85 Hawthorn Street
Hartford, Connecticut

Phase II Environmental Site Assessment

Prepared For:

Capitol Region Council of Governments

March 2017

Tighe&Bond
Engineers | Environmental Specialists

12107714
March 3, 2017

Mary Ellen Kowalewski
Director of Policy and Planning
Capitol Region Council of Governments
241 Main Street
Hartford, CT 06106

Re: **Phase II Environmental Site Assessment**
85 Hawthorn Street
Hartford, Connecticut

Dear Ms. Kowalewski,

Please find enclosed the Phase II Environmental Site Assessment (ESA) report for the property located at 85 Hawthorn Street in Hartford, Connecticut.

We appreciate the opportunity to provide our services. If you have any questions or comments, please contact Jim Olsen at (860) 704-4761 or JTOlsen@tighebond.com.

Very truly yours,

TIGHE & BOND, INC.

Samantha M. Avis
Environmental Scientist

Nicholas A. Granata, LEP
Senior Environmental Scientist

James T. Olsen, LEP
Vice President

Table of Contents

Section 8 Hazardous Building Materials Assessments

Section 9 Quality Assurance / Quality Control (QA/QC)

Section 10 Conceptual Site Model

Section 11 Summary and Recommendations

Appendices

List of Acronyms and Definitions

AOC	Area of Concern
APS	Additional Polluting Substance
AST	Aboveground Storage Tank
bgs	Below Ground Surface
CBYD	Call Before You Dig
CTDEEP	Department of Energy and Environmental Protection
CTDPH	Connecticut Department of Public Health
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
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
SVOCs	Semi-Volatile Organic Hydrocarbons
SWPC	Surface Water Protection Criteria
TCLP	Toxicity Characteristic Leaching Procedure

USGS	United States Geological Survey
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
WQS	Water Quality Standards

Section 1
Introduction

Tighe & Bond, Inc, (Tighe & Bond) has prepared this Phase II Environmental Site Assessment (ESA) report for the property at 85 Hawthorn Street in Hartford, Connecticut (herein referred to as the "site"). The site has been also listed on several databases under the address 103 Hawthorn Street. The site includes an approximately 6.79-acre parcel of land located south of Hawthorn Street owned by the City of Hartford. A 130,000 square foot building existed at the site until it burned in 1999. The building was constructed circa 1912 and was used for manufacturing until the late 1980s. The site was used for manufacturing by the Former Arrow Hart & Hegeman Company, Arrow-Hart, Inc., and Cooper Industries.

The Phase II ESA was conducted for the Capitol Region Council of Governments (CRCOG). It is our understanding that this work was conducted as part of the MetroHartford Brownfields Assessment Program and is being funded via a Connecticut Department of Economic and Community Development (DECD) Brownfields Grant. This Phase II ESA was conducted to help facilitate the redevelopment of the site.

This Phase II ESA was conducted in accordance with the Connecticut Department of Energy and Environmental Protection (CTDEEP) Site Characterization Guidance Document (SCGD), dated September 2007, revised December 2010.

The primary objective of this Phase II ESA was to evaluate potential sources of contamination at the site within areas of concern (AOCs) as identified in the March 2016 Phase I ESA prepared by Tighe & Bond and to confirm results of previous assessments. The results of the Phase II ESA activities were used to evaluate if releases of constituents of concern (COCs) have occurred to the environment, and to assess the significance of identified releases at each AOC and its potential impact on the redevelopment of the site.

Section 2
Site Description & Environmental Setting

2.1 Site Location & Background

The site includes an approximately 6.79-acre parcel of land located south of Hawthorn Street. The site is owned by the City of Hartford and is currently vacant. A 130,000 square foot building existed at the site until it burned in 1999. The building was constructed circa 1912 and was used for manufacturing until the late 1980s. The site was used for manufacturing by the Former Arrow Hart & Hegeman Company, Arrow-Hart, Inc., and Cooper Industries. Operations on the site included manufacturing of electrical components, including light switches, industrial electric motor controls, and electrical wiring devices. Manufacturing processes included metal stamping with pneumatic presses, screw machine operations, drilling, tapping, degreasing, machining, burnishing, heat treating, brite dipping (acid bath), spot welting, metal plating, painting, and parts assembly. From 1992 through 1999, the site building had several commercial tenants including a car detailing and tire repair center. In addition, the site historically included several residential dwellings.

A site location map is included as Figure 1 (Appendix A). A site plan showing AOCs is provided as Figure 2 (Appendix A).

2.2 Site and Vicinity Characteristics

The site is bounded to the north by Hawthorn Street, to the east by Laurel Street and Piggy's Cafe, and to the west by Forest Street. The site is bounded to the south by Capitol Avenue, the CTfastrak Busway, and the Capitol Archives & Record Storage facility.

