATIVE FILL AND #2 SAND
	1.7	1 / 14	0.25	1.5	Black, medium to coarse SAND and GRAVEL, some Silt, dry	SAND AND GRAVEL		
	0.0		1.5	2	Grey 1/4" GRAVEL, dry	GRAVEL		
5	0.0	-	2	10	Grey 1/4" GRAVEL, some red Bedrock fragments, dry		2	2" PVC Riser
								BENTONITE AND GROUT SLURRY
10	0.0		10	27	Red BEDROCK, dry to wet at 17 feet	BEDROCK	1	
15							3	10' #10 Slot Screen
								#2 SAND
20								
25								#2 Sand
					End of Exploration at 27 feet			
30								

Notes:
1. Bedrock was encountered at approximately 10 feet below ground surface.
2. Drill cuttings were observed from 2 feet to 27 feet.
3. Groundwater was encountered at approximately 17 feet below ground surface.

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-101 / MW-2**
Page 1 of 1
File No. M-0817
Checked by: SKW

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Drilling Co.: Martin Geo-Environmental
Foreman: Doug Godard
T&B Rep.: JLL
Date Start: 02/20/14 End: 02/20/14
Location See Site Plan
GS. Elev. Datum:

	Casing	Sampler
Type	HSA	Split Spoon
I.D./O.D.	3 1/4 X 6 1/2	1 1/2 X 2
Hammer Wt.	140	
Hammer Fall	30	
Other		

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 1			
3/1/2014	11:00	10.22		

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
	-		0	0.3	Black ASPHALT	ASPHALT		NATIVE FILL AND #2 SAND
	0.4	1 / 22	0.3	4	Black to Red, FILL MATERIAL, brick, coal ash, and construction debris, dry	FILL MATERIAL		
5	1.3		4	9.5	Black to Red at bottom, fine to coarse SAND, some Gravel, little Silt, brick to 5 feet, dry	SAND	2	2" PVC Riser
10	0.0		9.5	14	Highly weathered red BEDROCK, dry to wet at 12 feet	WEATHERED BEDROCK	1	BENTONITE AND GROUT SLURRY
15	-		14	25	Red BEDROCK, wet	BEDROCK	3	#2 SAND
20								7' #10 Slot Screen
25					End of Exploration at 25 feet			
30								

Notes:
1. Groundwater was encountered at approximately 12 feet below ground surface
2. Drill cuttings were observed from 2 feet to 25 feet.
3. Bedrock was encountered at approximately 14 feet below ground surface

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-102 / MW-3**
Page 1 of 3
File No. M-0817
Checked by: SKW

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Drilling Co.: Martin Geo-Environmental
Foreman: Doug Godard
T&B Rep.: JLL
Date Start: 02/20/14 End: 02/20/14
Location See Site Plan
GS. Elev. Datum:

	Casing	Sampler
Type	HSA	Split Spoon
I.D./O.D.	3 1/4 X 6 1/2	1 1/2 X 2
Hammer Wt.	140	
Hammer Fall	30	
Other		

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 1			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
	-		0	0.3	ASPHALT	ASPHALT		
	0.0	1 / 22	0.3	2	Red, fine to medium SAND and SILT, some Gravel, dry	SAND and SILT		2" PVC Riser
	0.0	-	2	4.5	Red, fine to medium SAND and SILT, some Gravel, dry		2	
5	-	-	4.5	72	Red BEDROCK, dry	BEDROCK	3	
10								BENTONITE AND GROUT SLURRY
15								
20								
25								
30								

Notes:
1. Groundwater was not encountered during drilling activites
2. Drill cuttings were observed from 2 feet to 72 feet.
3. Bedrock was encountered at approximately 4.5 feet below ground surface.

Tighe&Bond

Consulting Engineers
Worcester, Massachusetts

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Boring No. **B-102 / MW-3**
Page 2 of 3
File No. M-0817
Checked by: SKW

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
					Red BEDROCK, dry	**BEDROCK**		2" PVC Riser; Bentonite and Grout Slurry
35								
40								
45								
50								
55								2" #10 Slot Screen; #2 SAND
60								
65								

Notes:

Tighe&Bond

Consulting Engineers
Westfield, Massachusetts

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Boring No. **B-102 / MW-3**
Page 3 of 3
File No. M-0817
Checked by: SKW

Depth (ft.)	Casing Blows Per Ft.	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
					Red BEDROCK, dry	**BEDROCK**		2" #10 Slot Screen; #2 SAND
70								
75					End of Exploration			
80								
85								
90								
95								
100								

Notes:

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Boring No. **B-103**
Page 1 of 1
File No. M-0817
Checked by: SKW

Drilling Co.: Martin Geo-Environmental
Foreman: Doug
T&B Rep.: JLL
Date Start: 02/20/14 End: 02/20/14
Location See Site Plan
GS. Elev. Datum:

	Casing	Sampler
Type	N/A	Macro Core
I.D./O.D.	N/A	1 1/2
Hammer Wt.	N/A	N/A
Hammer Fall	N/A	N/A
Other	N/A	N/A

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
See Note 1				

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
	-		0	0.3	ASPHALT	**ASPHALT**		**No Well Installed**
	0.0	1	0.3	1.5	Black, fine to coarse SAND and GRAVEL, trace Silt, some Brick, dry	**SAND and GRAVEL**		
	0.0		1.5	4	Red, WEATHERED BEDROCK, dry			
5					End of Exploration due to Refusal			
10								
15	-							
20								
25								
30								

Notes:
1. Groundwater was not encountered during drilling activities.

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-104**
Page 1 of 1
File No. M-0817
Checked by: SKW

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Drilling Co.: Martin Geo-Environmental
Foreman: Doug
T&B Rep.: JLL
Date Start: 02/21/14 End: 02/21/14
Location See Site Plan
GS. Elev. Datum:

	Casing	Sampler
Type	N/A	Macro Core
I.D./O.D.	N/A	1 1/2
Hammer Wt.	N/A	N/A
Hammer Fall	N/A	N/A
Other	N/A	N/A

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
See Note 1				

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
	-		0	0.3	ASPHALT and GRAVEL	**ASPHALT**		**No Well Installed**
	0.2	1	0.3	2.5	Red, fine SAND and SILT, some Weathered Bedrock fragments, dry	**SAND and SILT**		
					End of Exploration due to Refusal at 2.5 feet			
5								
10								
15	-							
20								
25								
30								

Notes:
1. Groundwater was not encountered during drilling.

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Boring No. **B-105**
Page 1 of 1
File No. M-0817
Checked by: SKW

Drilling Co.: Martin Geo-Environmental
Foreman: Doug
T&B Rep.: JLL
Date Start: 02/21/14 End: 02/21/14
Location See Site Plan
GS. Elev. Datum:

	Casing	Sampler
Type	N/A	Macro Core
I.D./O.D.	N/A	1 1/2
Hammer Wt.	N/A	N/A
Hammer Fall	N/A	N/A
Other	N/A	N/A

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 1			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
	-		0	0.3	ASPHALT and GRAVEL	**ASPHALT**		**No Well Installed**
	0.0	1	0.3	2.5	Red, fine SAND and SILT, some Weathered Bedrock fragments, dry	**SAND and SILT**		
					End of Exploration due to Refusal at 2.5 feet			
5								
10								
15	-							
20								
25								
30								

Notes:
1. Groundwater was not encountered during drilling.

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Boring No. **B-106**
Page 1 of 1
File No. M-0817
Checked by: SKW

Drilling Co.: Martin Geo-Environmental
Foreman: Doug
T&B Rep.: JLL
Date Start: 02/21/14 End: 02/21/14
Location See Site Plan
GS. Elev. Datum:

	Casing	Sampler
Type	N/A	Macro Core
I.D./O.D.	N/A	1 1/2
Hammer Wt.	N/A	N/A
Hammer Fall	N/A	N/A
Other	N/A	N/A

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 1			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
	-		0	0.3	ASPHALT and GRAVEL	**ASPHALT**		**No Well Installed**
	0.0	1	0.3	4	Grey GRAVEL, little fine to medium Sand, dry	**GRAVEL**		
			4	6	Grey GRAVEL, little fine to medium Sand, dry			
5			6	7.5	Red to brown, fine SAND and SILT, trace Gravel, dry	**SAND and SILT**		
	-				End of Exploration due to Refusal at 7.5 feet			
10								
15								
20								
25								
30								

Notes:
1. Groundwater was not encountered during drilling.

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Boring No. **B-107**
Page 1 of 1
File No. M-0817
Checked by: SKW

Drilling Co.: Martin Geo-Environmental
Foreman: Doug
T&B Rep.: JLL
Date Start: 02/21/14 End: 02/21/14
Location See Site Plan
GS. Elev. Datum:

	Casing	Sampler
Type	N/A	Macro Core
I.D./O.D.	N/A	1 1/2
Hammer Wt.	N/A	N/A
Hammer Fall	N/A	N/A
Other	N/A	N/A

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 1			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
	-		0	0.25	ASPHALT and GRAVEL	**ASPHALT**		
	0.0	1	0.25	3	Red SILT, some fine Sand, little Weathered Bedrock fragments, dry	**SILT**		**No Well Installed**
					End of Exploration due to Refusal at 3 feet			
5								
10								
15	-							
20								
25								
30								

Notes:
1. Groundwater was not encountered during drilling.

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-108**
Page 1 of 1
File No. M-0817
Checked by: SKW

Project: Record Journal
Location: 11 Crown Street, Meriden, Connecticut
Client: City of Meriden

Drilling Co.: Martin Geo-Environmental
Foreman: Doug
T&B Rep.: JLL
Date Start: 02/21/14 End: 02/21/14
Location See Site Plan
GS. Elev. Datum:

	Casing	Sampler
Type	N/A	Macro Core
I.D./O.D.	N/A	1 1/2
Hammer Wt.	N/A	N/A
Hammer Fall	N/A	N/A
Other	N/A	N/A

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 1			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)		Sample Description	General Stratigraphy	Notes	Well Construction
	-		0	0.25	ASPHALT and GRAVEL	**ASPHALT**		
	0.1	1	0.25	4.5	Red SILT, some fine Sand, little Weathered Bedrock fragments, dry	**SILT**		**No Well Installed**
5					End of Exploration due to Refusal at 4.5 feet			
10								
15	-							
20								
25								
30								

Notes:
1. Groundwater was not encountered during drilling.

Tighe&Bond

APPENDIX C

Low-Flow Data Sheet

Project Name: Record Journal
Project Number: M-0817
Static Depth to Water (ft): 14.93
Depth to Bottom (ft): 27ft
Screen interval: 27-17
Point of intake: 22ft

Well: MW-1
Date: 3/11/14
Sample time: 1440
Sampler: SLL
Purged (gal): 4gal

Time (3-5 min.)	Discharge/ Pumping rate (100-400 mL/min)	DTW (ft) (<0.3 ft)	pH (+/- 0.1)	Temp. (°C) (<3%)	Turbidity (NTU) (< 5 NTU or <10%)	DO (mg/L) (<10%) or below 0.5	ORP (mV) (+/- 10 mV)	Specific Cond. (mS/cm) (<3%)
1240	100	Start Pumping						
1245	100	15.39	6.72	10.59	9.8	7.86	6.5	4.017
1250	100	15.62	6.85	11.45	12.0	11.56	17.0	4.779
1255	100	15.83	6.95	11.31	17.9	12.08	21.3	4.902
1300	100	16.02	7.00	11.47	49.7	12.34	23.6	4.896
1305	100	16.22	7.04	11.41	107.9	12.40	29.9	4.915
1310	100	16.42	7.04	11.29	150.6	12.37	30.9	4.750
1315	100	16.60	7.05	11.42	203.1	12.18	35.1	4.640
1320	100	16.81	7.03	11.45	291.4	11.96	33.9	4.475
1325	100	16.97	7.03	11.46	335.8	11.87	36.0	4.379
1330	100	17.11	7.01	11.23	393.7	11.68	38.3	4.256
1335	100	17.25	7.05	10.99	485.7	13.75	42.5	3.965 *
1340	100	17.41	7.04	11.62	385.9	10.83	39.8	3.944
1345	100	17.58	7.01	11.48	528.4	10.66	38.1	3.908
1350	100	17.75	6.98	11.48	485.7	10.55	37.7	3.866
1355	100	17.84	6.96	11.53	450.6	10.44	36.0	3.793
1400	100	18.02	6.95	11.80	508.4	10.31	30.5	3.753
1405	100	18.18	6.96	11.85	516.8	10.09	35.4	3.657
1410	100	18.28	6.94	11.91	446.7	10.02	35.7	3.578
1415	100	18.40	6.93	11.91	414.6	9.95	34.7	3.501
1420	100	18.45	6.92	11.88	444.9	9.84	34.9	3.430
1425	100	18.46	6.92	12.03	389.6	9.75	35.2	3.334
1430	100	18.51	6.91	12.18	372.4	9.59	34.4	3.214
1435	100	18.53	6.90	12.16	349.3	9.51	33.7	3.161
1440	100	18.57	6.89	12.13	325.6	9.47	32.4	3.127
1440 - Sample with 0.45µ filter								

Analysis: VOCs / SVOCs / Metals / ETPH / Other-
Sample Containers: HCl voas 3 1L unpres Ambers 3 HNO3 Plastic 1 Other ____
Pump: Bladder / Peristaltic / Grunfos / Other-

Color: —
Odor: —
Sheen: —

Turbidity: Slightly Cloudy → red cloudy
Well Condition: New
Repairs: —

* Cleaned flow cell out

Low-Flow Data Sheet

Project Name: Record Journal
Project Number: M-0817
Static Depth to Water (ft): 10-22
Depth to Bottom (ft): 25
Screen interval: 16-25
Point of intake: 20

Well: MW-2
Date: ~~3~~ 3/1/14
Sample time: 1150
Sampler: JLL
Purged (gal): 2

Time (3-5 min.)	Discharge/ Pumping rate (100-400 mL/min)	DTW (ft) (<0.3 ft)	pH (+/- 0.1)	Temp. (°C) (<3%)	Turbidity (NTU) (< 5 NTU or <10%)	DO (mg/L) (<10%) or below 0.5	ORP (mV) (+/- 10 mV)	Specific Cond. (mS/cm) (<3%)
1115 - Start	Pumping							
1120	250	10.23	6.64	10.55	3.0	0.17	-6.8	2.721
1125	250	10.22	6.69	10.49	3.0	4.34	-5.7	2.746
1130	250	10.22	6.73	11.12	2.9	4.14	-2.6	2.777
1135	250	10.22	6.74	11.73	1.4	3.93	+2.1	2.826
1140	250	10.23	6.76	11.83	1.6	3.82	0.1	2.831
1145	250	10.23	6.77	11.78	1.8	3.83	-0.7	2.801
1150 - Sample								
1200 - Dup								

Analysis: VOCs / SVOCs (PAHs) / Metals / ETPH / Other-
Sample Containers: HCl voas 3 1L unpres Ambers 3 HNO3 Plastic 1 Other
Pump: Bladder / Peristalic / Grunfos / Other-

Color: —
Odor: —
Sheen: —

Turbidity: None
Well Condition: new
Repairs: —

APPENDIX D

PHOENIX
Environmental Laboratories, Inc.

Tuesday, March 11, 2014

Attn: Ms Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Project ID: RECORD JOURNAL
Sample ID#s: BG12137 - BG12144, BG12146 - BG12147

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

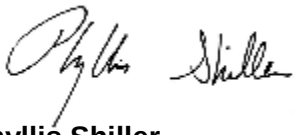
This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,



Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2014

FOR: Attn: Ms Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/20/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12137

Project ID: RECORD JOURNAL
Client ID: B-100

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Lead	7070	34	mg/Kg	02/25/14	EK	SW6010
SPLP Lead	< 0.010	0.010	mg/L	02/25/14	LK	SW6010
SPLP Metals Digestion	Completed			02/25/14	I/I	SW846-3005
Percent Solid	90		%	02/24/14	I	E160.3
Soil Extraction SVOA PAH	Completed			02/24/14	BJ/FV	SW3545
SPLP Extraction for Metals	Completed			02/24/14	I	EPA 1312
SPLP Extraction for Organics	Completed			02/24/14	I	EPA1312
SPLP Semivolatiles (SIM) Ext.	Completed			02/25/14	E/D	SW3510/3520
Total Metals Digest	Completed			02/24/14	Z/AG	SW846 - 3050
Polynuclear Aromatic HC						
2-Methylnaphthalene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Acenaphthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Acenaphthylene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Anthracene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benz(a)anthracene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(a)pyrene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(b)fluoranthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(ghi)perylene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(k)fluoranthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Chrysene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Dibenz(a,h)anthracene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Fluoranthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Fluorene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Naphthalene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Phenanthrene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Pyrene	ND	250	ug/Kg	02/25/14	DD	SW 8270

Project ID: RECORD JOURNAL
Client ID: B-100

Phoenix I.D.: BG12137

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
QA/QC Surrogates							
% 2-Fluorobiphenyl	80		%	02/25/14	DD	30 - 130 %	
% Nitrobenzene-d5	82		%	02/25/14	DD	30 - 130 %	
% Terphenyl-d14	82		%	02/25/14	DD	30 - 130 %	
SPLP Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Anthracene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benz(a)anthracene	0.04	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Benzo(a)pyrene	0.03	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(b)fluoranthene	0.02	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(ghi)perylene	0.11	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Chrysene	0.03	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Dibenz(a,h)anthracene	0.01	0.01	ug/L	02/26/14	DD	8270(SIM)	
Fluoranthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Fluorene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Indeno(1,2,3-cd)pyrene	0.04	0.02	ug/L	02/26/14	DD	8270(SIM)	
Naphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Phenanthrene	0.09	0.07	ug/L	02/26/14	DD	8270(SIM)	
Pyrene	0.13	0.10	ug/L	02/26/14	DD	8270(SIM)	
QA/QC Surrogates							
% 2-Fluorobiphenyl	87		%	02/26/14	DD	30 - 130 %	
% Nitrobenzene-d5	92		%	02/26/14	DD	30 - 130 %	
% Terphenyl-d14	117		%	02/26/14	DD	30 - 130 %	

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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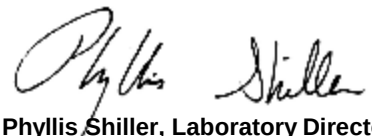

Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2014

FOR: Attn: Ms Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/20/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12138

Project ID: RECORD JOURNAL
Client ID: B-101

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Lead	62.2	0.36	mg/Kg	02/25/14	LK	SW6010
SPLP Lead	< 0.010	0.010	mg/L	02/25/14	LK	SW6010
SPLP Metals Digestion	Completed			02/25/14	I/I	SW846-3005
Percent Solid	93		%	02/24/14	I	E160.3
Soil Extraction SVOA PAH	Completed			02/24/14	BJ/FV	SW3545
SPLP Extraction for Metals	Completed			02/24/14	I	EPA 1312
SPLP Extraction for Organics	Completed			02/24/14	I	EPA1312
SPLP Semivolatiles (SIM) Ext.	Completed			02/25/14	E/D	SW3510/3520
Total Metals Digest	Completed			02/24/14	Z/AG	SW846 - 3050
Polynuclear Aromatic HC						
2-Methylnaphthalene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Acenaphthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Acenaphthylene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Anthracene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benz(a)anthracene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(a)pyrene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(b)fluoranthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(ghi)perylene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(k)fluoranthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Chrysene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Dibenz(a,h)anthracene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Fluoranthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Fluorene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Naphthalene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Phenanthrene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Pyrene	ND	250	ug/Kg	02/25/14	DD	SW 8270

Project ID: RECORD JOURNAL
Client ID: B-101

Phoenix I.D.: BG12138

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
QA/QC Surrogates							
% 2-Fluorobiphenyl	85		%	02/25/14	DD	30 - 130 %	
% Nitrobenzene-d5	79		%	02/25/14	DD	30 - 130 %	
% Terphenyl-d14	91		%	02/25/14	DD	30 - 130 %	
SPLP Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Anthracene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benz(a)anthracene	0.03	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Benzo(a)pyrene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(ghi)perylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Chrysene	0.02	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Dibenz(a,h)anthracene	ND	0.01	ug/L	02/26/14	DD	8270(SIM)	
Fluoranthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Fluorene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Naphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Phenanthrene	ND	0.07	ug/L	02/26/14	DD	8270(SIM)	
Pyrene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
QA/QC Surrogates							
% 2-Fluorobiphenyl	82		%	02/26/14	DD	30 - 130 %	
% Nitrobenzene-d5	87		%	02/26/14	DD	30 - 130 %	
% Terphenyl-d14	117		%	02/26/14	DD	30 - 130 %	

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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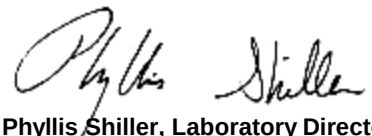

Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2014

FOR: Attn: Ms Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/21/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12139

Project ID: RECORD JOURNAL
Client ID: B-102

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Lead	8.58	0.34	mg/Kg	02/25/14	LK	SW6010
SPLP Lead	< 0.010	0.010	mg/L	02/25/14	LK	SW6010
SPLP Metals Digestion	Completed			02/25/14	I/I	SW846-3005
Percent Solid	90		%	02/24/14	I	E160.3
Soil Extraction SVOA PAH	Completed			02/24/14	BJ/FV	SW3545
Extraction of CT ETPH	Completed			02/24/14	BS/F	3545
SPLP Extraction for Metals	Completed			02/24/14	I	EPA 1312
SPLP Extraction for Organics	Completed			02/24/14	I	EPA1312
SPLP Semivolatiles (SIM) Ext.	Completed			02/25/14	E/D	SW3510/3520
Total Metals Digest	Completed			02/24/14	Z/AG	SW846 - 3050
TPH by GC (Extractable Products)						
Ext. Petroleum HC	ND	55	mg/Kg	02/25/14	JRB	CT ETPH/8015
Identification	ND		mg/Kg	02/25/14	JRB	CT ETPH/8015
QA/QC Surrogates						
% n-Pentacosane	99		%	02/25/14	JRB	50 - 150 %
Polynuclear Aromatic HC						
2-Methylnaphthalene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Acenaphthene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Acenaphthylene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Anthracene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Benz(a)anthracene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Benzo(a)pyrene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Benzo(b)fluoranthene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Benzo(ghi)perylene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Benzo(k)fluoranthene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Chrysene	ND	260	ug/Kg	02/25/14	DD	SW 8270

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
Dibenz(a,h)anthracene	ND	260	ug/Kg	02/25/14	DD	SW 8270	
Fluoranthene	ND	260	ug/Kg	02/25/14	DD	SW 8270	
Fluorene	ND	260	ug/Kg	02/25/14	DD	SW 8270	
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	02/25/14	DD	SW 8270	
Naphthalene	ND	260	ug/Kg	02/25/14	DD	SW 8270	
Phenanthrene	ND	260	ug/Kg	02/25/14	DD	SW 8270	
Pyrene	ND	260	ug/Kg	02/25/14	DD	SW 8270	
QA/QC Surrogates							
% 2-Fluorobiphenyl	69		%	02/25/14	DD	30 - 130 %	
% Nitrobenzene-d5	67		%	02/25/14	DD	30 - 130 %	
% Terphenyl-d14	74		%	02/25/14	DD	30 - 130 %	

SPLP Semivolatiles by SIM

2-Methylnaphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Anthracene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benz(a)anthracene	0.03	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Benzo(a)pyrene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(ghi)perylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Chrysene	0.02	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Dibenz(a,h)anthracene	ND	0.01	ug/L	02/26/14	DD	8270(SIM)	
Fluoranthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Fluorene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Naphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Phenanthrene	ND	0.07	ug/L	02/26/14	DD	8270(SIM)	
Pyrene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
QA/QC Surrogates							
% 2-Fluorobiphenyl	81		%	02/26/14	DD	30 - 130 %	
% Nitrobenzene-d5	86		%	02/26/14	DD	30 - 130 %	
% Terphenyl-d14	99		%	02/26/14	DD	30 - 130 %	

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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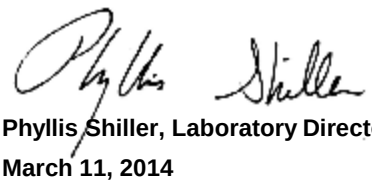

Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2014

FOR: Attn: Ms Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/20/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12140

Project ID: RECORD JOURNAL
Client ID: B-103

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Percent Solid	86		%	02/24/14	I	E160.3
Soil Extraction SVOA PAH	Completed			03/06/14	BB/FV	SW3545
Extraction of CT ETPH	Completed			02/24/14	BS/F	3545
SPLP Extraction for Organics	Completed			03/06/14	I	EPA1312
SPLP Semivolatiles (SIM) Ext.	Completed			03/07/14	W/W	SW3510/3520
TPH by GC (Extractable Products)						
Ext. Petroleum HC	ND	58	mg/Kg	02/26/14	JRB	CT ETPH/8015
Identification	ND		mg/Kg	02/26/14	JRB	CT ETPH/8015
QA/QC Surrogates						
% n-Pentacosane	97		%	02/26/14	JRB	50 - 150 %
Polynuclear Aromatic HC						
2-Methylnaphthalene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Acenaphthene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Acenaphthylene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Anthracene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Benz(a)anthracene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Benzo(a)pyrene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Benzo(b)fluoranthene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Benzo(ghi)perylene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Benzo(k)fluoranthene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Chrysene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Dibenz(a,h)anthracene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Fluoranthene	280	270	ug/Kg	03/07/14	DD	SW 8270
Fluorene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	03/07/14	DD	SW 8270
Naphthalene	ND	270	ug/Kg	03/07/14	DD	SW 8270

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
Phenanthrene	ND	270	ug/Kg	03/07/14	DD	SW 8270	
Pyrene	ND	270	ug/Kg	03/07/14	DD	SW 8270	
QA/QC Surrogates							
% 2-Fluorobiphenyl	69		%	03/07/14	DD	30 - 130 %	
% Nitrobenzene-d5	65		%	03/07/14	DD	30 - 130 %	
% Terphenyl-d14	68		%	03/07/14	DD	30 - 130 %	
SPLP Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.10	ug/L	03/07/14	DD	8270(SIM)	
Acenaphthene	0.15	0.10	ug/L	03/07/14	DD	8270(SIM)	
Acenaphthylene	ND	0.10	ug/L	03/07/14	DD	8270(SIM)	
Anthracene	ND	0.10	ug/L	03/07/14	DD	8270(SIM)	
Benz(a)anthracene	0.03	0.02	ug/L	03/07/14	DD	8270(SIM)	B*
Benzo(a)pyrene	ND	0.02	ug/L	03/07/14	DD	8270(SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	03/07/14	DD	8270(SIM)	
Benzo(ghi)perylene	ND	0.10	ug/L	03/07/14	DD	8270(SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	03/07/14	DD	8270(SIM)	
Chrysene	0.02	0.02	ug/L	03/07/14	DD	8270(SIM)	
Dibenz(a,h)anthracene	ND	0.01	ug/L	03/07/14	DD	8270(SIM)	
Fluoranthene	ND	0.10	ug/L	03/07/14	DD	8270(SIM)	
Fluorene	ND	0.10	ug/L	03/07/14	DD	8270(SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	03/07/14	DD	8270(SIM)	
Naphthalene	ND	0.10	ug/L	03/07/14	DD	8270(SIM)	
Phenanthrene	0.25	0.07	ug/L	03/07/14	DD	8270(SIM)	
Pyrene	ND	0.10	ug/L	03/07/14	DD	8270(SIM)	
QA/QC Surrogates							
% 2-Fluorobiphenyl	72		%	03/07/14	DD	30 - 130 %	
% Nitrobenzene-d5	81		%	03/07/14	DD	30 - 130 %	
% Terphenyl-d14	99		%	03/07/14	DD	30 - 130 %	

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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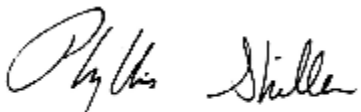

Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

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Analysis Report

March 11, 2014

FOR: Attn: Ms Jill Libby
Tighe & Bond
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Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/21/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12141

Project ID: RECORD JOURNAL
Client ID: B-104

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Lead	13.3	0.37	mg/Kg	02/25/14	LK	SW6010
SPLP Lead	< 0.010	0.010	mg/L	02/25/14	LK	SW6010
SPLP Metals Digestion	Completed			02/25/14	I/I	SW846-3005
Percent Solid	88		%	02/24/14	I	E160.3
SPLP Extraction for Metals	Completed			02/24/14	I	EPA 1312
Total Metals Digest	Completed			02/24/14	Z/AG	SW846 - 3050

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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March 11, 2014
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Analysis Report

March 11, 2014

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Tighe & Bond
213 Court St
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Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/21/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12142

Project ID: RECORD JOURNAL
Client ID: B-105

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Lead	13.5	0.38	mg/Kg	02/25/14	LK	SW6010
SPLP Lead	< 0.010	0.010	mg/L	02/25/14	LK	SW6010
SPLP Metals Digestion	Completed			02/25/14	I/I	SW846-3005
Percent Solid	90		%	02/24/14	I	E160.3
SPLP Extraction for Metals	Completed			02/24/14	I	EPA 1312
Total Metals Digest	Completed			02/24/14	Z/AG	SW846 - 3050

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Analysis Report

March 11, 2014

FOR: Attn: Ms Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/21/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12143

Project ID: RECORD JOURNAL
Client ID: B-106

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Lead	44.9	0.37	mg/Kg	02/25/14	LK	SW6010
SPLP Lead	0.036	0.010	mg/L	02/25/14	LK	SW6010
SPLP Metals Digestion	Completed			02/25/14	I/I	SW846-3005
Percent Solid	91		%	02/24/14	I	E160.3
Soil Extraction SVOA PAH	Completed			02/24/14	BJ/FV	SW3545
SPLP Extraction for Metals	Completed			02/24/14	I	EPA 1312
SPLP Extraction for Organics	Completed			02/24/14	I	EPA1312
SPLP Semivolatiles (SIM) Ext.	Completed			02/25/14	E/D	SW3510/3520
Total Metals Digest	Completed			02/24/14	Z/AG	SW846 - 3050
Polynuclear Aromatic HC						
2-Methylnaphthalene	440	260	ug/Kg	02/25/14	DD	SW 8270
Acenaphthene	1200	260	ug/Kg	02/25/14	DD	SW 8270
Acenaphthylene	ND	260	ug/Kg	02/25/14	DD	SW 8270
Anthracene	1900	260	ug/Kg	02/25/14	DD	SW 8270
Benz(a)anthracene	3000	260	ug/Kg	02/25/14	DD	SW 8270
Benzo(a)pyrene	2400	260	ug/Kg	02/25/14	DD	SW 8270
Benzo(b)fluoranthene	4000	260	ug/Kg	02/25/14	DD	SW 8270
Benzo(ghi)perylene	1400	260	ug/Kg	02/25/14	DD	SW 8270
Benzo(k)fluoranthene	4100	260	ug/Kg	02/25/14	DD	SW 8270
Chrysene	2800	260	ug/Kg	02/25/14	DD	SW 8270
Dibenz(a,h)anthracene	370	260	ug/Kg	02/25/14	DD	SW 8270
Fluoranthene	7300	260	ug/Kg	02/25/14	DD	SW 8270
Fluorene	1300	260	ug/Kg	02/25/14	DD	SW 8270
Indeno(1,2,3-cd)pyrene	1100	260	ug/Kg	02/25/14	DD	SW 8270
Naphthalene	1100	260	ug/Kg	02/25/14	DD	SW 8270
Phenanthrene	9600	260	ug/Kg	02/25/14	DD	SW 8270
Pyrene	4100	260	ug/Kg	02/25/14	DD	SW 8270

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
QA/QC Surrogates							
% 2-Fluorobiphenyl	84		%	02/25/14	DD	30 - 130 %	
% Nitrobenzene-d5	81		%	02/25/14	DD	30 - 130 %	
% Terphenyl-d14	60		%	02/25/14	DD	30 - 130 %	
SPLP Semivolatiles by SIM							
2-Methylnaphthalene	0.12	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthene	0.1	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Anthracene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benz(a)anthracene	0.05	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Benzo(a)pyrene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(b)fluoranthene	0.05	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(ghi)perylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benzo(k)fluoranthene	0.03	0.02	ug/L	02/26/14	DD	8270(SIM)	
Chrysene	0.05	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Dibenz(a,h)anthracene	ND	0.01	ug/L	02/26/14	DD	8270(SIM)	
Fluoranthene	0.11	0.10	ug/L	02/26/14	DD	8270(SIM)	
Fluorene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Indeno(1,2,3-cd)pyrene	0.02	0.02	ug/L	02/26/14	DD	8270(SIM)	
Naphthalene	0.68	0.10	ug/L	02/26/14	DD	8270(SIM)	
Phenanthrene	0.2	0.07	ug/L	02/26/14	DD	8270(SIM)	
Pyrene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
QA/QC Surrogates							
% 2-Fluorobiphenyl	80		%	02/26/14	DD	30 - 130 %	
% Nitrobenzene-d5	85		%	02/26/14	DD	30 - 130 %	
% Terphenyl-d14	103		%	02/26/14	DD	30 - 130 %	

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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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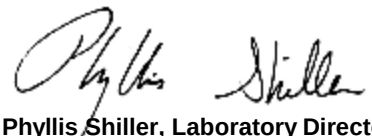


Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2014

FOR: Attn: Ms Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/21/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12144

Project ID: RECORD JOURNAL
Client ID: B-107

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Percent Solid	83		%	02/24/14	I	E160.3
Soil Extraction SVOA PAH	Completed			02/24/14	BJ/FV	SW3545
Extraction of CT ETPH	Completed			02/24/14	BS/F	3545
SPLP Extraction for Organics	Completed			02/24/14	I	EPA1312
SPLP Semivolatiles (SIM) Ext.	Completed			02/25/14	E/D	SW3510/3520
TPH by GC (Extractable Products)						
Ext. Petroleum HC	ND	59	mg/Kg	02/26/14	JRB	CT ETPH/8015
Identification	ND		mg/Kg	02/26/14	JRB	CT ETPH/8015
QA/QC Surrogates						
% n-Pentacosane	99		%	02/26/14	JRB	50 - 150 %
Polynuclear Aromatic HC						
2-Methylnaphthalene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Acenaphthene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Acenaphthylene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Anthracene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Benz(a)anthracene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Benzo(a)pyrene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Benzo(b)fluoranthene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Benzo(ghi)perylene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Benzo(k)fluoranthene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Chrysene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Dibenz(a,h)anthracene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Fluoranthene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Fluorene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	02/25/14	DD	SW 8270
Naphthalene	ND	270	ug/Kg	02/25/14	DD	SW 8270

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
Phenanthrene	ND	270	ug/Kg	02/25/14	DD	SW 8270	
Pyrene	ND	270	ug/Kg	02/25/14	DD	SW 8270	
QA/QC Surrogates							
% 2-Fluorobiphenyl	85		%	02/25/14	DD	30 - 130 %	
% Nitrobenzene-d5	80		%	02/25/14	DD	30 - 130 %	
% Terphenyl-d14	70		%	02/25/14	DD	30 - 130 %	
SPLP Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Anthracene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benz(a)anthracene	0.02	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Benzo(a)pyrene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(ghi)perylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Chrysene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	B
Dibenz(a,h)anthracene	ND	0.01	ug/L	02/26/14	DD	8270(SIM)	
Fluoranthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Fluorene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Naphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Phenanthrene	ND	0.07	ug/L	02/26/14	DD	8270(SIM)	
Pyrene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
QA/QC Surrogates							
% 2-Fluorobiphenyl	78		%	02/26/14	DD	30 - 130 %	
% Nitrobenzene-d5	87		%	02/26/14	DD	30 - 130 %	
% Terphenyl-d14	99		%	02/26/14	DD	30 - 130 %	

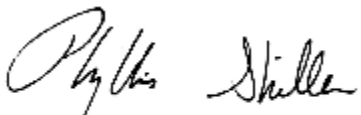
B* = Present in blank, a bias is possible.
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.



Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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Analysis Report

March 11, 2014

FOR: Attn: Ms Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/21/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12146

Project ID: RECORD JOURNAL
Client ID: SS-101

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Percent Solid	88		%	02/24/14	I	E160.3
Extraction of CT ETPH	Completed			02/24/14	BS/F	3545
TPH by GC (Extractable Products)						
Ext. Petroleum HC	ND	56	mg/Kg	02/26/14	JRB	CT ETPH/8015
Identification	ND		mg/Kg	02/26/14	JRB	CT ETPH/8015
QA/QC Surrogates						
% n-Pentacosane	78		%	02/26/14	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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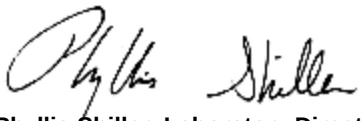

Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

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Analysis Report

March 11, 2014

FOR: Attn: Ms Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JL	02/21/14	0:00
Location Code:	TIGHE	Received by:	LK	02/24/14	16:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBG12137
Phoenix ID: BG12147

Project ID: RECORD JOURNAL
Client ID: DUP

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Lead	7.86	0.38	mg/Kg	02/25/14	LK	SW6010
SPLP Lead	< 0.010	0.010	mg/L	02/25/14	LK	SW6010
SPLP Metals Digestion	Completed			02/25/14	I/I	SW846-3005
Percent Solid	90		%	02/24/14	I	E160.3
Soil Extraction SVOA PAH	Completed			02/24/14	BJ/FV	SW3545
Extraction of CT ETPH	Completed			02/24/14	BS/F	3545
SPLP Extraction for Metals	Completed			02/24/14	I	EPA 1312
SPLP Extraction for Organics	Completed			02/24/14	I	EPA1312
SPLP Semivolatiles (SIM) Ext.	Completed			02/25/14	E/D	SW3510/3520
Total Metals Digest	Completed			02/24/14	Z/AG	SW846 - 3050
TPH by GC (Extractable Products)						
Ext. Petroleum HC	ND	55	mg/Kg	02/26/14	JRB	CT ETPH/8015
Identification	ND		mg/Kg	02/26/14	JRB	CT ETPH/8015
QA/QC Surrogates						
% n-Pentacosane	88		%	02/26/14	JRB	50 - 150 %
Polynuclear Aromatic HC						
2-Methylnaphthalene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Acenaphthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Acenaphthylene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Anthracene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benz(a)anthracene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(a)pyrene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(b)fluoranthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(ghi)perylene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Benzo(k)fluoranthene	ND	250	ug/Kg	02/25/14	DD	SW 8270
Chrysene	ND	250	ug/Kg	02/25/14	DD	SW 8270

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference	
Dibenz(a,h)anthracene	ND	250	ug/Kg	02/25/14	DD	SW 8270	
Fluoranthene	ND	250	ug/Kg	02/25/14	DD	SW 8270	
Fluorene	ND	250	ug/Kg	02/25/14	DD	SW 8270	
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	02/25/14	DD	SW 8270	
Naphthalene	ND	250	ug/Kg	02/25/14	DD	SW 8270	
Phenanthrene	ND	250	ug/Kg	02/25/14	DD	SW 8270	
Pyrene	ND	250	ug/Kg	02/25/14	DD	SW 8270	
QA/QC Surrogates							
% 2-Fluorobiphenyl	71		%	02/25/14	DD	30 - 130 %	
% Nitrobenzene-d5	70		%	02/25/14	DD	30 - 130 %	
% Terphenyl-d14	73		%	02/25/14	DD	30 - 130 %	

SPLP Semivolatiles by SIM

2-Methylnaphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Acenaphthylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Anthracene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benz(a)anthracene	0.02	0.02	ug/L	02/26/14	DD	8270(SIM)	B*
Benzo(a)pyrene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Benzo(ghi)perylene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Chrysene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	B
Dibenz(a,h)anthracene	ND	0.01	ug/L	02/26/14	DD	8270(SIM)	
Fluoranthene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Fluorene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	02/26/14	DD	8270(SIM)	
Naphthalene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
Phenanthrene	ND	0.07	ug/L	02/26/14	DD	8270(SIM)	
Pyrene	ND	0.10	ug/L	02/26/14	DD	8270(SIM)	
QA/QC Surrogates							
% 2-Fluorobiphenyl	77		%	02/26/14	DD	30 - 130 %	
% Nitrobenzene-d5	84		%	02/26/14	DD	30 - 130 %	
% Terphenyl-d14	99		%	02/26/14	DD	30 - 130 %	

B* = Present in blank, a bias is possible.
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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March 11, 2014
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Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 11, 2014

QA/QC Data

SDG I.D.: GBG12137

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 267317, QC Sample No: BG07586 (BG12137, BG12138, BG12139, BG12141, BG12142, BG12143, BG12147)													
ICP Metals - SPLP Extraction													
Lead	BRL	0.026	0.024	NC	97.1	98.8	1.7	96.1	98.8	2.8	75 - 125	20	
QA/QC Batch 267390, QC Sample No: BG12067 (BG12137, BG12138, BG12139, BG12141, BG12142, BG12143, BG12147)													
ICP Metals - Soil													
Lead	BRL	48.4	87.4	57.4	105	103	1.9	102	76.2	29.0	75 - 125	30	r

r = This parameter is outside laboratory rpd specified recovery limits.

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QA/QC Report

March 11, 2014

QA/QC Data

SDG I.D.: GBG12137

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 267379, QC Sample No: BG12138 (BG12137, BG12138, BG12139, BG12143, BG12144, BG12147)										
Polynuclear Aromatic HC - Soil										
2-Methylnaphthalene	ND	74	79	6.5	81	85	4.8	30 - 130	30	
Acenaphthene	ND	76	79	3.9	83	88	5.8	30 - 130	30	
Acenaphthylene	ND	75	78	3.9	82	86	4.8	30 - 130	30	
Anthracene	ND	75	81	7.7	84	89	5.8	30 - 130	30	
Benz(a)anthracene	ND	68	72	5.7	76	81	6.4	30 - 130	30	
Benzo(a)pyrene	ND	71	75	5.5	79	85	7.3	30 - 130	30	
Benzo(b)fluoranthene	ND	87	90	3.4	91	104	13.3	30 - 130	30	
Benzo(ghi)perylene	ND	66	81	20.4	88	86	2.3	30 - 130	30	
Benzo(k)fluoranthene	ND	90	86	4.5	92	100	8.3	30 - 130	30	
Chrysene	ND	72	77	6.7	80	87	8.4	30 - 130	30	
Dibenz(a,h)anthracene	ND	67	83	21.3	88	88	0.0	30 - 130	30	
Fluoranthene	ND	84	93	10.2	96	105	9.0	30 - 130	30	
Fluorene	ND	77	83	7.5	87	91	4.5	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	67	82	20.1	88	88	0.0	30 - 130	30	
Naphthalene	ND	72	75	4.1	77	82	6.3	30 - 130	30	
Phenanthrene	ND	77	82	6.3	87	93	6.7	30 - 130	30	
Pyrene	ND	89	95	6.5	99	109	9.6	30 - 130	30	
% 2-Fluorobiphenyl	75	75	77	2.6	79	85	7.3	30 - 130	30	
% Nitrobenzene-d5	74	66	70	5.9	72	76	5.4	30 - 130	30	
% Terphenyl-d14	81	101	104	2.9	103	115	11.0	30 - 130	30	
Comment:										
Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)										
QA/QC Batch 267391, QC Sample No: BG12139 (BG12139, BG12140, BG12144, BG12146, BG12147)										
TPH by GC (Extractable Products) - Soil										
Ext. Petroleum HC	ND	70	77	9.5	77	45	52.5	60 - 120	30	m,r
% n-Pentacosane	95	89	100	11.6	99	66	40.0	50 - 150	30	r
QA/QC Batch 268272, QC Sample No: BG12140 (BG12140)										
Semivolatiles										
2-Methylnaphthalene	ND	67	68	1.5				30 - 130	20	
Acenaphthene	ND	67	68	1.5				30 - 130	20	
Acenaphthylene	ND	66	67	1.5				30 - 130	20	
Anthracene	ND	70	71	1.4				30 - 130	20	
Benz(a)anthracene	0.03	67	69	2.9				30 - 130	20	
Benzo(a)pyrene	ND	64	65	1.6				30 - 130	20	
Benzo(b)fluoranthene	ND	72	71	1.4				30 - 130	20	
Benzo(ghi)perylene	ND	70	68	2.9				30 - 130	20	
Benzo(k)fluoranthene	ND	67	73	8.6				30 - 130	20	
Chrysene	ND	75	75	0.0				30 - 130	20	
Dibenz(a,h)anthracene	ND	69	68	1.5				30 - 130	20	

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Fluoranthene	ND	61	61	0.0				30 - 130	20
Fluorene	ND	70	70	0.0				30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	69	67	2.9				30 - 130	20
Naphthalene	ND	65	65	0.0				30 - 130	20
Phenanthrene	ND	71	72	1.4				30 - 130	20
Pyrene	ND	61	61	0.0				30 - 130	20
% 2-Fluorobiphenyl	77	63	64	1.6				30 - 130	20
% Nitrobenzene-d5	85	67	68	1.5				30 - 130	20
% Terphenyl-d14	94	61	61	0.0				30 - 130	20

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 267481, QC Sample No: BG12778 (BG12137, BG12138, BG12139, BG12143, BG12144, BG12147)

Semivolatiles

2-Methylnaphthalene	ND	78	82	5.0				30 - 130	20
Acenaphthene	ND	81	86	6.0				30 - 130	20
Acenaphthylene	ND	80	84	4.9				30 - 130	20
Anthracene	ND	83	87	4.7				30 - 130	20
Benz(a)anthracene	0.03	84	87	3.5				30 - 130	20
Benzo(a)pyrene	ND	76	81	6.4				30 - 130	20
Benzo(b)fluoranthene	ND	86	88	2.3				30 - 130	20
Benzo(ghi)perylene	ND	79	93	16.3				30 - 130	20
Benzo(k)fluoranthene	ND	86	89	3.4				30 - 130	20
Chrysene	0.02	85	89	4.6				30 - 130	20
Dibenz(a,h)anthracene	ND	79	91	14.1				30 - 130	20
Fluoranthene	ND	89	90	1.1				30 - 130	20
Fluorene	ND	84	89	5.8				30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	78	90	14.3				30 - 130	20
Naphthalene	ND	72	75	4.1				30 - 130	20
Phenanthrene	ND	83	87	4.7				30 - 130	20
Pyrene	ND	91	91	0.0				30 - 130	20
% 2-Fluorobiphenyl	82	79	82	3.7				30 - 130	20
% Nitrobenzene-d5	89	71	74	4.1				30 - 130	20
% Terphenyl-d14	92	101	100	1.0				30 - 130	20

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

QA/QC Batch 268112, QC Sample No: BG15604 (BG12140)

Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	63	61	3.2	72	73	1.4	30 - 130	30
Acenaphthene	ND	69	70	1.4	74	75	1.3	30 - 130	30
Acenaphthylene	ND	69	69	0.0	74	74	0.0	30 - 130	30
Anthracene	ND	71	71	0.0	76	76	0.0	30 - 130	30
Benz(a)anthracene	ND	73	73	0.0	80	81	1.2	30 - 130	30
Benzo(a)pyrene	ND	68	68	0.0	72	72	0.0	30 - 130	30
Benzo(b)fluoranthene	ND	77	80	3.8	78	79	1.3	30 - 130	30
Benzo(ghi)perylene	ND	68	68	0.0	81	83	2.4	30 - 130	30
Benzo(k)fluoranthene	ND	79	79	0.0	83	82	1.2	30 - 130	30
Chrysene	ND	73	74	1.4	76	77	1.3	30 - 130	30
Dibenz(a,h)anthracene	ND	71	70	1.4	82	83	1.2	30 - 130	30
Fluoranthene	ND	84	90	6.9	86	94	8.9	30 - 130	30
Fluorene	ND	70	69	1.4	76	76	0.0	30 - 130	30

QA/QC Data

SDG I.D.: GBG12137

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Indeno(1,2,3-cd)pyrene	ND	70	70	0.0	82	83	1.2	30 - 130	30
Naphthalene	ND	63	62	1.6	72	73	1.4	30 - 130	30
Phenanthrene	ND	73	73	0.0	74	76	2.7	30 - 130	30
Pyrene	ND	89	95	6.5	89	98	9.6	30 - 130	30
% 2-Fluorobiphenyl	73	71	71	0.0	73	74	1.4	30 - 130	30
% Nitrobenzene-d5	68	63	62	1.6	66	65	1.5	30 - 130	30
% Terphenyl-d14	91	101	109	7.6	98	106	7.8	30 - 130	30

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

m = This parameter is outside laboratory ms/msd specified recovery limits.
r = This parameter is outside laboratory rpd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 11, 2014

Sample Criteria Exceedences Report

GBG12137 - TIGHE

Criteria: CT: GAM, RC

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BG12137	PB-SM	Lead	CT / INORGANIC SUBSTANCES / RES DEC (mg/kg)	7070	34	400	400	mg/Kg
BG12143	$8100SMR	Phenanthrene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (	9600	260	4000	4000	ug/Kg
BG12143	$8100SMR	Fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (	7300	260	5600	5600	ug/Kg
BG12143	$8100SMR	Pyrene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (	4100	260	4000	4000	ug/Kg
BG12143	$8100SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (	3000	260	1000	1000	ug/Kg
BG12143	$8100SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	3000	260	1000	1000	ug/Kg
BG12143	$8100SMR	Chrysene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (	2800	260	1000	1000	ug/Kg
BG12143	$8100SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (	4000	260	1000	1000	ug/Kg
BG12143	$8100SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	4000	260	1000	1000	ug/Kg
BG12143	$8100SMR	Benzo(k)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (	4100	260	1000	1000	ug/Kg
BG12143	$8100SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (	2400	260	1000	1000	ug/Kg
BG12143	$8100SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	2400	260	1000	1000	ug/Kg
BG12143	$8100SMR	Indeno(1,2,3-cd)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (	1100	260	1000	1000	ug/Kg
BG12143	$8100SMR	Indeno(1,2,3-cd)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	1100	260	1000	1000	ug/Kg
BG12143	SPLP-PB	SPLP Lead	CT / INORGANIC SUBSTANCES / GA/GAA PMC (mg/l)**	0.036	0.010	0.015	0.015	mg/L

Reasonable Confidence Protocol
Laboratory Analysis QA/QC Certification Form

Laboratory Name: Phoenix Environmental Labs, Inc. **Client:** Tighe & Bond

Project Location: RECORD JOURNAL **Project Number:**

Laboratory Sample ID(s): BG12137, BG12138, BG12139, BG12140, BG12141, BG12142, BG12143, BG12144, BG12145, BG12146, BG12147

Sampling Date(s): 2/20/2014, 2/21/2014

RCP Methods Used:

☑ 1311/1312	☑ 6010	☐ 7000	☐ 7196	☐ 7470/7471	☐ 8081	☐ EPH	☐ TO15
☐ 8082	☐ 8151	☐ 8260	☑ 8270	☑ ETPH	☐ 9010/9012	☐ VPH	

1.	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	☑ Yes ☐ No
1a.	Were the method specified preservation and holding time requirements met?	☑ Yes ☐ No
1b.	EPH and VPH methods only: Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	☐ Yes ☐ No ☑ NA
2.	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	☑ Yes ☐ No
3.	Were samples received at an appropriate temperature (< 6 Degrees C)?	☑ Yes ☐ No ☐ NA
4.	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Sections: ETPH Narration, ICP Narration, SVOASIM Narration.	☐ Yes ☑ No
5a.	Were reporting limits specified or referenced on the chain-of-custody?	☑ Yes ☐ No
5b.	Were these reporting limits met?	☑ Yes ☐ No ☐ NA
6.	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☐ Yes ☑ No ☐ NA
7.	Are project-specific matrix spikes and laboratory duplicates included in the data set?	☑ Yes ☐ No ☐ NA

Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

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

Authorized Signature: 

Date: Tuesday, March 11, 2014

Printed Name: Greg Lawrence

Position: Assistant Lab Director

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RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

BG12137, BG12138, BG12139, BG12141, BG12142, BG12143, BG12147 - The client requested a short list of analytes from the 6010 RCP Metals list: Only Lead was reported as requested on the chain-of-custody.