The site is zoned by the City of Hartford Zoning Regulations as "neighborhood mix" with a transit oriented development (TOD) overlay. The neighborhood mix district is intended for neighborhood areas that currently include a mix of apartment buildings and houses with multiple units in each building. The TOD overlay is intended to allow for greater flexibility and require greater density in the vicinity of fixed nodes of public transportation. The areas surrounding the site are zoned as commercial/industrial mix to the east and south, neighborhood mix to the north, and multi-use mix to the west.

2.3 Geology

According to the *Surficial Materials Map of Connecticut* (U.S. Geological Survey, 1992), the surficial material beneath the site consists of fines. Fines are composed of well-sorted, thin layers of alternating silt and clay, or thicker layers of very fine sand and silt. Surficial materials, consisting of fill material, sand, silt, and clay were observed during the Phase II ESA activities.

According to the *Bedrock Geologic Map of Connecticut* (U.S. Geological Survey, 1985), the site is located within the Portland Arkose formation. The USGS Mineral resources spatial data for Connecticut on-line describes this unit as reddish-brown to maroon micaceous arkose and siltstone and red to black fissile silty shale. The bedrock surface was not encountered during Phase II ESA activities.

2.4 Hydrology

A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Maps indicates that the site is not located within a flood zone. The closest surface water body and floodway is the North Branch of the Park River located approximately 0.75 miles northwest of the site. The North Branch of the Park River is culverted below the ground surface in the vicinity of the site. The culvert begins north of Farmington Avenue and the stream surfaces on the south side of Route 84. According to the National Wetlands Inventory and CTDEEP Wetlands GIS databases, wetlands are not present on the site. According to the City of Hartford Inland Wetlands and Watercourses Map, regulated wetlands or watercourses are not present on the site.

The City of Hartford, Connecticut is not included in the current CTDEEP GIS data for Aquifer Protection Areas (APAs).

Based on topography of the site, shallow overburden groundwater is inferred to flow generally southwest towards the North Branch of Park River.

2.5 Water Classification

According to the CTDEEP Bureau of Water Protection and Land Reuse, groundwater at the site is classified as GB. CTDEEP Water Quality Standards (WQS; effective April 12, 1996) indicate that GB groundwater is designated for use for industrial process water and cooling waters and baseflow for hydraulically-connected water bodies and is presumed not suitable for human consumption without treatment. Discharge in GB groundwater areas is restricted to treated domestic sewage, certain agricultural wastes, certain water treatment wastewaters and discharge from septage treatment facilities subject to stringent treatment and discharge requirements, and other wastes of natural origin that easily biodegrade and present no threat to groundwater. Discharge is also restricted to certain other biodegradable wastewaters subject to soil attenuation.

According to CTDEEP, the North Branch of Park River is classified as Class A in the vicinity of the site. CTDEEP indicates that Class A surface water is designated for use as potential drinking water supply; fish and wildlife habitat; recreational use; agricultural and industrial supply and other legitimate uses including navigation. Discharges are restricted to discharges from public or private drinking water treatment systems, dredging and dewatering, emergency and clean water discharges. Park River is classified as Class B where it surfaces south of Route 84. CTDEEP indicates that Class B surface water is designated for use as potential habitat for fish and aquatic life and wildlife; recreation; navigation; and industrial and agricultural water supply. Discharges are restricted to the same as Class A and cooling waters and discharges from industrial and municipal wastewater treatment facilities.

Section 3
Previous Assessments

3.1 Phase II ESA, SMC Environmental, 1999

SMC Environmental (SMC) conducted a limited Phase II ESA of the site for potential partial demolition and redevelopment into a parking lot. SMC referenced a Phase I ESA conducted by TRC Environmental Consultants, Inc. in October, 1990 and a Phase I ESA conducted by Land-Tech Consultants, Inc. in January, 1993. These studies were not available to Tighe & Bond during the completion of Tighe & Bond's Phase I in March 2016.

TRC identified the following AOCs:

- Partially collapsed 15,000-gallon above ground storage tank and its containment pit located on the eastern side of the building appeared to be leaking.
- Floor and sewer drains that may act as conduits through which a potential spill or release of chemical or petroleum products may be released due to sanitary sewer system.
- Basement and sub-basement area based on history of chemical storage and waste water disposal.
- Flooring and insulation throughout the building and the potential presence of cyanide and asbestos.

Land-Tech identified the following AOCs:

- History of liquid hazardous materials discharged into storm drains possibly connected to the municipal sanitary sewer system.
- Storm drains within the coal bin and adjacent to the storage and plating area could contain residual chemicals and petroleum products.
- Drains associated with plating and wastewater treatment are believed to be connected to municipal sanitary sewer system.
- Sanitary sewer laterals should be inspected for potential presence of residual waste.
- Basement and sub-basement due to the history of chemical storage and wastewater treatment.
- Degreasing and plating floors of the basement and sub-basement areas are likely to contain residual cyanide, metals, or degreasing solvents.
- Chemical storage building located in the southwestern corner of the site.
- Painted floor and wall surfaces are likely to contain lead.

The Phase II conducted by SMC consisted of soil and groundwater sampling from areas of concern which were located in a proposed parking lot area on the western side of the site. Proposed plans for the site included demolition of the western portion of the building and construction of a parking lot in the same area. Fourteen subsurface soil samples were collected and one groundwater sample was collected from the site. Analytical results for the soil samples indicated the presence of naphthalene in two soil samples which exceeded the CTDEEP Remediation Standard Regulations (RSRs)

Residential Direct Exposure Criteria (RES DEC) and GB Pollutant Mobility Criteria (PMC) of the Remediation Standard Regulations (RSRs). In addition, elevated concentrations of lead and chromium were detected in several samples. Analytical results for the groundwater sample indicated detectable levels of metals.

3.2 Demolition Summary Report, Fuss & O'Neill, 2010

Fuss & O'Neill observed the demolition of three structures consisting of a garage, a guard shack, and a small storage shed. Hazardous material abatement of the structures occurred prior to the demolition. Demolition activities were completed on November 13, 2009. The concrete slab of the guard shack was left in place.

Fuss & O'Neill collected soil samples at the three structures to evaluate the soil in the vicinity of the structures to facilitate preparation of demolition plans and specifications. Soil sampling was conducted on August 20, 2009. Ten surficial soil samples were collected around the structures. Four samples were collected from around the Hawthorn Street garage building, one from underneath the asphalt driveway, three samples were collected from soil around the Capitol Avenue storage shed, two samples were collected in the vicinity of the Capitol Avenue guard shack, and one background soil sample was collected to assess the condition of the surrounding soil. Samples were analyzed for Extractable Total Petroleum Hydrocarbons (ETPH), Total Resource Conservation and Recovery Act (RCRA) 8 Metals and select samples were analyzed for Polychlorinated Biphenyl's (PCBs), Semi-Volatile Organic Compounds (SVOCs), Toxicity Characteristic Leaching Procedure (TCLP) RCRA 8 Metals, Volatile Organic Compounds (VOCs), pH, conductivity, paint filter test, ignitability, reactivity, and corrosivity.

The metals barium, chromium, and lead were detected in each of the soil samples. The metals silver, arsenic, cadmium, chromium, and mercury were also detected in several of the soil samples. Metals detected after extraction by TCLP consisted of barium, cadmium, and lead. ETPH was detected in all but two of the samples at concentrations ranging from 80 mg/Kg to 6,900 mg/Kg. SVOCs were detected in two of the three samples submitted for analysis and PCBs were detected in two soil borings. Detected concentrations of arsenic, lead, ETPH, SVOCs, and PCBs exceed the CTDEEP RSR RES DEC.

3.3 Phase I ESA, Tighe & Bond – March 2016

Tighe & Bond completed a Phase I ESA for the site in March 2016. A summary is provided below.

The site is comprised of an approximately 6.79-acre parcel of land located south of Hawthorn Street. A 130,000 square foot building existed at the site until it burned in 1999. The site is currently vacant and heavily vegetated and forested. The former building concrete slab remains on the eastern portion of the site. Several piles of building debris are located on the site. The site was used for manufacturing by the Former Arrow Hart & Hegeman Company, Arrow-Hart, Inc., and Cooper Industries. Operations on the site included manufacturing of electrical components, including light switches, industrial electric motor controls, and electrical wiring devices. Manufacturing processes included metal stamping with pneumatic presses, screw machine operations, drilling, tapping, degreasing, machining, burnishing, heat treating, brite dipping (acid bath), spot welting, metal plating, painting, and parts assembly.

A Phase II Environmental Site Investigation conducted by SMC Environmental on June 9, 1999 reviewed as part of this Phase I ESA. A summary of the finding is provided in Section 3.1.

The following AOCs were identified for the site during the Phase I ESA:

AOC 1: Former Manufacturing Areas

The site was used for manufacturing prior to 1940. Operations on the site included manufacturing of electrical components, including light switches, industrial electric motor controls, and electrical wiring devices. Manufacturing processes included metal stamping with pneumatic presses, screw machine operations, drilling, tapping, degreasing, machining, burnishing, heat treating, brite dipping (acid bath), spot welting, metal plating, painting, and parts assembly. Chemicals used in manufacturing processes were stored in several areas throughout the building.

The Sanborn fire insurance maps show the west side of the building had storage in the basement. The center of the building had a press room, machine shop, tool shop, assembling area, plating room, and a press room.

The AOCs from the Phase II report by SMC indicate that the basement and sub-basement areas were used for chemical storage and also as a wastewater disposal area. The report also indicated that there was a chemical storage building located in the southwestern corner of the site.

Soil contamination was identified in the SMC Phase II ESA in several areas. Naphthalene-impacted soil was identified beneath the building. Several soil samples had concentrations of metals above RSR criteria including Chromium, Lead, and Copper. ETPH was also detected in samples above RSR criteria in several soil samples throughout the site.