BG12137, BG12138, BG12139, BG12143, BG12144, BG12147 - The client requested a short list for 8270 RCP Semivolatiles. Only the PAH constituents are reported as requested on the chain-of-custody.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 267391 (Samples: BG12139, BG12140, BG12144, BG12146, BG12147): -----

The site specific MSD recovery is below the method criteria for Ext. Petroleum HC, therefore a low bias is likely.

The site specific MS/MSD RPD is above the method criteria for Ext. Petroleum HC. This analyte was not reported in the samples, therefore no sample variability is suspected.

The site specific MS/MSD RPD is above the method criteria for the surrogate %n-Pentacosane, therefore there may be variability in the reported result.

Instrument: Au-fid1 02/25/14-1 (BG12139)

Initial Calibration (FID1 - ETPH_1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

As per section 7.2.3, a discrimination check standard was run and contained the following outliers: C36

Printed Name Jeff Bucko
Position: Chemist
Date: 2/25/2014

Instrument: Au-fid1 02/25/14-2 (BG12139, BG12140, BG12144, BG12146, BG12147)

Initial Calibration (FID1 - ETPH_1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

As per section 7.2.3, a discrimination check standard was run and contained the following outliers: C36

Printed Name Jeff Bucko
Position: Chemist
Date: 2/25/2014

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RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

QC (Site Specific)

---------- Sample No: BG12139, QA/QC Batch: 267391 ----------

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

All MS recoveries were within 50 - 150 with the following exceptions: None.

All MSD recoveries were within 50 - 150 with the following exceptions: Ext. Petroleum HC(45%)

All MS/MSD RPDs were less than 30% with the following exceptions: % n-Pentacosane(40.0%), Ext. Petroleum HC(52.5%)

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.

ICP Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 267390 (Samples: BG12137, BG12138, BG12139, BG12141, BG12142, BG12143, BG12147) ----

The Laboratory Duplicate RPD is above the method criteria for Lead, therefore there may be variability in the reported result.

Instrument: Arcos 02/25/14-1 (BG12137, BG12138, BG12139, BG12141, BG12142, BG12143, BG12147)

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 2/25/2014

Instrument: Blue 02/25/14-1 (BG12137, BG12138, BG12139, BG12141, BG12142, BG12143, BG12147)

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 2/25/2014

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

QC (Batch Specific)

---------- Sample No: BG07586, QA/QC Batch: 267317 ----------

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

---------- Sample No: BG12067, QA/QC Batch: 267390 ----------

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

PAH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Chem07 02/24/14-1 (BG12137, BG12138, BG12139)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list , so some of the compounds in the narrative may be non-applicable.Initial Calibration Verification (CHEM07/BN_0220):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM07/0224_04-BN_0220):
100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski
Position: Chemist
Date: 2/24/2014

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NY # 11301

RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

QC (Site Specific)

---------- Sample No: BG12138, QA/QC Batch: 267379 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

All MS recoveries were within 30 - 130 with the following exceptions: None.

All MSD recoveries were within 30 - 130 with the following exceptions: None.

All MS/MSD RPDs were less than 30% with the following exceptions: None.

---------- Sample No: BG12140, QA/QC Batch: 268272 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.

QC (Batch Specific)

---------- Sample No: BG12778, QA/QC Batch: 267481 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

---------- Sample No: BG15604, QA/QC Batch: 268112 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Chem05 03/06/14-1 (BG12140)

RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

Initial Calibration Verification (CHEM05/SV_0306):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: 4,6-Dinitro-2-methylphenol (32%)
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM05/0306_11-SV_0306):
100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 2-nitrophenol (.062)[0.1], Hexachlorobenzene (.084)[0.1]
The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski
Position: Chemist
Date: 3/6/2014

Instrument: Chem06 02/25/14-1 (BG12147)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM06/SV_0224):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 2,4-Dinitrophenol (22%), 4-Nitrophenol (25%), Atrazine (22%), Benzaldehyde (25%)
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM06/0225_02-SV_0224):
100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 2-nitrophenol (.054)[0.1], Hexachlorobenzene (.070)[0.1]
The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski
Position: Chemist
Date: 2/25/2014

Instrument: Chem06 03/09/14-1 (BG12140)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM06/SV_0306):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 2,4-Dinitrophenol (32%), Hexachlorocyclopentadiene (27%)
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM06/0309_02-SV_0306):
100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 2-nitrophenol (.056)[0.1], Hexachlorobenzene (.079)[0.1]

RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski
Position: Chemist
Date: 3/9/2014

Instrument: Chem12 02/25/14-1 (BG12143)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM12/sv_0210):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: 2-Nitroaniline (21%), 3-Nitroaniline (39%), 4-Chloroaniline (21%), 4-Nitrophenol (23%), Carbazole (39%)
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM12/0225_02-sv_0210):
99% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: 2,4-dinitrophenol (-33%)[30%]
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 2-nitrophenol (.047)[0.1], Hexachlorobenzene (.074)[0.1]
The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski
Position: Chemist
Date: 2/25/2014

Instrument: Chem19 02/24/14-1 (BG12143, BG12144)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM19/SV_0214):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Benzaldehyde (22%)
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM19/0224_04-SV_0214):
100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 2-nitrophenol (.068)[0.1], Hexachlorobenzene (.080)[0.1]
The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski
Position: Chemist
Date: 2/24/2014

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RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

QC (Site Specific)

---------- Sample No: BG12138, QA/QC Batch: 267379 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

All MS recoveries were within 30 - 130 with the following exceptions: None.

All MSD recoveries were within 30 - 130 with the following exceptions: None.

All MS/MSD RPDs were less than 30% with the following exceptions: None.

---------- Sample No: BG12140, QA/QC Batch: 268272 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.

QC (Batch Specific)

---------- Sample No: BG12778, QA/QC Batch: 267481 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

---------- Sample No: BG15604, QA/QC Batch: 268112 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

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NY # 11301

RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

SVOASIM Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 267481 (Samples: BG12137, BG12138, BG12139, BG12143, BG12144, BG12147): -----

SPLP Extraction-Benz(a)anthracene and SPLP Extraction-Chrysene were detected in the blank. A high bias is suspected for Benz(a)anthracene in samples BG12137, BG12138, BG12139, BG12143, BG12144, and BG12147 and for Chrysene in samples BG12137, BG12138, BG12139, BG12143. Chrysene was not reported in samples BG12144 and BG12147, so no bias is suspected.

Instrument: Chem04 02/26/14-1 (BG12137, BG12138, BG12139, BG12143, BG12144, BG12147)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

In the event that lower detection levels were requested, the samples may have been analyzed by selective ion monitoring (SIM) mode.

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list , so some of the compounds in the narrative may be non-applicable.Initial Calibration Verification (CHEM04/SIM_0219):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 4,6-Dinitro-2-methylphenol (21%)
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM04/0226_02A-SIM_0219):
100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 2-nitrophenol (.086)[0.1]
The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski
Position: Chemist
Date: 2/26/2014

Instrument: Chem04 03/07/14-1 (BG12140)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

In the event that lower detection levels were requested, the samples may have been analyzed by selective ion monitoring (SIM) mode.

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list , so some of the compounds in the narrative may be non-applicable.Initial Calibration Verification (CHEM04/SIM_0219):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 4,6-Dinitro-2-methylphenol (21%)
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM04/0307_02-SIM_0219):
95% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: 4,6-dinitro-2-methylphenol (39%)[30%], Pentachlorophenol (-61%)[30%]
The following compounds did not meet maximum % deviations: Pentachlorophenol (-61%)[40%]
The following compounds did not meet recommended response factors: 2-nitrophenol (.086)[0.1]

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski
Position: Chemist
Date: 3/7/2014

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

QC (Site Specific)

---------- Sample No: BG12138, QA/QC Batch: 267379 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

All MS recoveries were within 30 - 130 with the following exceptions: None.

All MSD recoveries were within 30 - 130 with the following exceptions: None.

All MS/MSD RPDs were less than 30% with the following exceptions: None.

---------- Sample No: BG12140, QA/QC Batch: 268272 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.

QC (Batch Specific)

---------- Sample No: BG12778, QA/QC Batch: 267481 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

---------- Sample No: BG15604, QA/QC Batch: 268112 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Temperature Narration

The samples were received at 6C with cooling initiated.
(Note acceptance criteria is above freezing up to 6°C)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

March 11, 2014

SDG I.D.: GBG12137

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

CHAIN OF CUSTODY RECORD

Temp 6 °C Pg 1 of 1

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:
[ ] Fax:
[X] Phone: (315) 436-8260
[X] Email: JLibby

Customer: Tighe + Bond
Address: 213 Court St
Middletown CT 06457

Project: Record Journal
Report to: Jill Libby
Invoice to: T+B Westfield

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 2/21/14

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	ETPH	Mass + SPLP Pb	Mass + SPLP PAHs	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container (8) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
12137	B-100	S	2/20/14			X	X		2								
12138	B-101		2/20/14			X	X		1								
12139	B-102		2/21/14		X	X	X		1								
12140	B-103		2/20/14		X				1								
12141	B-104		2/21/14			X			1								
12142	B-105					X			1								
12143	B-106					X	X		1								
12144	B-107				X		X		1								
*12145	B-108				X		X		1								
12146	SS-104				X		*		2								
12147	Dup				X	X	X		1								
~~12148~~ (CP)																	

Relinquished by:	Accepted by:	Date:	Time:
[signature]	T+B Westfield	2/21/14	1500
[signature]	[signature]	2/24/14	1100
[signature]	Paradise	2/24/14	1640

Comments, Special Requirements or Regulations:
Hold extra SS-101 for SPLP after we recieve ETPH 2/24/14 Results emailed client (CP)
*jar broken upon receipt-

Turnaround:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[X] RCP Cert
[X] GW Protection
[ ] SW Protection
[X] GA Mobility
[ ] GB Mobility
[X] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1
[ ] S-2
[ ] S-3
[ ] MWRA eSMART
[ ] Other

State where samples were collected: CT

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[X] Full Data Package*
[X] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

Christine Paradise GBG12137

From: Christine Paradise [christine@phoenixlabs.com]
Sent: Monday, February 24, 2014 5:30 PM
To: 'JLLIBBY@TIGHEBOND.COM'
Subject: SAMPLES RECEIVED 2/24/14

Hi Jill,
We received samples today for project Record Journal, and one soil jar was broken upon receipt. The broken sample ID is B-108. Please let me know how you would like us to proceed. Thank you very much.

Christine Paradise

Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester, CT 06040
Phone: 860-645-1102
Fax: 860-645-0823

GBG12137

Christine Paradise

From: Jill L. Libby [JLLibby@tigheBond.com]
Sent: Tuesday, February 25, 2014 3:08 PM
To: Christine Paradise
Subject: RE: SAMPLES RECEIVED 2/24/14

Alright, well we are not able to re-sample the location so please note on report that sample was broken during courier transport to the lab.

Thanks,
Jill

Jill Libby| Environmental Scientist
Tighe & Bond | 213 Court Street | Middletown, CT 06457 | 860-704-4756 | 315-436-8260 (cell)
www.tighebond.com | Follow us on: Twitter Facebook LinkedIn

Tighe&Bond

From: Christine Paradise [mailto:christine@phoenixlabs.com]
Sent: Tuesday, February 25, 2014 12:01 PM
To: Jill L. Libby
Subject: RE: SAMPLES RECEIVED 2/24/14

Jill,
Unfortunately when the sample broke we were unable to salvage it.

Christine Paradise

Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester, CT 06040
Phone: 860-645-1102
Fax: 860-645-0823

From: Jill L. Libby [mailto:JLLibby@tigheBond.com]
Sent: Tuesday, February 25, 2014 11:35 AM
To: Christine Paradise
Subject: RE: SAMPLES RECEIVED 2/24/14

Christine,
Would you still be able to gather most of the sample and run it?
Jill

Jill Libby| Environmental Scientist
Tighe & Bond | 213 Court Street | Middletown, CT 06457 | 860-704-4756 | 315-436-8260 (cell)
www.tighebond.com | Follow us on: Twitter Facebook LinkedIn

Tighe&Bond

From: Christine Paradise [mailto:christine@phoenixlabs.com]
Sent: Monday, February 24, 2014 5:30 PM

To: Jill L. Libby
Subject: SAMPLES RECEIVED 2/24/14

Hi Jill,
We received samples today for project Record Journal, and one soil jar was broken upon receipt. The broken sample ID is B-108. Please let me know how you would like us to proceed. Thank you very much.

Christine Paradise

Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester, CT 06040
Phone: 860-645-1102
Fax: 860-645-0823

Greg - Phoenixlabs

From: Jill L. Libby [JLLibby@tigheBond.com]
Sent: Thursday, March 06, 2014 7:39 AM
To: Greg - Phoenixlabs
Subject: RE: Additional tests if sample is avalible

Yes please, TAT of I believe 72 hours so I can have it by next Tuesday.

Thank,
Jill

Jill Libby| Environmental Scientist
Tighe & Bond | 213 Court Street | Middletown, CT 06457 | 860-704-4756 | 315-436-8260 (cell)
www.tighebond.com | Follow us on: Twitter Facebook LinkedIn

Tighe&Bond

From: Greg - Phoenixlabs [mailto:greg@phoenixlabs.com]
Sent: Wednesday, March 05, 2014 5:33 PM
To: Jill L. Libby
Subject: RE: Additional tests if sample is avalible
Importance: High

Jill,

We do have additional sample, would you like us to go ahead with the two analyses? If so, what type of TAT would you like?

Gregory Lawrence
Phoenix Environmental Laboratories
587 East Middle Turnpike
Manchester, CT 06040
Ph: 1-860-645-1102

From: Jill L. Libby [mailto:JLLibby@tigheBond.com]
Sent: Wednesday, March 05, 2014 4:49 PM
To: greg@phoenixlabs.com
Subject: Additional tests if sample is avalible

Greg,

From our Record Journal soil samples (GBG12137) is there sample left from ID B-103 (12140) to run SPLP and mass PAHs?

Jill

Jill Libby| Environmental Scientist
Tighe & Bond | 213 Court Street | Middletown, CT 06457 | 860-704-4756 | 315-436-8260 (cell)
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Tighe&Bond

PHOENIX
Environmental Laboratories, Inc.

Tuesday, March 11, 2014

Attn: Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Project ID: RECORD JOURNAL
Sample ID#s: BG15041 - BG15044

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2014

FOR: Attn: Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JL	03/01/14	11:00
Location Code:	TIGHE	Received by:	LDA	03/04/14	14:57
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	M-018420JL				

Laboratory Data

SDG ID: GBG15041
Phoenix ID: BG15041

Project ID: RECORD JOURNAL
Client ID: TRIP BLANK

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Volatiles						
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1,1-Trichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	03/04/14	HM	SW8260
1,1,2-Trichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloropropene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,3-Trichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,3-Trichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,4-Trichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,4-Trimethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dibromoethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dichloroethane	ND	0.60	ug/L	03/04/14	HM	SW8260
1,2-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3,5-Trimethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,4-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
2,2-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
2-Chlorotoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
2-Hexanone	ND	5.0	ug/L	03/04/14	HM	SW8260
2-Isopropyltoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
4-Chlorotoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
4-Methyl-2-pentanone	ND	5.0	ug/L	03/04/14	HM	SW8260

Project ID: RECORD JOURNAL
Client ID: TRIP BLANK

Phoenix I.D.: BG15041

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Acetone	ND	25	ug/L	03/04/14	HM	SW8260
Acrylonitrile	ND	5.0	ug/L	03/04/14	HM	SW8260
Benzene	ND	0.70	ug/L	03/04/14	HM	SW8260
Bromobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromochloromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromodichloromethane	ND	0.50	ug/L	03/04/14	HM	SW8260
Bromoform	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromomethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Carbon Disulfide	ND	5.0	ug/L	03/04/14	HM	SW8260
Carbon tetrachloride	ND	1.0	ug/L	03/04/14	HM	SW8260
Chlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloroform	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
cis-1,3-Dichloropropene	ND	0.40	ug/L	03/04/14	HM	SW8260
Dibromochloromethane	ND	0.50	ug/L	03/04/14	HM	SW8260
Dibromomethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Dichlorodifluoromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Ethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Hexachlorobutadiene	ND	0.40	ug/L	03/04/14	HM	SW8260
Isopropylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
m&p-Xylene	ND	1.0	ug/L	03/04/14	HM	SW8260
Methyl ethyl ketone	ND	5.0	ug/L	03/04/14	HM	SW8260
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	03/04/14	HM	SW8260
Methylene chloride	ND	1.0	ug/L	03/04/14	HM	SW8260
Naphthalene	ND	1.0	ug/L	03/04/14	HM	SW8260
n-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
n-Propylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
o-Xylene	ND	1.0	ug/L	03/04/14	HM	SW8260
p-Isopropyltoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
sec-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Styrene	ND	1.0	ug/L	03/04/14	HM	SW8260
tert-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Tetrachloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
Tetrahydrofuran (THF)	ND	2.5	ug/L	03/04/14	HM	SW8260
Toluene	ND	1.0	ug/L	03/04/14	HM	SW8260
Total Xylenes	ND	2.0	ug/L	03/04/14	HM	SW8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
trans-1,3-Dichloropropene	ND	0.40	ug/L	03/04/14	HM	SW8260
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	03/04/14	HM	SW8260
Trichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
Trichlorofluoromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Trichlorotrifluoroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Vinyl chloride	ND	1.0	ug/L	03/04/14	HM	SW8260
QA/QC Surrogates						
% 1,2-dichlorobenzene-d4	102		%	03/04/14	HM	70 - 130 %
% Bromofluorobenzene	93		%	03/04/14	HM	70 - 130 %
% Dibromofluoromethane	95		%	03/04/14	HM	70 - 130 %