AOC 2: Former Oil House

An "oil house" was mentioned in several reports located on the west side of the building. The oil house was labeled on the 1950 and 1979 Sanborn maps. This building appears to be in the same location as the storage building that was assessed in the Fuss & O'Neill building demolition report.

AOC 3: Former Shipping & Receiving Areas/Loading Docks

The building had shipping & receiving areas located on the southwest side of the building, the southeast side of the building, and the east side of the building. The loading docks and delivery areas have the potential for spills during the handling of chemicals and hazardous materials. Inspection notes from the Hartford Fire Marshal building records indicated that chemical storage was observed on the building loading dock on the Hawthorn Street side.

AOC 4: Former USTs

Three former USTs were located on the southwest side of the building. The USTs included one 3,000-gallon gasoline UST installed in 1979, one 1,000-gallon gasoline UST installed in 1977, and one 750-gallon kerosene UST installed in 1962. The USTs were reportedly closed in place; however, there is no report or analysis of the closure available.

AOC 5: Former ASTs

Two former 15,000-gallon fuel oil ASTs were located on the eastern side of the building and were used to fire three boilers for the building. During the Phase II ESA, TRC

observed a partially collapsed 15,000-gallon AST and its containment pit that appeared to be leaking. The Fire Marshal building records also referenced the ruptured 15,000-gallon AST observed during an inspection. The inspection indicated that the AST of fuel oil was being heated via steam so that the oil would flow and could be used in the boilers. The pressure from the steam caused the tank to rupture. The DEP responded to the incident and the tanks were ordered to be removed and new tanks installed. Further information about the removal of the ASTs was not available.

AOC 6: Former Vault

The 1950 and 1979 Sanborn maps show a small addition on the northwest side of the building. The structure was built in 1948 is labeled "Vault" and also "Hospital". This vault may have been a former transformer vault based on the evaluation during the Phase I ESA. However, based on further evaluation in the Phase II ESA, the vault was likely used for storage.

AOC 7: Former Press Room

The 1922 Sanborn map shows a press room located on the north side of the building, before any additions were constructed. The Sanborn map label indicated that the press room was located in the basement of the building. Another press room was located on the south side of the building. This press room was located on the first floor of the building.

AOC 8: Former Plating Room

The 1922 Sanborn map shows a plating room located on the south side of the building. The labels on the Sanborn map indicated that the plating room was located in the basement area of the building.

AOC 9: Storm Drains and Floor Drains

The previous Phase I ESAs referenced several storm drains and floor drains throughout the site. TRC indicated that floor and sewer drains may act as conduits through which a potential spill or release of chemical or petroleum products may be released into a sanitary sewer system. The Land-Tech Phase I ESA indicated that there was a history of liquid hazardous materials discharged into storm drains. The drains associated with plating and wastewater treatment were believed to be connected to municipal sanitary sewer system. The drains may contain residual waste and chemicals. In 1989 a release of approximately 100 gallons of fuel oil entered a sump and was pumped to a storm drain line located behind the site. The release was contained in a catch basin and removed.

AOC 10: Building Debris

It is unknown where building debris was disposed of after the fire in 1999. Demolition permits were reviewed at the Hartford Building Department. A permit from 1999 was approved for emergency demolition for the existing building; however, no other information was provided. The Phase I ESA by Land-Tech indicated that degreasing and plating floors of the basement and sub-basement areas were likely to contain residual cyanide, metals, or degreasing solvents. In addition, due to the age of the building, asbestos was likely used in its construction. Hazardous waste files from the CTDEEP were reviewed and a notice of violation dated March 8, 2000 indicated that waste on the site included bulky waste in the form of building debris.

Concentrations of PCBs were detected in soil samples around the former storage shed and garage buildings on the west side of the building during the Fuss & O'Neill demolition assessment.

AOC 11: Former Car Detailing and Repair Area

In the 1999 City Directory, the site was listed as Hawthorn Center, Hawthorn Detailing & Tire Repair Center, and Hawthorn Used Appliances.

AOC 12: Existing Piles of Dumped Material and Soil

During the site reconnaissance, several piles of debris and soil were observed on the site. Spill reports at the CTDEEP indicated that three drums of waste oil were observed on the site in 2005 and three drums of unknown waste was dumped on the site in 2006.

AOC 13: Urban Fill

The soils at the site are identified as urban land. Urban land consists mostly of sites for buildings, paved roads, and parking lots.

Fuss & O'Neill collected soil samples during their Phase II ESA to assess the condition of the soil on the site. The metals barium, chromium, and lead were detected in each of the soil samples. The metals silver, arsenic, cadmium, chromium, and mercury were also detected in several of the soil samples. Metals detected after extraction by TCLP consisted of barium, cadmium, and lead. ETPH was detected in all but two of the samples at concentrations ranging from 80 mg/Kg to 6,900 mg/Kg. SVOCs were detected in two of the three samples submitted for analysis and PCBs were detected in two soil borings. Detected concentrations of arsenic, lead, ETPH, SVOCs, and PCBs exceed the Connecticut Remediation Standard Regulation (RSR) baseline criteria for direct exposure.