Project ID: RECORD JOURNAL
Client ID: TRIP BLANK

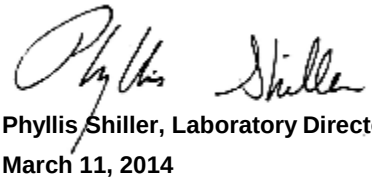
Phoenix I.D.: BG15041

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
% Toluene-d8	99		%	03/04/14	HM	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2014

FOR: Attn: Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JL	03/01/14	11:50
Location Code:	TIGHE	Received by:	LDA	03/04/14	14:57
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	M-018420JL				

Laboratory Data

SDG ID: GBG15041
Phoenix ID: BG15042

Project ID: RECORD JOURNAL
Client ID: MW-2

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Arsenic	< 0.004	0.004	mg/L	03/04/14	LK	SW6010
Barium	0.527	0.002	mg/L	03/04/14	LK	SW6010
Beryllium	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Cadmium	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Chromium	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Copper	< 0.005	0.005	mg/L	03/04/14	LK	SW6010
Mercury	< 0.0002	0.0002	mg/L	03/05/14	RS	SW7470
Nickel	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Lead	< 0.002	0.002	mg/L	03/04/14	LK	SW6010
Antimony	< 0.005	0.005	mg/L	03/04/14	LK	SW6010
Selenium	< 0.010	0.010	mg/L	03/04/14	LK	SW6010
Thallium	< 0.002	0.002	mg/L	03/07/14	RS	SM3113B/SW70
Vanadium	< 0.002	0.002	mg/L	03/04/14	LK	SW6010
Zinc	< 0.002	0.002	mg/L	03/04/14	LK	SW6010
Extraction of CT ETPH	Completed			03/04/14	E/D	3510/3520
Mercury Digestion	Completed			03/05/14	I/I	SW7470
Semi-Volatile Extraction	Completed			03/04/14	E/D	SW3520
Total Metals Digestion	Completed			03/04/14	AG	SW846 - 3050
TPH by GC (Extractable Products)						
Ext. Petroleum HC	ND	0.070	mg/L	03/05/14	JRB	CTETPH/8015D
Identification	ND		mg/L	03/05/14	JRB	CTETPH/8015D
QA/QC Surrogates						
% n-Pentacosane	95		%	03/05/14	JRB	50 - 150 %
Volatiles						
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260

Project ID: RECORD JOURNAL
Client ID: MW-2

Phoenix I.D.: BG15042

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	03/04/14	HM	SW8260
1,1,2-Trichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloropropene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,3-Trichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,3-Trichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,4-Trichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,4-Trimethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dibromoethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dichloroethane	ND	0.60	ug/L	03/04/14	HM	SW8260
1,2-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3,5-Trimethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,4-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
2,2-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
2-Chlorotoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
2-Hexanone	ND	5.0	ug/L	03/04/14	HM	SW8260
2-Isopropyltoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
4-Chlorotoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
4-Methyl-2-pentanone	ND	5.0	ug/L	03/04/14	HM	SW8260
Acetone	ND	25	ug/L	03/04/14	HM	SW8260
Acrylonitrile	ND	5.0	ug/L	03/04/14	HM	SW8260
Benzene	ND	0.70	ug/L	03/04/14	HM	SW8260
Bromobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromochloromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromodichloromethane	ND	0.50	ug/L	03/04/14	HM	SW8260
Bromoform	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromomethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Carbon Disulfide	ND	5.0	ug/L	03/04/14	HM	SW8260
Carbon tetrachloride	ND	1.0	ug/L	03/04/14	HM	SW8260
Chlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloroform	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
cis-1,3-Dichloropropene	ND	0.40	ug/L	03/04/14	HM	SW8260
Dibromochloromethane	ND	0.50	ug/L	03/04/14	HM	SW8260
Dibromomethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Dichlorodifluoromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Ethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Hexachlorobutadiene	ND	0.40	ug/L	03/04/14	HM	SW8260
Isopropylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
m&p-Xylene	ND	1.0	ug/L	03/04/14	HM	SW8260
Methyl ethyl ketone	ND	5.0	ug/L	03/04/14	HM	SW8260

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	03/04/14	HM	SW8260
Methylene chloride	ND	1.0	ug/L	03/04/14	HM	SW8260
Naphthalene	ND	1.0	ug/L	03/04/14	HM	SW8260
n-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
n-Propylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
o-Xylene	ND	1.0	ug/L	03/04/14	HM	SW8260
p-Isopropyltoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
sec-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Styrene	ND	1.0	ug/L	03/04/14	HM	SW8260
tert-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Tetrachloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
Tetrahydrofuran (THF)	ND	2.5	ug/L	03/04/14	HM	SW8260
Toluene	ND	1.0	ug/L	03/04/14	HM	SW8260
Total Xylenes	ND	2.0	ug/L	03/04/14	HM	SW8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
trans-1,3-Dichloropropene	ND	0.40	ug/L	03/04/14	HM	SW8260
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	03/04/14	HM	SW8260
Trichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
Trichlorofluoromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Trichlorotrifluoroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Vinyl chloride	ND	1.0	ug/L	03/04/14	HM	SW8260
QA/QC Surrogates						
% 1,2-dichlorobenzene-d4	101		%	03/04/14	HM	70 - 130 %
% Bromofluorobenzene	93		%	03/04/14	HM	70 - 130 %
% Dibromofluoromethane	98		%	03/04/14	HM	70 - 130 %
% Toluene-d8	97		%	03/04/14	HM	70 - 130 %

Semivolatiles by SIM

2-Methylnaphthalene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Acenaphthene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Acenaphthylene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Anthracene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Benz(a)anthracene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Benzo(a)pyrene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Benzo(b)fluoranthene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Benzo(ghi)perylene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Benzo(k)fluoranthene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Chrysene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	03/05/14	DD	8270(SIM)
Fluoranthene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Fluorene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Naphthalene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Phenanthrene	ND	0.07	ug/L	03/05/14	DD	8270(SIM)
Pyrene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
QA/QC Surrogates						
% 2-Fluorobiphenyl	74		%	03/05/14	DD	30 - 130 %
% Nitrobenzene-d5	83		%	03/05/14	DD	30 - 130 %
% Terphenyl-d14	116		%	03/05/14	DD	30 - 130 %

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2014

FOR: Attn: Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JL	03/01/14	12:00
Location Code:	TIGHE	Received by:	LDA	03/04/14	14:57
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	M-018420JL				

Laboratory Data

SDG ID: GBG15041
Phoenix ID: BG15043

Project ID: RECORD JOURNAL
Client ID: DUPLICATE

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Arsenic	< 0.004	0.004	mg/L	03/04/14	LK	SW6010
Barium	0.539	0.002	mg/L	03/04/14	LK	SW6010
Beryllium	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Cadmium	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Chromium	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Copper	< 0.005	0.005	mg/L	03/04/14	LK	SW6010
Mercury	< 0.0002	0.0002	mg/L	03/05/14	RS	SW7470
Nickel	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Lead	< 0.002	0.002	mg/L	03/04/14	LK	SW6010
Antimony	< 0.005	0.005	mg/L	03/04/14	LK	SW6010
Selenium	< 0.010	0.010	mg/L	03/04/14	LK	SW6010
Thallium	< 0.002	0.002	mg/L	03/07/14	RS	SM3113B/SW70
Vanadium	< 0.002	0.002	mg/L	03/04/14	LK	SW6010
Zinc	< 0.002	0.002	mg/L	03/04/14	LK	SW6010
Extraction of CT ETPH	Completed			03/04/14	E/D	3510/3520
Mercury Digestion	Completed			03/05/14	I/I	SW7470
Semi-Volatile Extraction	Completed			03/04/14	E/D	SW3520
Total Metals Digestion	Completed			03/04/14	AG	SW846 - 3050
TPH by GC (Extractable Products)						
Ext. Petroleum HC	ND	0.070	mg/L	03/05/14	JRB	CTETPH/8015D
Identification	ND		mg/L	03/05/14	JRB	CTETPH/8015D
QA/QC Surrogates						
% n-Pentacosane	91		%	03/05/14	JRB	50 - 150 %
Volatiles						
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260

Project ID: RECORD JOURNAL
Client ID: DUPLICATE

Phoenix I.D.: BG15043

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
1,1,1-Trichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	03/04/14	HM	SW8260
1,1,2-Trichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloropropene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,3-Trichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,3-Trichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,4-Trichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,4-Trimethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dibromoethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dichloroethane	ND	0.60	ug/L	03/04/14	HM	SW8260
1,2-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3,5-Trimethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,4-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
2,2-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
2-Chlorotoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
2-Hexanone	ND	5.0	ug/L	03/04/14	HM	SW8260
2-Isopropyltoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
4-Chlorotoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
4-Methyl-2-pentanone	ND	5.0	ug/L	03/04/14	HM	SW8260
Acetone	ND	25	ug/L	03/04/14	HM	SW8260
Acrylonitrile	ND	5.0	ug/L	03/04/14	HM	SW8260
Benzene	ND	0.70	ug/L	03/04/14	HM	SW8260
Bromobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromochloromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromodichloromethane	ND	0.50	ug/L	03/04/14	HM	SW8260
Bromoform	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromomethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Carbon Disulfide	ND	5.0	ug/L	03/04/14	HM	SW8260
Carbon tetrachloride	ND	1.0	ug/L	03/04/14	HM	SW8260
Chlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloroform	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
cis-1,3-Dichloropropene	ND	0.40	ug/L	03/04/14	HM	SW8260
Dibromochloromethane	ND	0.50	ug/L	03/04/14	HM	SW8260
Dibromomethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Dichlorodifluoromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Ethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Hexachlorobutadiene	ND	0.40	ug/L	03/04/14	HM	SW8260
Isopropylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
m&p-Xylene	ND	1.0	ug/L	03/04/14	HM	SW8260
Methyl ethyl ketone	ND	5.0	ug/L	03/04/14	HM	SW8260

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	03/04/14	HM	SW8260
Methylene chloride	ND	1.0	ug/L	03/04/14	HM	SW8260
Naphthalene	ND	1.0	ug/L	03/04/14	HM	SW8260
n-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
n-Propylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
o-Xylene	ND	1.0	ug/L	03/04/14	HM	SW8260
p-Isopropyltoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
sec-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Styrene	ND	1.0	ug/L	03/04/14	HM	SW8260
tert-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Tetrachloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
Tetrahydrofuran (THF)	ND	2.5	ug/L	03/04/14	HM	SW8260
Toluene	ND	1.0	ug/L	03/04/14	HM	SW8260
Total Xylenes	ND	2.0	ug/L	03/04/14	HM	SW8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
trans-1,3-Dichloropropene	ND	0.40	ug/L	03/04/14	HM	SW8260
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	03/04/14	HM	SW8260
Trichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
Trichlorofluoromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Trichlorotrifluoroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Vinyl chloride	ND	1.0	ug/L	03/04/14	HM	SW8260
QA/QC Surrogates						
% 1,2-dichlorobenzene-d4	104		%	03/04/14	HM	70 - 130 %
% Bromofluorobenzene	94		%	03/04/14	HM	70 - 130 %
% Dibromofluoromethane	95		%	03/04/14	HM	70 - 130 %
% Toluene-d8	99		%	03/04/14	HM	70 - 130 %

Semivolatiles by SIM

2-Methylnaphthalene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Acenaphthene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Acenaphthylene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Anthracene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Benz(a)anthracene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Benzo(a)pyrene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Benzo(b)fluoranthene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Benzo(ghi)perylene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Benzo(k)fluoranthene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Chrysene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	03/05/14	DD	8270(SIM)
Fluoranthene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Fluorene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	03/05/14	DD	8270(SIM)
Naphthalene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
Phenanthrene	ND	0.07	ug/L	03/05/14	DD	8270(SIM)
Pyrene	ND	0.10	ug/L	03/05/14	DD	8270(SIM)
QA/QC Surrogates						
% 2-Fluorobiphenyl	72		%	03/05/14	DD	30 - 130 %
% Nitrobenzene-d5	79		%	03/05/14	DD	30 - 130 %
% Terphenyl-d14	117		%	03/05/14	DD	30 - 130 %

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 11, 2014

FOR: Attn: Jill Libby
Tighe & Bond
213 Court St
Suite 900
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JL	03/01/14	14:45
Location Code:	TIGHE	Received by:	LDA	03/04/14	14:57
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	M-018420JL				

Laboratory Data

SDG ID: GBG15041
Phoenix ID: BG15044

Project ID: RECORD JOURNAL
Client ID: MW-1

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Arsenic	< 0.004	0.004	mg/L	03/04/14	LK	SW6010
Barium	0.450	0.002	mg/L	03/04/14	LK	SW6010
Beryllium	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Cadmium	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Chromium	< 0.001	0.001	mg/L	03/04/14	LK	SW6010
Copper	< 0.005	0.005	mg/L	03/04/14	LK	SW6010
Mercury	< 0.0002	0.0002	mg/L	03/05/14	RS	SW7470
Nickel	0.001	0.001	mg/L	03/04/14	LK	SW6010
Lead	< 0.002	0.002	mg/L	03/04/14	LK	SW6010
Antimony	< 0.005	0.005	mg/L	03/04/14	LK	SW6010
Selenium	< 0.010	0.010	mg/L	03/04/14	LK	SW6010
Thallium	< 0.002	0.002	mg/L	03/07/14	RS	SM3113B/SW70
Vanadium	< 0.002	0.002	mg/L	03/04/14	LK	SW6010
Zinc	0.003	0.002	mg/L	03/04/14	LK	SW6010
Extraction of CT ETPH	Completed			03/04/14	E/D	3510/3520
Mercury Digestion	Completed			03/05/14	I/I	SW7470
Total Metals Digestion	Completed			03/04/14	AG	SW846 - 3050
TPH by GC (Extractable Products)						
Ext. Petroleum HC	ND	0.070	mg/L	03/05/14	JRB	CTETPH/8015D
Identification	ND		mg/L	03/05/14	JRB	CTETPH/8015D
QA/QC Surrogates						
% n-Pentacosane	119		%	03/05/14	JRB	50 - 150 %
Volatiles						
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1,1-Trichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260

Project ID: RECORD JOURNAL
Client ID: MW-1

Phoenix I.D.: BG15044

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	03/04/14	HM	SW8260
1,1,2-Trichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,1-Dichloropropene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,3-Trichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,3-Trichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,4-Trichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2,4-Trimethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dibromoethane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,2-Dichloroethane	ND	0.60	ug/L	03/04/14	HM	SW8260
1,2-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3,5-Trimethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
1,3-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
1,4-Dichlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
2,2-Dichloropropane	ND	1.0	ug/L	03/04/14	HM	SW8260
2-Chlorotoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
2-Hexanone	ND	5.0	ug/L	03/04/14	HM	SW8260
2-Isopropyltoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
4-Chlorotoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
4-Methyl-2-pentanone	ND	5.0	ug/L	03/04/14	HM	SW8260
Acetone	ND	25	ug/L	03/04/14	HM	SW8260
Acrylonitrile	ND	5.0	ug/L	03/04/14	HM	SW8260
Benzene	ND	0.70	ug/L	03/04/14	HM	SW8260
Bromobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromochloromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromodichloromethane	ND	0.50	ug/L	03/04/14	HM	SW8260
Bromoform	ND	1.0	ug/L	03/04/14	HM	SW8260
Bromomethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Carbon Disulfide	ND	5.0	ug/L	03/04/14	HM	SW8260
Carbon tetrachloride	ND	1.0	ug/L	03/04/14	HM	SW8260
Chlorobenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloroform	ND	1.0	ug/L	03/04/14	HM	SW8260
Chloromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
cis-1,3-Dichloropropene	ND	0.40	ug/L	03/04/14	HM	SW8260
Dibromochloromethane	ND	0.50	ug/L	03/04/14	HM	SW8260
Dibromomethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Dichlorodifluoromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Ethylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Hexachlorobutadiene	ND	0.40	ug/L	03/04/14	HM	SW8260
Isopropylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
m&p-Xylene	ND	1.0	ug/L	03/04/14	HM	SW8260
Methyl ethyl ketone	ND	5.0	ug/L	03/04/14	HM	SW8260
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	03/04/14	HM	SW8260

Project ID: RECORD JOURNAL
Client ID: MW-1

Phoenix I.D.: BG15044

Parameter	Result	RL/ PQL	Units	Date/Time	By	Reference
Methylene chloride	ND	1.0	ug/L	03/04/14	HM	SW8260
Naphthalene	ND	1.0	ug/L	03/04/14	HM	SW8260
n-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
n-Propylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
o-Xylene	ND	1.0	ug/L	03/04/14	HM	SW8260
p-Isopropyltoluene	ND	1.0	ug/L	03/04/14	HM	SW8260
sec-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Styrene	ND	1.0	ug/L	03/04/14	HM	SW8260
tert-Butylbenzene	ND	1.0	ug/L	03/04/14	HM	SW8260
Tetrachloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
Tetrahydrofuran (THF)	ND	2.5	ug/L	03/04/14	HM	SW8260
Toluene	ND	1.0	ug/L	03/04/14	HM	SW8260
Total Xylenes	ND	2.0	ug/L	03/04/14	HM	SW8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
trans-1,3-Dichloropropene	ND	0.40	ug/L	03/04/14	HM	SW8260
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	03/04/14	HM	SW8260
Trichloroethene	ND	1.0	ug/L	03/04/14	HM	SW8260
Trichlorofluoromethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Trichlorotrifluoroethane	ND	1.0	ug/L	03/04/14	HM	SW8260
Vinyl chloride	ND	1.0	ug/L	03/04/14	HM	SW8260
QA/QC Surrogates						
% 1,2-dichlorobenzene-d4	98		%	03/04/14	HM	70 - 130 %
% Bromofluorobenzene	94		%	03/04/14	HM	70 - 130 %
% Dibromofluoromethane	99		%	03/04/14	HM	70 - 130 %
% Toluene-d8	98		%	03/04/14	HM	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director
March 11, 2014
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 11, 2014

QA/QC Data

SDG I.D.: GBG15041

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 267567, QC Sample No: BG12774 (BG15042, BG15043, BG15044)												
Thallium - Water	BRL		<0.002		95.5	97.8	2.4				75 - 125	20
QA/QC Batch 267944, QC Sample No: BG14572 (BG15042, BG15043, BG15044)												
ICP Metals - Aqueous												
Antimony	BRL				95.4	90.1	5.7	93.0	85.9	7.9	75 - 125	20
Arsenic	BRL				89.0	84.7	5.0	86.9	81.1	6.9	75 - 125	20
Barium	BRL				97.0	91.5	5.8	94.8	88.8	6.5	75 - 125	20
Beryllium	BRL				91.6	86.8	5.4	90.4	81.8	10.0	75 - 125	20
Cadmium	BRL				90.0	84.4	6.4	81.8	78.5	4.1	75 - 125	20
Chromium	BRL				89.5	82.8	7.8	84.4	77.6	8.4	75 - 125	20
Copper	BRL				98.1	89.3	9.4	96.0	86.9	10.0	75 - 125	20
Lead	BRL				90.5	84.3	7.1	85.4	79.2	7.5	75 - 125	20
Nickel	BRL				93.5	86.5	7.8	88.1	81.2	8.2	75 - 125	20
Selenium	BRL				91.8	84.6	8.2	88.0	80.8	8.5	75 - 125	20
Silver	BRL				92.3	87.4	5.5	89.7	83.4	7.3	75 - 125	20
Vanadium	BRL				91.5	86.2	6.0	89.7	80.9	10.3	75 - 125	20
Zinc	BRL				90.6	84.4	7.1	85.9	79.4	7.9	75 - 125	20
Comment:												
No Duplicate analysis could be reported with this Batch.												
QA/QC Batch 268044, QC Sample No: BG15042 (BG15042, BG15043, BG15044)												
Mercury - Water	BRL	<0.0002	<0.0002	NC	114	105	8.2	109	107	1.9	70 - 130	20
Comment:												
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%.												

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QA/QC Report

March 11, 2014

QA/QC Data

SDG I.D.: GBG15041

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 267571, QC Sample No: BG13157 (BG15042, BG15043, BG15044)										
TPH by GC (Extractable Products) - Ground Water										
Ext. Petroleum HC	ND	73	74	1.4				60 - 120	30	
% n-Pentacosane	103	110	NA	NC				50 - 150	20	
Comment:										
NA: Not applicable, surrogate was not spiked into the LCSD.										
QA/QC Batch 268055, QC Sample No: BG14756 (BG15041, BG15042, BG15043, BG15044)										
Volatiles - Ground Water										
1,1,1,2-Tetrachloroethane	ND	94	93	1.1	89	90	1.1	70 - 130	30	
1,1,1-Trichloroethane	ND	88	81	8.3	81	82	1.2	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	90	93	3.3	87	94	7.7	70 - 130	30	
1,1,2-Trichloroethane	ND	92	99	7.3	85	94	10.1	70 - 130	30	
1,1-Dichloroethane	ND	95	88	7.7	86	86	0.0	70 - 130	30	
1,1-Dichloroethene	ND	110	89	21.1	86	87	1.2	70 - 130	30	
1,1-Dichloropropene	ND	99	88	11.8	91	89	2.2	70 - 130	30	
1,2,3-Trichlorobenzene	ND	106	113	6.4	80	104	26.1	70 - 130	30	
1,2,3-Trichloropropane	ND	88	89	1.1	82	88	7.1	70 - 130	30	
1,2,4-Trichlorobenzene	ND	106	113	6.4	89	105	16.5	70 - 130	30	
1,2,4-Trimethylbenzene	ND	107	101	5.8	94	92	2.2	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	95	101	6.1	86	96	11.0	70 - 130	30	
1,2-Dibromoethane	ND	90	95	5.4	84	93	10.2	70 - 130	30	
1,2-Dichlorobenzene	ND	97	95	2.1	90	93	3.3	70 - 130	30	
1,2-Dichloroethane	ND	81	83	2.4	76	81	6.4	70 - 130	30	
1,2-Dichloropropane	ND	99	97	2.0	91	95	4.3	70 - 130	30	
1,3,5-Trimethylbenzene	ND	105	95	10.0	94	92	2.2	70 - 130	30	
1,3-Dichlorobenzene	ND	101	98	3.0	97	94	3.1	70 - 130	30	
1,3-Dichloropropane	ND	91	93	2.2	86	90	4.5	70 - 130	30	
1,4-Dichlorobenzene	ND	101	98	3.0	93	94	1.1	70 - 130	30	
2,2-Dichloropropane	ND	105	93	12.1	85	85	0.0	70 - 130	30	
2-Chlorotoluene	ND	107	98	8.8	100	98	2.0	70 - 130	30	
2-Hexanone	ND	88	98	10.8	80	93	15.0	70 - 130	30	
2-Isopropyltoluene	ND	103	97	6.0	94	94	0.0	70 - 130	30	
4-Chlorotoluene	ND	110	102	7.5	98	98	0.0	70 - 130	30	
4-Methyl-2-pentanone	ND	87	98	11.9	79	93	16.3	70 - 130	30	
Acetone	ND	91	78	15.4	65	79	19.4	70 - 130	30	m
Acrylonitrile	ND	91	95	4.3	85	93	9.0	70 - 130	30	
Benzene	ND	101	94	7.2	94	94	0.0	70 - 130	30	
Bromobenzene	ND	104	97	7.0	94	96	2.1	70 - 130	30	
Bromochloromethane	ND	90	94	4.3	87	95	8.8	70 - 130	30	
Bromodichloromethane	ND	84	83	1.2	80	83	3.7	70 - 130	30	
Bromoform	ND	92	98	6.3	85	91	6.8	70 - 130	30	
Bromomethane	ND	120	124	3.3	106	111	4.6	70 - 130	30	

QA/QC Data

SDG I.D.: GBG15041

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Carbon Disulfide	ND	100	86	15.1	88	90	2.2	70 - 130	30	
Carbon tetrachloride	ND	87	82	5.9	81	81	0.0	70 - 130	30	
Chlorobenzene	ND	101	96	5.1	93	92	1.1	70 - 130	30	
Chloroethane	ND	103	103	0.0	86	84	2.4	70 - 130	30	
Chloroform	ND	84	80	4.9	82	83	1.2	70 - 130	30	
Chloromethane	ND	111	105	5.6	114	98	15.1	70 - 130	30	
cis-1,2-Dichloroethene	ND	100	93	7.3	94	96	2.1	70 - 130	30	
cis-1,3-Dichloropropene	ND	98	98	0.0	90	95	5.4	70 - 130	30	
Dibromochloromethane	ND	90	94	4.3	84	89	5.8	70 - 130	30	
Dibromomethane	ND	84	89	5.8	81	86	6.0	70 - 130	30	
Dichlorodifluoromethane	ND	87	81	7.1	74	75	1.3	70 - 130	30	
Ethylbenzene	ND	104	96	8.0	97	93	4.2	70 - 130	30	
Hexachlorobutadiene	ND	110	102	7.5	88	94	6.6	70 - 130	30	
Isopropylbenzene	ND	114	103	10.1	102	98	4.0	70 - 130	30	
m&p-Xylene	ND	105	96	9.0	97	94	3.1	70 - 130	30	
Methyl ethyl ketone	ND	69	78	12.2	73	86	16.4	70 - 130	30	I
Methyl t-butyl ether (MTBE)	ND	91	91	0.0	77	97	23.0	70 - 130	30	
Methylene chloride	ND	113	86	27.1	84	84	0.0	70 - 130	30	
Naphthalene	ND	113	120	6.0	91	112	20.7	70 - 130	30	
n-Butylbenzene	ND	106	101	4.8	93	94	1.1	70 - 130	30	
n-Propylbenzene	ND	119	107	10.6	101	98	3.0	70 - 130	30	
o-Xylene	ND	100	94	6.2	96	94	2.1	70 - 130	30	
p-Isopropyltoluene	ND	109	102	6.6	97	96	1.0	70 - 130	30	
sec-Butylbenzene	ND	102	94	8.2	95	95	0.0	70 - 130	30	
Styrene	ND	100	97	3.0	94	93	1.1	70 - 130	30	
tert-Butylbenzene	ND	106	96	9.9	98	95	3.1	70 - 130	30	
Tetrachloroethene	ND	110	100	9.5	99	95	4.1	70 - 130	30	
Tetrahydrofuran (THF)	ND	85	93	9.0	77	89	14.5	70 - 130	30	
Toluene	ND	102	95	7.1	94	92	2.2	70 - 130	30	
trans-1,2-Dichloroethene	ND	114	91	22.4	85	92	7.9	70 - 130	30	
trans-1,3-Dichloropropene	ND	90	94	4.3	84	90	6.9	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	120	126	4.9	102	111	8.5	70 - 130	30	
Trichloroethene	ND	109	97	11.7	100	95	5.1	70 - 130	30	
Trichlorofluoromethane	ND	79	82	3.7	68	71	4.3	70 - 130	30	m
Trichlorotrifluoroethane	ND	102	89	13.6	77	86	11.0	70 - 130	30	
Vinyl chloride	ND	94	94	0.0	105	87	18.8	70 - 130	30	
% 1,2-dichlorobenzene-d4	98	99	99	0.0	100	102	2.0	70 - 130	30	
% Bromofluorobenzene	92	93	94	1.1	94	96	2.1	70 - 130	30	
% Dibromofluoromethane	96	93	99	6.3	95	98	3.1	70 - 130	30	
% Toluene-d8	98	98	97	1.0	97	98	1.0	70 - 130	30	

Comment:

A blank MS/MSD was analyzed with this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 268011, QC Sample No: BG14844 (BG15042, BG15043)

Semivolatiles - Ground Water

2-Methylnaphthalene	ND	85	82	3.6				30 - 130	20	
Acenaphthene	ND	80	79	1.3				30 - 130	20	
Acenaphthylene	ND	80	80	0.0				30 - 130	20	
Anthracene	ND	79	79	0.0				30 - 130	20	
Benz(a)anthracene	ND	86	84	2.4				30 - 130	20	
Benzo(a)pyrene	ND	77	75	2.6				30 - 130	20	
Benzo(b)fluoranthene	ND	86	84	2.4				30 - 130	20	

QA/QC Data

SDG I.D.: GBG15041

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Benzo(ghi)perylene	ND	76	78	2.6				30 - 130	20
Benzo(k)fluoranthene	ND	81	80	1.2				30 - 130	20
Chrysene	ND	87	84	3.5				30 - 130	20
Dibenz(a,h)anthracene	ND	79	81	2.5				30 - 130	20
Fluoranthene	ND	82	82	0.0				30 - 130	20
Fluorene	ND	78	79	1.3				30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	80	81	1.2				30 - 130	20
Naphthalene	ND	74	72	2.7				30 - 130	20
Phenanthrene	ND	80	79	1.3				30 - 130	20
Pyrene	ND	81	81	0.0				30 - 130	20
% 2-Fluorobiphenyl	78	78	78	0.0				30 - 130	20
% Nitrobenzene-d5	94	74	72	2.7				30 - 130	20
% Terphenyl-d14	90	86	87	1.2				30 - 130	20

Comment:

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 15-110%, for soils 30-130%)

l = This parameter is outside laboratory lcs/lcsd specified recovery limits.
m = This parameter is outside laboratory ms/msd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 11, 2014

Sample Criteria Exceedences Report

GBG15041 - TIGHE

Criteria: CT: GWP, SWP

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BG15041	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	ND	5.0	0.5	0.5	ug/L
BG15041	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	ND	1.0	0.05	0.05	ug/L
BG15042	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	ND	5.0	0.5	0.5	ug/L
BG15042	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	ND	1.0	0.05	0.05	ug/L
BG15043	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	ND	5.0	0.5	0.5	ug/L
BG15043	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	ND	1.0	0.05	0.05	ug/L
BG15044	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	ND	5.0	0.5	0.5	ug/L
BG15044	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	ND	1.0	0.05	0.05	ug/L

Reasonable Confidence Protocol
Laboratory Analysis QA/QC Certification Form

Laboratory Name: Phoenix Environmental Labs, Inc. **Client:** Tighe & Bond

Project Location: RECORD JOURNAL **Project Number:**

Laboratory Sample ID(s): BG15041, BG15042, BG15043, BG15044

Sampling Date(s): 3/1/2014

RCP Methods Used:

☐ 1311/1312	☑ 6010	☑ 7000	☐ 7196	☑ 7470/7471	☐ 8081	☐ EPH	☐ TO15
☐ 8082	☐ 8151	☑ 8260	☑ 8270	☑ ETPH	☐ 9010/9012	☐ VPH	

1.	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	☑ Yes ☐ No
1a.	Were the method specified preservation and holding time requirements met?	☑ Yes ☐ No
1b.	EPH and VPH methods only: Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	☐ Yes ☐ No ☑ NA
2.	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	☑ Yes ☐ No
3.	Were samples received at an appropriate temperature (< 6 Degrees C)?	☑ Yes ☐ No ☐ NA
4.	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Section: VOA Narration.	☐ Yes ☑ No
5a.	Were reporting limits specified or referenced on the chain-of-custody?	☑ Yes ☐ No
5b.	Were these reporting limits met?	☐ Yes ☑ No ☐ NA
6.	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☐ Yes ☑ No ☐ NA
7.	Are project-specific matrix spikes and laboratory duplicates included in the data set?	☑ Yes ☐ No ☐ NA

Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

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

Authorized Signature: 

Date: Tuesday, March 11, 2014

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

RCP Certification Report

March 11, 2014

SDG I.D.: GBG15041

BG15042 - The client requested a short list for 8270 RCP Semivolatile.

BG15043 - The client requested a short list for 8270 RCP Semivolatile.

Volatile 8260 analysis:
The reporting level for Acrylonitrile is above the GWP criteria.
1,2-Dibromoethane does not meet GWP criteria, this compound is analyzed by GC/ECD to achieve this criteria.

Lead Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Zeeman 03/04/14-1 (BG15042, BG15043, BG15044)

The initial calibration met all criteria including a standard run at the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer
Position: Chemist
Date: 3/4/2014

Thallium Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Zeeman 03/04/14-1 (BG15042, BG15043, BG15044)

The initial calibration met all criteria including a standard run at the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer
Position: Chemist
Date: 3/4/2014

Instrument: Zeeman 03/07/14-1 (BG15042, BG15043, BG15044)

The initial calibration met all criteria including a standard run at the reporting level.

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RCP Certification Report

March 11, 2014

SDG I.D.: GBG15041

All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer
Position: Chemist
Date: 3/7/2014

QC (Batch Specific)

---------- Sample No: BG12774, QA/QC Batch: 267567 ----------

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Au-xl2 03/05/14-1 (BG15042, BG15043, BG15044)

Initial Calibration (FID1 - ETPH_1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

As per section 7.2.3, a discrimination check standard was run and contained the following outliers: None

Printed Name Jeff Bucko
Position: Chemist
Date: 3/5/2014

QC Comments: QC Batch 267571 02/26/14 (BG15042, BG15043, BG15044)

NA: Not applicable, surrogate was not spiked into the LCSD.

QC (Batch Specific)

---------- Sample No: BG13157, QA/QC Batch: 267571 ----------

All LCS recoveries were within 60 - 120 with the following exceptions: None.

All LCSD recoveries were within 60 - 120 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

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NY # 11301

RCP Certification Report

March 11, 2014

SDG I.D.: GBG15041

Mercury Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Merlin 03/05/14-1 (BG15042, BG15043, BG15044)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer
Position: Chemist
Date: 3/5/2014

QC (Site Specific)

---------- Sample No: BG15042, QA/QC Batch: 268044 ----------

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

All MS recoveries were within 75 - 125 with the following exceptions: None.

All MSD recoveries were within 75 - 125 with the following exceptions: None.

All MS/MSD RPDs were less than 20% with the following exceptions: None.

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.

ICP Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Arcos 03/04/14-1 (BG15042, BG15043, BG15044)

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 3/4/2014

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RCP Certification Report

March 11, 2014

SDG I.D.: GBG15041

QC Comments: QC Batch 267944 03/03/14 (BG15042, BG15043, BG15044)

No Duplicate analysis could be reported with this Batch.