Tighe & Bond recommended Phase II investigation activities be conducted to evaluate the environmental quality of the site. The investigation activities recommended included advancing soil borings and collecting soil samples, installing groundwater monitoring wells, and collecting groundwater samples.

Section 4
Remediation Criteria

Analytical results reported in this Phase II ESA were 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

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, Section 22a-134, the Connecticut Transfer Act) or Chapter 446K (Water Pollution Control); or
- Relevant subsections of CGS 22a-133 (Voluntary Clean-up) 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.

4.1 Soil Remediation Criteria

The CTDEEP soil remediation criteria integrate two risk-based goals:

- Direct Exposure Criteria (DEC) to protect human health and the environment from risks associated with direct exposure (ingestion) to contaminated soil.

- 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.

4.1.1 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 feet. 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 feet below the ground surface, an environmental land-use restriction (ELUR) is in effect with respect to the subject release area. For PCBs, a maximum concentration of 10 mg/Kg can remain in soils considered inaccessible. Inaccessible soil generally means polluted soil, which is the following:

- More than 4 feet below the ground surface
- More than 2 feet below a paved surface comprised of a minimum of three inches of bituminous pavement or concrete
- 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 industrial/commercial land use criteria are applicable and used, an ELUR notification is required in accordance with the RSRs.

4.1.2 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 PMC generally apply to all soil in the unsaturated zone, from the ground surface to the seasonal low water table in GA classified areas. For GB classified areas, the PMC are applicable to all soils from ground surface to the seasonal high water table. The site is situated within a GB classified area. Therefore, the GB PMC was applied to the site. 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 high 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.

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.

4.2 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, the groundwater classification, the 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 RSRs include the following criteria for groundwater:

- Groundwater Protection Criteria (GWPC)
- Surface Water Protection Criteria (SWPC)
- Groundwater Volatilization Criteria (GWVC)

4.2.1 Background Conditions

CTDEEP requires the remediation of a groundwater plume in a GA groundwater classified area to result in the reduction of each substance therein to a concentration equal to or less than the background concentration for groundwater of such substance. Typically, background groundwater conditions are determined by the sampling of groundwater wells that have been identified not to be within any known or suspected release area.

4.2.2 Groundwater Protection Criteria (GWPC)

GA classified groundwater may also be remediated to concentrations less than or equal to the groundwater protection criteria (GWPC) for each substance. The GWPC can be utilized as remediation criteria if:

- the background groundwater concentration is equal to or less than such GWPC;
- if a public water supply distribution system is available within 200 feet of the subject site;
- if the groundwater plume is not located in an aquifer protection area; and
- if the groundwater plume is not located within the area of influence of any public water supply well.

4.2.3 Surface Water Protection Criteria (SWPC)

The SWPC applies to all groundwater, which discharges to surface water. 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.

4.2.4 Groundwater 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 industrial/commercial (I/C) GWVC in lieu of the residential (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.

The SWPC and GWVC would apply to the site.

4.2.5 Additional Polluting Substances and Certain Alternative Criteria

The RSRs, sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies, contain numeric cleanup standards for 88 substances. When a contaminant at a site is not one of the 88 substances listed in the RSRs, numeric criteria must be requested and approved by the Commissioner in order to complete cleanup at the site under the RSRs, unless background concentrations are met. In accordance with CGS Sections 22a-133k-2 through 133k-3, the Commissioner may approve the use of site-specific cleanup criteria for Additional Polluting Substances (APS) and certain Alternative Criteria for soil and groundwater.

Section 5
Phase II Assessment Activities

The Phase II ESA activities included the advancement of soil borings, test pits, and installation and sampling of monitoring wells. The purpose of the Phase II ESA is to assess releases to the environment associated with the previously identified AOCs on the site.

The approach, procedures and results of the site assessment activities are presented in the following sections.

5.1 Ground-Penetrating Radar

Prior to conducting the assessment activities, Call Before You Dig (CBYD) was contacted by Tighe & Bond personnel in order to identify underground utilities associated with the site as required by State law. A ground-penetrating radar (GPR) survey was also conducted prior to drilling activities to mark-out on-site utilities and to confirm the presence or absence of existing USTs identified in historic environmental reports. On October 5, 2016, Tighe & Bond personnel oversaw the GPR survey conducted by Underground Surveying of Brookfield, Connecticut. The USTs were reportedly closed in place, but were not identified by the GPR survey. The thickness of the fill in the area of the former USTs may have had an impact on the ability for the GPR equipment to identify utilities or the USTs; therefore, it was inconclusive as to whether the USTs remain in place. A sewer line running through the center of the site from Capitol Avenue to Hawthorn Street was identified on Fuss & O'Neill's Figure 1 Site Plan and Sample Locations map from September, 2009. The GPR survey was able to locate the sewer line approximately 10 feet onto the site from Capitol Avenue, until the sewer line was too deep to see on the equipment. Underground Surveying returned to the site on October 6, 2016 to use a remote-control unit with a camera to track the sewer line. The thickness of the sewage within the sewer line made it impassable for the remote-control GPR unit; therefore, the sewer line was unable to be fully marked-out. As a precaution, Tighe & Bond did not drill in the area of the sewer line.