QC (Batch Specific)

---------- Sample No: BG14572, QA/QC Batch: 267944 ----------

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

SVOASIM Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Chem04 03/05/14-1 (BG15042, BG15043)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

In the event that lower detection levels were requested, the samples may have been analyzed by selective ion monitoring (SIM) mode.

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list , so some of the compounds in the narrative may be non-applicable.Initial Calibration Verification (CHEM04/SIM_0219):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 4,6-Dinitro-2-methylphenol (21%)
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM04/0305_02-SIM_0219):
98% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: Pentachlorophenol (-64%)[30%]
The following compounds did not meet maximum % deviations: Pentachlorophenol (-64%)[40%]
The following compounds did not meet recommended response factors: 2-nitrophenol (.087)[0.1]
The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski
Position: Chemist
Date: 3/5/2014

Environmental Laboratories, Inc.
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RCP Certification Report

March 11, 2014

SDG I.D.: GBG15041

QC (Batch Specific)

---------- Sample No: BG14844, QA/QC Batch: 268011 ----------

All LCS recoveries were within 30 - 130 with the following exceptions: None.

All LCSD recoveries were within 30 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 268055 (Samples: BG15041, BG15042, BG15043, BG15044): -----

The LCS recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (Methyl ethyl ketone)

Instrument: Chem17 03/04/14-1 (BG15041, BG15042, BG15043, BG15044)

Initial Calibration Verification (CHEM17/RCPS_0227):
96% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane (28%), Naphthalene (24%), trans-1,4-Dichloro-2-butene (23%)
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM17/0304S02-RCPS_0227):
100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

Printed Name Harry Mullin
Position: Chemist
Date: 3/4/2014

QC Comments: QC Batch 268055 03/04/14 (BG15041, BG15042, BG15043, BG15044)

A blank MS/MSD was analyzed with this batch.

QC (Batch Specific)

---------- Sample No: BG14756, QA/QC Batch: 268055 ----------

All LCS recoveries were within 70 - 130 with the following exceptions: Methyl ethyl ketone(69%)

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

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March 11, 2014

SDG I.D.: GBG15041

Temperature Narration

The samples in this delivery group were received at 6°C.
(Note acceptance criteria is above freezing up to 6°C)

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [X] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 9° C Pg 1 of 1

Contact Options:
[ ] Fax:
[X] Phone: (315) 436-8260
[ ] Email:

Customer: Tighe + Band
Address: 213 Court St
Middletown CT 06457

Project: Record Journal
Report to: Jill Libby
Invoice to: T+B Westfield

Project P.O: M-018420

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature

Date: 3/1/14

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request: VOCs 8260 | CT ETPH | PAHs 8270 | RCP metals

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [X] HCl	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
15041	Trip Blank	3/1/14	GW	1100				2						
15042	MW-2	3/1/14		1150				3	3		1			
15043	Diplicate	3/1/14		1200				3	3		1			
15044	MW-1	3/1/14	↓	1445				3	3		1			

Relinquished by:	Accepted by:	Date:	Time:
	T+B Fridge	3/1/14	1600
Fridge (Mandy)		3/4/14	1125
	TRANSCORE	3/4/14	14:57

Comments, Special Requirements or Regulations:
Please have report or Partial to us by 3/7/14

Turnaround:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard 5 days Friday
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[X] RCP Cert
[X] GW Protection
[X] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1
[ ] S-2
[ ] S-3
[ ] MWRA eSMART
[ ] Other

State where samples were collected: CT

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[X] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

Tighe&Bond

APPENDIX E

Table 1
Summary of Phase II Soil Analytical Data
Record Journal
11 Crown Street
Meriden, Connecticut

Parameter	CT RSRs				Phase II ESA Soil Results													
Depth					B-1 (0-2 ft)	B-2 (4-6 ft)	DUP (B-2)	B-3 (4-6 ft)	B-4 (0-2 ft)	B-5 (0-6 in)	B-6 (0-6 in)	B-7 (0-10 in)	B-8 (4.5-5.5 ft)	B-9 (6-7 ft)	B-10 (0-2 ft)	SS-1 (0-6 in)	SS-2 (0-8 in)	Trip Blank
Date	RES DEC	I/C DEC	GB PMC	10X GWPC	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013	10/18/2013
Total Metals (mg/Kg)																		
Arsenic	10	10	NE	NA	3	2.5	2.2	5.4	5.3	-	-	ND<0.8	3.1	ND<0.7	2.3	2.4	2.8	-
Barium	4,700	140,000	NE	NA	77.1	68.9	70.7	161	157	-	-	63.5	94.9	62	87.4	59.5	126	-
Beryllium	2	2	NE	NA	1.57	0.77	0.79	0.8	1.33	-	-	0.95	1.02	0.54	0.84	0.69	0.68	-
Cadmium	34	1,000	NE	NA	0.58	ND<0.38	0.41	0.69	0.7	-	-	ND<0.40	0.56	0.69	0.64	0.54	0.75	-
Chromium	NE	NE	NE	NA	20.4	10.9	14.4	15	16.9	-	-	11.7	15.5	11.2	20.4	15.4	15.8	-
Copper	2,500	76,000	NE	NA	5.98	8.24	10.7	90.5	37.5	-	-	2.47	23.8	8	27.4	27.2	40.3	-
Lead	400	1,000	NE	NA	20.6	8.83	9.52	317	**1,290**	-	-	10.4	130	18	36.9	55.5	266	-
Mercury	20	610	NE	NA	ND<0.09	ND<0.08	ND<0.08	0.71	0.85	-	-	ND<0.08	0.2	ND<0.07	ND<0.08	0.1	0.28	-
Nickel	1,400	7,500	NE	NA	16.5	8.84	9.57	12.4	12.2	-	-	8.83	13.4	5.98	16.8	14.7	17	-
Vanadium	470	14000	NE	NA	33	24	28.6	27.1	22.4	-	-	18.9	26.8	24.01	42.7	33	45.2	-
Zinc	20,000	610,000	NE	NA	47.5	25.4	27.4	216	115	-	-	29	70.8	55.4	54.5	48.1	132	-
SPLP Metals (ug/L)																		
Lead	NA	NA	0.15	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CT ETPH (mg/Kg)	500	2,500	2,500	NA	ND<63	ND<56	ND<54	ND<64	ND<55	-	-	ND<58	ND<53	ND<52	**580**	ND<55	ND<54	-
VOCs (mg/kg)																		
Acetone	500	1,000	140	NA	-	-	-	0.077	-	-	-	-	-	-	-	-	-	ND
PAHs (mg/Kg)																		
2-Methylnaphthalene	NE	NE	NE	NA	ND<0.29	ND<0.26	ND<0.25	ND<0.3	ND<0.26	-	-	ND<0.28	ND<0.25	ND<0.24	ND<6.5	ND<0.25	ND<0.25	-
Acenaphthene	NE	NE	NE	NA	ND<0.29	ND<0.26	ND<0.25	ND<0.3	ND<0.26	-	-	ND<0.28	ND<0.25	ND<0.24	ND<6.5	ND<0.25	ND<0.25	-
Acenaphthylene	1,000	2500	84	NA	ND<0.29	ND<0.26	ND<0.25	ND<0.3	ND<0.26	-	-	ND<0.28	ND<0.25	ND<0.24	ND<6.5	ND<0.25	ND<0.25	-
Anthracene	1,000	2,500	400	NA	ND<0.29	ND<0.26	ND<0.25	ND<0.3	ND<0.26	-	-	ND<0.28	ND<0.25	ND<0.24	8.2	ND<0.25	0.29	-
Benz(a)anthracene	1	7.8	1	NA	ND<0.29	ND<0.26	ND<0.25	**1.1**	ND<0.26	-	-	ND<0.28	**1.4**	ND<0.24	**39**	ND<0.25	0.91	-
Benzo(a)pyrene	1	1	1	NA	ND<0.29	ND<0.26	ND<0.25	0.99	ND<0.26	-	-	ND<0.28	**1.2**	ND<0.24	**32**	ND<0.25	0.57	-
Benzo(b)fluoranthene	1	7.8	1	NA	ND<0.29	ND<0.26	ND<0.25	**1.3**	ND<0.26	-	-	ND<0.28	**1.6**	ND<0.24	**51**	ND<0.25	0.79	-
Benzo(ghi)perylene	NE	NE	NE	NA	ND<0.29	ND<0.26	ND<0.25	0.38	ND<0.26	-	-	ND<0.28	0.42	ND<0.24	10	ND<0.25	ND<0.25	-
Benzo(k)fluoranthene	8.4	78	1	NA	ND<0.29	ND<0.26	ND<0.25	0.45	ND<0.26	-	-	ND<0.28	0.53	ND<0.24	**15**	ND<0.25	0.33	-
Chrysene	NE	NE	NE	NA	ND<0.29	ND<0.26	ND<0.25	1.1	ND<0.26	-	-	ND<0.28	1.4	ND<0.24	29	ND<0.25	0.77	-
Dibenz(a,h)anthracene	NE	NE	NE	NA	ND<0.29	ND<0.26	ND<0.25	ND<0.3	ND<0.26	-	-	ND<0.28	ND<0.25	ND<0.24	ND<6.5	ND<0.25	ND<0.25	-
Fluoranthene	1,000	2,500	56	NA	ND<0.29	ND<0.26	ND<0.25	2.1	ND<0.26	-	-	ND<0.28	1.9	ND<0.24	56	ND<0.25	1.2	-
Fluorene	1,000	2,500	56	NA	ND<0.29	ND<0.26	ND<0.25	ND<0.3	ND<0.26	-	-	ND<0.28	ND<0.25	ND<0.24	ND<6.5	ND<0.25	ND<0.25	-
Indeno(1,2,3-cd)pyrene	NE	NE	NE	NA	ND<0.29	ND<0.26	ND<0.25	0.38	ND<0.26	-	-	ND<0.28	0.44	ND<0.24	9.4	ND<0.25	ND<0.25	-
Naphthalene	1,000	2,500	56	NA	ND<0.29	ND<0.26	ND<0.25	ND<0.3	ND<0.26	-	-	ND<0.28	ND<0.25	ND<0.24	ND<6.5	ND<0.25	ND<0.25	-
Phenanthrene	1,000	2,500	40	NA	ND<0.29	ND<0.26	ND<0.25	1.3	ND<0.26	-	-	ND<0.28	0.79	ND<0.24	36	ND<0.25	1.3	-
Pyrene	1,000	2,500	40	NA	ND<0.29	ND<0.26	ND<0.25	1.8	ND<0.26	-	-	ND<0.28	1.4	ND<0.24	**43**	ND<0.25	0.98	-
SPLP PAHs (ug/L)																		
2-Methylnaphthalene	NA	NA	NA	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	NA	NA	NA	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benz(a)anthracene	NA	NA	NA	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	NA	NA	NA	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	NA	NA	NA	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(ghi)perylene	NA	NA	NA	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	NA	NA	NA	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	NA	NA	NA	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	NA	NA	NA	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	NA	NA	NA	2,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	NA	NA	NA	2,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	NA	NA	NA	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	NA	NA	NA	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/Kg)	1	10	NE	NA	-	-	-	-	-	BRL	BRL	-	-	-	-	-	-	-

Notes:
ND - Not detected above laboratory limits
NE - Criteria Not Established
NA - Not Applicable
ppm - parts per million
SPLP - Synthetic Precipitation Leaching Procedure
PAHs - Polynuclear Aromatic Hydrocarbons
ETPH - Extractable total petroleum hydrocarbon
RES DEC - Residential Direct Exposure Criteria
I/C DEC - Industrial/Commercial Direct Exposure Criteria
GB PMC - Potential Mobility Criteria for a GB groundwater class
GWPC - Groundwater Protection Criteria
CT RSRs - Connecticut Remediation Standard Regulations
PCB - Polychlorinated bi-phenyl
BRL - Below reporting limits
Bolded and boxed results exceed one or more listed criteria.

Table 2
Summary of Phase III Soil Analytical Data
Record Journal
11 Crown Street
Meriden, Connecticut

Parameter	CT RSRs				Phase III Soil Results									
Depth					B-100 0-2'	B-101 0-2'	B-102 0-2'	DUP (B-102)	B-103 0-1.5'	B-104 0-2.5'	B-105 0-2'	B-106 6-7.5'	B-107 0-2'	SS-101 8-12"
Date	RES DEC	I/C DEC	GB PMC	10X GWPC	2/20/2014	2/20/2014	2/20/2014	2/20/2014	2/20/2014	2/21/2014	2/21/2014	2/21/2014	2/21/2014	2/21/2014
Total Metals (mg/Kg)														
Arsenic	10	10	NE	NA	-	-	-	-	-	-	-	-	-	-
Barium	4,700	140,000	NE	NA	-	-	-	-	-	-	-	-	-	-
Beryllium	2	2	NE	NA	-	-	-	-	-	-	-	-	-	-
Cadmium	34	1,000	NE	NA	-	-	-	-	-	-	-	-	-	-
Chromium	NE	NE	NE	NA	-	-	-	-	-	-	-	-	-	-
Copper	2,500	76,000	NE	NA	-	-	-	-	-	-	-	-	-	-
Lead	400	1,000	NE	NA	**7,070**	62.2	8.58	7.86	-	13.3	13.5	44.9	-	-
Mercury	20	610	NE	NA	-	-	-	-	-	-	-	-	-	-
Nickel	1,400	7,500	NE	NA	-	-	-	-	-	-	-	-	-	-
Vanadium	470	14000	NE	NA	-	-	-	-	-	-	-	-	-	-
Zinc	20,000	610,000	NE	NA	-	-	-	-	-	-	-	-	-	-
SPLP Metals (ug/L)														
Lead	NA	NA	0.15	NA	ND<0.01	ND<0.01	ND<0.01	ND<0.01	-	ND<0.01	ND<0.01	0.036	-	-
CT ETPH (mg/Kg)	500	2,500	2,500	NA	-	-	ND<55	ND<55	ND<58	-	-	-	ND<59	ND<56
VOCs (mg/kg)														
Acetone	500	1,000	140	NA	-	-	-	-	-	-	-	-	-	-
PAHs (mg/Kg)														
2-Methylnaphthalene	NE	NE	NE	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	0.44	ND<0.27	-
Acenaphthene	NE	NE	NE	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	1.2	ND<0.27	-
Acenaphthylene	1,000	2500	84	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	ND<0.26	ND<0.27	-
Anthracene	1,000	2,500	400	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	1.9	ND<0.27	-
Benz(a)anthracene	1	7.8	1	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	**3**	ND<0.27	-
Benzo(a)pyrene	1	1	1	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	**2.4**	ND<0.27	-
Benzo(b)fluoranthene	1	7.8	1	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	**4**	ND<0.27	-
Benzo(ghi)perylene	NE	NE	NE	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	1.4	ND<0.27	-
Benzo(k)fluoranthene	8.4	78	1	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	**4.1**	ND<0.27	-
Chrysene	NE	NE	NE	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	2.8	ND<0.27	-
Dibenz(a,h)anthracene	NE	NE	NE	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	0.37	ND<0.27	-
Fluoranthene	1,000	2,500	56	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	0.28	-	-	7.3	ND<0.27	-
Fluorene	1,000	2,500	56	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	1.3	ND<0.27	-
Indeno(1,2,3-cd)pyrene	NE	NE	NE	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	1.1	ND<0.27	-
Naphthalene	1,000	2,500	56	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	1.1	ND<0.27	-
Phenanthrene	1,000	2,500	40	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	9.6	ND<0.27	-
Pyrene	1,000	2,500	40	NA	ND<0.25	ND<0.25	ND<0.26	ND<0.25	ND<0.27	-	-	4.1	ND<0.27	-
SPLP PAHs (ug/L)														
2-Methylnaphthalene	NA	NA	NA	NE	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.1	-	-	0.12	ND<0.10	-
Acenaphthene	NA	NA	NA	NE	ND<0.10	ND<0.10	ND<0.10	ND<0.10	0.15	-	-	0.1	ND<0.10	-
Benz(a)anthracene	NA	NA	NA	0.6	0.04	0.03	0.03	0.02	0.03	-	-	0.05	0.02	-
Benzo(a)pyrene	NA	NA	NA	2.0	0.03	ND<0.02	ND<0.02	ND<0.02	ND<0.1	-	-	ND<0.02	ND<0.02	-
Benzo(b)fluoranthene	NA	NA	NA	0.8	0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	-	-	0.05	ND<0.02	-
Benzo(ghi)perylene	NA	NA	NA	NE	0.11	ND<0.10	ND<0.10	ND<0.10	ND<0.1	-	-	ND<0.10	ND<0.10	-
Benzo(k)fluoranthene	NA	NA	NA	5.0	ND<0.02	ND<0.02	ND<0.02	ND<0.02	ND<0.02	-	-	0.03	ND<0.02	-
Chrysene	NA	NA	NA	NE	0.03	0.02	0.02	ND<0.02	0.02	-	-	0.05	ND<0.02	-
Dibenz(a,h)anthracene	NA	NA	NA	NE	0.01	ND<0.01	ND<0.01	ND<0.01	ND<0.01	-	-	ND<0.01	ND<0.01	-
Fluoranthene	NA	NA	NA	2,800	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.1	-	-	0.11	ND<0.10	-
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NE	0.04	ND<0.02	ND<0.02	ND<0.02	ND<0.02	-	-	0.02	ND<0.02	-
Naphthalene	NA	NA	NA	2,800	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.1	-	-	0.68	ND<0.10	-
Phenanthrene	NA	NA	NA	2,000	0.09	ND<0.07	ND<0.07	ND<0.07	0.25	-	-	0.2	ND<0.07	-
Pyrene	NA	NA	NA	2,000	0.13	ND<0.10	ND<0.10	ND<0.10	ND<0.1	-	-	ND<0.10	ND<0.10	-
Total PCBs (mg/Kg)	1	10	NE	NA	-	-	-	-	-	-	-	-	-	-

Notes:
ND - Not detected above laboratory limits
NE - Criteria Not Established
NA - Not Applicable
ppm - parts per million
SPLP - Synthetic Precipitation Leaching Procedure
PAHs - Polynuclear Aromatic Hydrocarbons
ETPH - Extractable total petroleum hydrocarbon
RES DEC - Residential Direct Exposure Criteria
I/C DEC - Industrial/Commercial Direct Exposure Criteria
GB PMC - Potential Mobility Criteria for a GB groundwater class
GWPC - Groundwater Protection Criteria
CT RSRs - Connecticut Remediation Standard Regulations
PCB - Polychlorinated bi-phenyl
BRL - Below reporting limits
Bolded and boxed results exceed one or more listed criteria.