5.2 Soil Borings

On October 5 through October 7, 2016, Tighe & Bond personnel oversaw the advancement of nineteen soil borings (B-101 through B-119) at the site. Soil borings were advanced to depths ranging from 10 feet to 30 feet below ground surface (bgs). HS-1 was collected as a hand sample to a depth of two feet bgs due to the underground sewer pipeline.

The soil boring locations are depicted on Figure 3. Soil borings were advanced by American Environmental Assessment Corporation of Hartford, Connecticut utilizing a Geoprobe 7822DT drill rig. Soil samples were collected from each boring in five foot intervals using a macro-core sampling device from ground surface to the bottom of each boring. Boring logs are contained in Appendix B. Each soil sample was field screened with a photoionization detector (PID) for volatile organic compounds (VOCs) and observed for evidence of impacts including staining and odors. Tighe & Bond collected select soil samples from each soil boring based on the interval where contamination was likely to occur at the AOCs in which they were located based on the most probable release scenario. The soil sample from hand sample HS-1 was not submitted for

laboratory analysis. Coarse tan sand was observed in the hand sample, but appeared to be above surface grade and not indicative of subsurface conditions in this location.

A total of eighteen soil samples and two duplicates soil samples were collected and submitted to Phoenix Environmental Laboratories, Inc. (Phoenix) of Manchester, Connecticut (a Connecticut-certified analytical laboratory) for laboratory analysis. Each soil sample was analyzed for constituents that had the potential to be released to the subsurface due to historical activities conducted on the site and specific to the AOC from which the sample was collected. Based on COCs for the site, the soil samples were analyzed for one or more of the following:

- VOCs using Environmental Protection Agency (EPA) Method 8260
- ETPH using CT Department of Public Health (CTDPH) methodologies
- Semi-Volatile Organic Compounds (SVOCs) using EPA Method 8270
- Reasonable Confidence Protocol (RCP) Metals using EPA Method 6010
- Total Lead using EPA Method 6010
- Polychlorinated Biphenyls (PCBs) by EPA 8082 using Soxhlet Extraction

A specific breakdown of the samples collected, their respective AOC location and the parameters analyzed is provided in the table below. An AOC Map is included as Figure 2.

AOC	Location	Soil Boring & Sample Depth Interval	Test Pit & Sample Depth	Parameters Analyzed
AOC-1	Former Manufacturing Areas	B-101 (0-2')	TP-2 (4.5')	ETPH, RCP metals, SVOCs, VOCs, PCBs, and Cyanide
		B-105 (0-2')	TP-6 (7')	
		B-118 (10-12')		
AOC-2	Former Oil House	B-113 (N/A)	TP-3 (8')	ETPH, PCBs, PAHs, and VOCs
		B-119 (2-4')		
AOC-3	Former Shipping & Receiving Areas/Loading Docks	B-103 (1-3')	TP-4 (6')	ETPH, SVOCs, VOCs, PCBs, RCP metals, and Cyanide
		B-108 (12-14)		
		B-112 (22-24')		
		B-117 (2-4')		
AOC-4	Former USTs	B-111 (16-18')	TP-7 (6')	ETPH, Lead, PAHs, VOCs
		B-112 (22-24')		
AOC-5	Former ASTs	B-103 (1-3')	-	ETPH, PAHs, VOCs
AOC-6	Former Vault	HS-1 (0-1')	-	None
AOC-7	Former Press Room	B-110 (11-13')	TP-2 (4.5')	ETPH, RCP metals, SVOCs, VOCs, PCBs
			TP-6 (7')	
AOC-8	Former Plating Room	B-108 (12-14')	TP-5 (6')	ETPH, RCP metals, SVOCs, VOCs, PCBs, and Cyanide
		B-109 (12-14')		
AOC-9	Storm Drains and Floor Drains	B-106 (4-6')	-	ETPH, SVOCs, VOCs, RCP metals, PCBs, and Cyanide
		B-107 (6-8')		
AOC-10	Building Debris	B-102 (1-3')	-	ETPH, PCBs, SVOCs, VOCs, RCP metals, Cyanide, and Asbestos

AOC-11	Former Car Detailing and Repair Area	-	-	ETPH, VOCs, and PAHs
AOC-12	Existing Piles of Dumped Material and Soil	B-114 (7-9') B-115 (7-9')	TP-1 (8.5')	ETPH, PCBs, SVOCs, VOCs, RCP metals, and Pesticides
AOC-13	Urban Fill	All	All	ETPH, PCBs, SVOCs, VOCs, RCP metals, Pesticides, and Cyanide

Staining and odors were observed in several borings throughout the site and appeared to be in fill material. Evidence of fill including wood, brick, concrete, glass, and asphalt was observed in several soil borings. Low level PID readings were observed in B-110 ranging from 0.2 to 1.3 parts per million (ppm). PID readings were not observed in other samples on the site.

Seven groundwater monitoring wells (MW-101 through MW-107) were installed throughout the site in the vicinity of AOCs. The monitoring wells were installed to a range of 12 to 35 feet bgs and were constructed with 10 feet of 0.010-inch-slotted PVC screen, with two inch PVC riser. The annular space around the wells were filled with sand, extending approximately one foot above the screen, and a layer of bentonite was placed above the sand pack to form a seal. Sand was used to fill the remaining borehole to grade. The wells were equipped with a locking gripper cap and finished with a stand pipe. A copy of the monitoring well installation logs are contained in Appendix B. A copy of the monitoring well completion data table is attached as Table 1 in Appendix D.

5.3 Test Pits

On October 3 and 4, 2016, Tighe & Bond personnel oversaw the advancement of seven test pits (TP-1 through TP-7) at the site. Test pits were excavated to depths ranging from 4.5 feet to 11 feet bgs.

The test pit locations are depicted on Figure 3. Test pits were advanced by AEA utilizing a Hitachi Zaxis 85 USB excavator. Soil samples were collected from various depths in each test pit. Test pit logs are contained in Appendix B. Each soil sample was field screened with a photoionization detector (PID) for volatile organic compounds (VOCs) and observed for evidence of impacts including staining and odors. Tighe & Bond collected select soil samples from each test pit based on field observations and the interval where contamination was likely to occur at the AOCs in which they were located based on the most probable release scenario.

A total of seven soil samples were collected and submitted to Phoenix for laboratory analysis. Each soil sample was analyzed for constituents that had the potential to be released to the subsurface due to historical activities conducted on the site and specific to the AOC from which the sample was collected. Based on COCs for the site, the soil samples were analyzed for one or more of the following:

- VOCs using Environmental Protection Agency (EPA) Method 8260
- ETPH using CT Department of Public Health (CTDPH) methodologies
- SVOCs using EPA Method 8270
- RCP Metals using EPA Method 6010

- Total Lead using EPA Method 6010
- PCBs by EPA 8082 using Soxhlet Extraction

Evidence of fill material including wood, brick, concrete, glass, and asphalt was observed in several test pits throughout the sites. Tan sand and a layer of asphalt at two feet bgs was observed in test pit TP-1 on the western side of the site. Fill material was observed in test pits TP-2, TP-4, TP-5, TP-6 in the building footprint, and TP-7 in the area of the former USTs. The concrete building slab was observed on the east side of the site and was 12 to 18 feet thick. TP-4 was off-set to the west outside of the building footprint due to the concrete slab. A layer of asphalt was observed in TP-7 at 9 feet bgs. PID readings were not observed in the soils in the test pits. Groundwater was not observed in the test pits.

5.4 Groundwater Gauging & Sampling

Following installation, the newly install groundwater monitoring wells (MW-1 through MW-7) were developed utilizing surge and pump techniques on October 7, 2016 and October 14, 2016 to remove sediment that may have settled in the monitoring wells during drilling activities. Groundwater was removed from each well until the wells were purged dry or the water appeared to clear up. Monitoring wells MW-1, MW-4, MW-5, MW-6, and MW-7 were purged until dry. After the groundwater recharged, the monitoring wells were purged dry a second time. The groundwater appeared gray and silty. Due to low water levels following the development activities, MW-2 and MW-3 were unable to be developed.

On November 30, 2016, Tighe & Bond contracted with Martinez Couch & Associates to conduct an elevation survey of the monitoring wells on the site. The elevations were based off the North American Vertical Datum (NAVD) and were measured from elevation and above mean sea level. Based on the groundwater gauging data, shallow overburden groundwater flow direction is generally southwest towards the North Branch of the Park River. Following the groundwater gauging activities, Tighe & Bond conducted the groundwater sampling event utilizing low flow procedures in general accordance with the CTDEEP's *Site Characterization Guidance Document* dated September 2007 (revised December 2010) and Region I EPA's *Low Stress (low flow) Purging and Sampling Procedure* (revised January 19, 2010). Six of the seven groundwater monitoring wells were sampled during this event. Monitoring well MW-2 did not produce enough water for a groundwater sample.