Table 3
Summary of Groundwater Analytical Data
Record Journal
11 Crown Street
Meriden, Connecticut

Parameter	CT DEEP RSRs			MW-1	MW-2	Dup	Trip Blank
	SWPC	RES GWVC	I/C GWVC				
Date Sampled				3/1/14	3/1/14	3/1/14	3/1/14
VOCs (ug/L)	Varies	Varies	Vaires	BRL	BRL	BRL	BRL
PAHs (ug/L)	Varies	NA	NA	BRL	BRL	BRL	-
CT ETPH (mg/L)	0.25	NA	NA	ND<0.07	ND<0.07	ND<0.07	-
RCP Metals (ug/L)							
Barium	NE	NA	NA	450	527	539	-
Nickel	880	NA	NA	1	ND<1	ND<1	-
Zinc	123	NA	NA	3	ND<2	ND<2	-

Notes:
Only compounds detected are summarized in the table (compounds that are not listed were not detected)
Bold and outlined cells indicate the concentration exceeds one or more of the listed standards
CT DEEP RSRs - Connecticut Department of Energy & Environmental Protection Remedation Standard Regulations
RES GWVC - Residential Groundwater Volatilization Criteria
I/C GWVC - Industrial/Commercial Groundwater Volatilization Criteria
SWPC - Surface Water Protection Criteria
ug/L - micrograms per Liter
mg/L - milligrams per Liter
ND - Not detected above listed laboratory reporting limit
BRL - Below laboratory established reporting limit
NA - RSR criteria not applicable
VOCs - Volatile Organic Compounds
PAHs - Polycyclic aromatic hydrocarbons
ETPH - Extractable Total Petroleum Hydrocarbons
- Sample not analyzed
RCP metals include: Silver, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Mercury
Nickel, Lead, Antimony, Selenium, Thallium, Vanadium, Zinc

Table 4
Conceptual Site Model
Phase III ESA
11 Crown Street
Meriden, Connecticut

AOC	AOC Description	Potential COCs	Confirmed COCs	Potential Release Mechanisms and Pathways	Potential Receptors	Status	Sampling Locations	Rationale
							Soil Borings	
1	Northern Portion of Building	VOCs, PAHs, Metals	None	Releases onto the ground surface. Migration through building slab to sub-slab soils.	Direct human exposure through construction activities or demolition. Areas currently capped with asphalt or buildings as noted. Ecological Receptors	No Significant Release was Identified, Fill Material Identified	SS-1 and SS-2	Significant releases of COCs to the environment as a results of former chemical storage and the printing press located in the northern portion of the building were not identified. However, fill material was identified beneath the building slab in these areas and is likely the cause of elevated PAHs and lead concentrations.
2	Central and Southern Portion of Building	VOCs, PAHs, Metals	None	Releases onto the ground surface. Migration through building slab to sub-slab soils.	Direct human exposure through construction activities or demolition. Areas currently capped with asphalt or buildings as noted. Ecological Receptors	No Significant Release was Identified	SS-101 and SS-102	Significant release of COCs to the environment as a result of former paper storage and print press located in the southern and central portion of the building were not identified.
3	Loading Dock A (South of Building)	ETPH, VOCs, PAHs, Metals	None	Releases onto the ground surface. Migration through asphalt to soils.	Direct human exposure through construction activities or demolition. Areas currently capped with asphalt or buildings as noted. Ecological Receptors	No Significant Release was Identified	SB-1 and SB-2	Significant releases related to chemical or petroleum releases were not identified at loading dock A. However, fill material 2 feet thick was identified with elevated COCs.
4	Loading Dock B (West of Building)	ETPH, VOCs, PAHs, Metals	None	Releases onto the ground surface. Migration through asphalt to soils.	Direct human exposure through construction activities or demolition. Areas currently capped with asphalt or buildings as noted. Ecological Receptors	No Significant Release was Identified, Fill Material Identified	SB-9	Significant releases related to chemical or petroleum releases were not identified at loading dock B. However, 8 feet of gravel and 1 foot of fill material was identified but did not result in elevated COCs.
5	Former Automotive Repair Shop	ETPH, VOCs, PAHs, Metals	None	Releases onto the ground surface. Migration through asphalt or building slab to soils.	Direct human exposure through construction activities or demolition. Areas currently capped with asphalt or buildings as noted. Ecological Receptors	No Significant Release was Identified, Impacted Fill Material Identified	SB-3, SB-8, B-100, B-101, and B-104	Significant releases related to the former automotive repair shop were not identified during site activities. Two types of fill from 0 to 2 feet and 4 to 6 feet was identified during site activities that resulted in elevated concentrations of PAHs and lead.
6	Former Press Manufacturing	VOCs, PAHs, Metals	None	Releases onto the ground surface. Migration through asphalt or building slab to soils.	Direct human exposure through construction activities or demolition. Areas currently capped with asphalt or buildings as noted. Ecological Receptors	No Significant Release was Identified, Fill Material Identified	SB-4, SB-7, B-105, and B-106	No significant releases related to the former Press Manufacturing buildings were identified. Fill material was identified in the borings from 0 to 2 feet that resulted in an elevated concentration of lead.
7	Transformer Pads	PCBs	None	Releases onto the ground surface.	Direct human exposure through construction activities or demolition. Areas currently capped with asphalt or buildings as noted. Ecological Receptors	No Significant Release was Identified	SB-5 and SB-6	No significant releases were identified from transformer leaks.
8	Southwestern Parking Lot	ETPH, VOCs, PAHs	None	Releases onto the ground surface. Migration through asphalt to soils.	Direct human exposure through construction activities or demolition. Areas currently capped with asphalt or buildings as noted. Ecological Receptors	No Significant Release was Identified, Impacted Fill Material Identified	SB-10, B-102, B-103, B-107 and B-108	Significant releases related to a former release on Crown Street were not identified during site activities. Fill material limited to B-10 was identified during site activities that resulted in elevated concentrations of ETPH and PAHs.
9	Site-Wide Fill Material	VOCs, PAHs, ETPH, and metals	PAHs, ETPH, and metals	Deposition of Fill Material	Direct human exposure through construction activities or demolition. Areas currently capped with asphalt or buildings as noted. Ecological Receptors	Impacted Fill Material Identified	All Borings	Site-wide impacted fill was identified that resulted in elevated levels of PAHs and lead. Two types of impacted fill material were identified in the northern and western portions of the site, fill material from 4 to 6 feet resulted in elevated PAHs and fill material from 0 to 2 feet resulted in elevated concentrations of lead. In the southeastern portion of the site fill material from 0 to 2 feet of fill material resulted in elevated concentrations of PAHs and ETPH.

Tighe&Bond

APPENDIX F

The Quality Assurance/Quality Control (QA/QC) procedures for field work and laboratory analyses during the Phase III ESA were evaluated as part a Data Quality Assessment/Data Usability Evaluation (DQA/DUE) that was conducted during the preparation of this Phase III ESA report. The following CTDEEP Guidance Documents were used in this evaluation:

> *Laboratory Quality Assurance and Quality Control, Reasonable Confidence Protocols Guidance Document, November 2007*
>
> *Laboratory Quality Assurance and Quality Control, Data Quality Assessment and Data Usability Evaluation Guidance Document (May 2009, Revised December 2010)*
>
> *Quality Assurance and Quality Control Requirements for various analytical methods*

Results of the QA/QC evaluation and DQA/DUE for field work and laboratory analyses are provided in the next sections and are organized by investigation.

Tighe & Bond - Phase III ESA

The following subsections provide discussion on QA/QC procedures and methods that were utilized during the subsurface investigation activities for the Phase III ESA completed by Tighe & Bond in February 2014.

Field Sampling Procedures and Methods

Soil

Soil samples collected during this investigation were obtained utilizing hollow-stem auger and direct-push drilling methodologies. Samples were analyzed for at least one of the following parameters:

- Extractable Total Petroleum Hydrocarbons (ETPH) (CT ETPH Method and EPA Method 1312)
- Total and SPLP Lead (EPA Methods 6010)
- Total and SPLP Polynuclear Aromatic Compounds (PAHs) (EPA Method 8270 and 8270SIM)

Groundwater

Groundwater sampling was conducted in accordance with the EPA's "Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells (January 19, 2010, Revision 3).

Turbidity in MW-1 was between 300 and 400 NTU at the time of sample collection. All other parameters were stabilized before sampling. The groundwater sample for MW-1 was filtered with a 0.45µ field filter during sampling. The groundwater sample for MW-2 was collected after all parameters were stabilized and turbidity was below 3 NTU.

QA/QC Assessment and Conformances

The samples were collected in accordance with RCP protocols.

Phase III ESA Laboratory Reports

Phoenix Environmental Laboratories Inc., Lab No. GBG12137

Soil samples were collected February 20 and 21, and included the following soil samples:

- B-100
- B-101
- B-102
- B-103
- B-104
- B-105
- B-106
- B-107
- B-108
- SS-101
- Duplicate

Standard RCP Deliverables: The RCP Laboratory Analysis QA/QC Certification Form and RCP Certification Report were supplied by Phoenix for this laboratory report.

Data Package Inspection: No issues were identified.

Reasonable Confidence Evaluation:

The RCP Laboratory Analysis QA/QC Certification Form identified a "no" response to question 4. Not all QA/QC performance criteria specified in the RCP documents was achieved. The MSD recovery was below the acceptable lower limit for ETPH. The Relative Percent Difference (RDP) between the MS and MSD was above the acceptable upper limit for one of the ETPH surrogates (% n-Pentacosane). Surrogate recoveries were all within specified limits. The initial and daily continuing calibrations were within range and the ETPH recoveries were within acceptable range. There is no suspected bias for ETPH.

The Laboratory Duplicate RDP was above the method critieria for lead. The initial and daily continuing calibrations were within range and lead recoveries were within acceptable range; therefore, ther is no suspected bias for lead.

The RCP Laboratory Analysis QA/QC Certification Form also identified a "no" response to question 6. Not all constituents identified in each method referenced in the lab report were reported. RCP Metals (Method 6010) was limited to lead for all samples as requested by Tighe & Bond. Method 8270 covers all Semi-Volatile Organic Compounds (SVOCs) but the requested analysis was limited to PAH compounds only. All constituents requested on the chain of custody were reported.

Benzo(a)anthracene and Chrysene were detected in the Laboratory Blank sample for SPLP PAHs. A high bias for Benzo(a)anthracene is suspected in B-100, B-101, B-102, B-106, B-107 and the duplicate. A high bias for Chrysene is suspected in B-100, B-101, B-102, and B-106. Chrysene was not detected in B-107 and the duplicate, thus a high bias is not suspected.

Chain of Custody Evaluation: Samples were received by Phoenix on February 24, 2014 at 1640. Each sample collected included one 8-oz glass soil container. B-100 and SS-101 included two 8-oz glass soil containers.

Sample Preservation and Holding Time Evaluation: All parameters were analyzed within holding times.

Blank Evaluation: A blank was not provided in this report

Duplicate Evaluation: A duplicate sample was provided in this report.

Laboratory Blank Samples: Lab blank analysis was below detection limits for all listed compounds except SPLP Benz(a)anthracene (0.03 µg/L) and SPLP Chrysene (0.02 µg/L).

Laboratory Control Samples: Laboratory control samples were all within acceptable recovery limits

Surrogates: The LCS RPD and MS RPD for ETPH were outside the specified recovery limits. The MS RPD for ETPH surrogate (% n-Pentacosane) was outside the specified recovery limits for ETPH. The LCS/LCSD and MS/MSD were all within the acceptable range and surrogate recovery was within limits for all samples. There is no suspected bias for ETPH.

All PAH surrogates were within limits and QA/QC data was within acceptance criteria. There is no suspected bias for PAHs.

Site Specific Matrix Spikes and Matrix Spike Duplicates: Site specific matrix spikes and laboratory duplicates were included in the data sets. Matrix spikes and matrix spike duplicates were all within acceptable recovery limits except for total lead which was outside of the RDP specified laboratory limits.

Tentatively Identified Compounds: Tentatively Identified Compounds were not requested for this laboratory report

Other QC Data: All other QC data is within acceptable limits

Continuing Calibration Blank or Initial Calibration Blank Evaluation: All parameters had a relative standard deviation of less than 20% in the initial and continuing calibration.

The relative standard deviations for select Semivolatile Organic Compounds (SVOCs) were found to be above 20% in the initial and continuing calibration. These compounds were not included in the list of requested constituents therefore the exceedance is not expected to influence the data quality.

Data Quality Objectives: The soil samples in this laboratory report were analyzed as part of the investigation of AOC-2, AOC-4, AOC-5, AOC-6 and AOC-8 and were collected at locations that were identified as data gaps in the previous Phase II investigations by Tighe & Bond.

Based on the review of the soil data, it was determined to be analytically usable for the

Phoenix Environmental Laboratories, Inc. Lab No. GBG15041

Groundwater samples were collected on August 20, 2012 and included the following samples:

- MW-1
- MW-2
- MW-Duplicate
- Trip Blank

Standard RCP Deliverables: The RCP Laboratory Analysis QA/QC Certification Form and RCP Certification Report were supplied by Phoenix for this laboratory report.

Data Package Inspection: No issues were identified.

Reasonable Confidence Evaluation: Question 4 on the RCP Laboratory Analysis QA/QC Certification Form identified a "no", stating that the QA/QC performance criteria specified in the CT DEEP Reasonable Confidence Protocol documents was not achieved. Methyl ethyl ketone is below the acceptable range for the LCS but was not detected in any of the samples. There is no suspected bias for methyl ethyl ketone. The MS recovery for acetone and trichlorofluoromethane were below acceptable range but were not detected in any of the samples, there is no suspected bias.

The RCP Laboratory Analysis QA/QC Certification Form identified a "no" response to question 5b. Not all reporting limits identified in each method were met. Acrylonitrile and 1,2-Dibromoethane had reporting limits of 5 ug/L and 1 ug/L, respectively. The required criteria reporting limit for Acrylonitrile and 1,2-Dibromoethane are 0.5 ug/L and 0.05 ug/L, respectively. Since no VOCs were detected in the samples, there is no suspected bias.

The RCP Laboratory Analysis QA/QC Certification Form identified a "no" response to question 6. Not all constituents identified in each method referenced in the lab report were reported. Only PAHs were requested and reported in the laboratory report for EPA method 8270.

Chain of Custody Evaluation: Samples were received by Phoenix August 21, 2012 at 0813. All samples were analyzed for ETPH, VOCs, PAHs, and RCP Metals with the exception of the Trip blank which was just analyzed for VOCs. All samples were collected in three 1-liter amber jars, three HCl 40-mL vials, and one 250 mL plastic HNO3 bottle. The Trip Blank sample was collected in three HCl 40-mL vials.

Sample Preservation and Holding Time Evaluation: Samples were received by Phoenix below 6°C which is within the acceptable temperature range. All samples were analyzed within holding times.

Blank Evaluation: A trip blank was analyzed for VOCs and was below laboratory reporting limits for all parameters.

Duplicate Evaluation: A field duplicate sample was collected as a duplicate sample for MW-2. All parameters were within acceptable range from each other.

Laboratory Blank Samples: Lab blank analysis was below detection limits for all listed compounds.

Laboratory Control Samples: Laboratory control samples were all within acceptable recovery limits with the exception of VOC Acetone and trichlorofluoromethane which had a recovery of 65% and 68% in the MS, respectively. Methyl ethyl ketone had a recovery of 69% in the LCS.

Surrogates: The surrogate recoveries for the all of the groundwater samples were within acceptable ranges.

Site Specific Matrix Spikes and Matrix Spike Duplicates: Site specific matrix spikes and laboratory duplicates were within acceptable ranges.

Tentatively Identified Compounds: Tentatively Identified Compounds were not requested for this laboratory report

Other QC Data: All other QC data is within acceptable limits

Continuing Calibration Blank or Initial Calibration Blank Evaluation: SVOCs pentachlorophenol, 2-nitrophenol did not meet percent divation criteria, only PAHs were reported; therefore, there is no suspected bias.

Data Quality Objectives: The groundwater samples were collected at newly installed bedrock monitoring wells at the western boundary of the property, a location identified as a data gap in the previous Phase II investigation.

Data Usability

Based on the review of the laboratory QA/QC sample results, the data was determined to be analytically usable for the investigation