Purging and sampling were performed using a peristaltic pump and dedicated polyethylene tubing. Purged water volumes were based on the rate of stabilization of field-measured water quality parameters, including: dissolved oxygen, specific conductance, temperature, pH, turbidity, and oxidation/reduction potential. Field parameters, purging rates and water levels were measured and recorded at five-minute intervals. Upon stabilization of the groundwater parameters, the groundwater samples were collected in the appropriate laboratory supplied containers. A copy of the field data sheets for the monitoring wells MW-1 and MW-3 through MW-7 are provided in Appendix C.

Monitoring wells MW-4, MW-5, and MW-6 were sampled using low flow procedures. Grab samples were collected from monitoring wells MW-1, MW-3, and MW-7 instead of purging, due to a limited amount of groundwater in the monitoring wells and slow recharge.

Groundwater samples were collected from monitoring wells MW-1 and MW-3 through MW-7 and submitted to Phoenix for laboratory analysis of one or more of the following analyses:

- VOCs using EPA Method 8260
- VPH using the MassDEP methodologies
- ETPH using CTDPH methodologies
- SVOCs using EPA Method 8270
- RCP metals using EPA Method 6010

5.5 Sample Management

Soil and groundwater samples were collected in appropriate laboratory-supplied containers and chilled immediately on ice for transit to the laboratory. Tighe & Bond personnel maintained possession of the samples until transfer to a laboratory-provided courier for transit to the laboratory. A chain-of-custody form accompanied the samples from their collection point to delivery at Phoenix.

Section 6
Geology and Hydrogeology

6.1 Soil Types

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) for the State of Connecticut (NRCS Webpage, 2009), the soils at the site are identified as urban land. Areas with urban land consist mostly of sites for buildings, paved roads, and parking lots. Slopes range from 0 to 10 percent but are dominantly 0 to 5 percent. Included with this unit are small, intermingled areas of Udorthents; somewhat excessively drained Merrimac soils; well drained Canton, Charlton, and New port soils; and moderately well drained Pittstown, Sudbury, and Sutton soils. Included areas make up about 15 percent of urban land.

Soil conditions observed during the Phase II ESA were generally consistent with published sources. Wooded areas are primarily present throughout the site. The western portion of the site is covered by paved surfaces. Building debris and fill material including wood, brick, concrete, glass, and asphalt was generally observed throughout the site within the former building footprint and along the former railroad tracks.

6.2 Surficial Geology

Surficial materials underlying the site consist of Fines. A description of this surficial material is as follows:

Fines: Composed of well-sorted, thin layers of alternating silt and clay, or thicker layers of very fine sand and silt.

Surficial geologic conditions observed during the Phase II ESA were generally consistent with published sources, fines. Fine sand and silt were generally encountered below the fill material and clay was encountered within the water table.

Miscellaneous areas of fill including wood, brick, concrete, glass, and asphalt were generally observed within the former building footprint and along the former railroad tracks. Fill material was observed throughout the site ranging from 0 to 24 feet bgs. The thickness of fill material varied across the site. The thickest intervals of fill material observed were located along the southeastern site boundary and within the western portion of the building footprint.

6.3 Bedrock Geology

According to the *Bedrock Geologic Map of Connecticut* (U.S. Geological Survey, 1985), the site is located within the Portland Arkose formation. The USGS Mineral resources spatial data for Connecticut on-line describes this unit as reddish-brown to maroon micaceous arkose and siltstone and red to black fissile silty shale.

The bedrock surface was not encountered during the Phase II ESA.

6.4 Groundwater Flow

Depth to groundwater was measured in all 7 monitoring wells ranging from 8 fbg in MW-3 to 25 fbg in MW-2. Based on the monitoring well elevation survey of the site, shallow overburden groundwater flow generally is to the southwest towards the North Branch of

Park River. Table 1 includes a summary of groundwater gauging and elevation data. Figure 4 depicts groundwater contours and the direction of groundwater flow across the site.

Based on the groundwater elevation data summarized above, the hydraulic gradient (change in head with distance) was calculated between various wells at the site and was determined to be approximately 0.016 feet/foot within the shallow overburden using monitoring wells MW-1 and MW-3.

Section 7
Phase II Assessment Results

A summary of the soil and groundwater analytical data is provided below and is summarized on Tables 2 and 3 (Appendix D), respectively. The soil and groundwater laboratory analytical reports are attached as Appendix E.

7.1 Soil Analytical Results

Tighe & Bond observed the advancement of nineteen soil borings and seven test pits during the Phase II ESA. A total of twenty-seven soil samples were collected for laboratory analysis of COCs specific to each AOC. Eighteen soil samples and two duplicate soil samples were collected from soil borings, and seven soil samples were collected from test pits. Soil analytical results as compared to applicable RSR criteria are discussed below.

Soil samples were submitted for laboratory analysis of one or more of the following parameters: ETPH, VOCs, SVOCs, RCP metals, Total Cyanide, PCBs, and pesticides. Site soils generally consisted of fill material, fine sand, and silt. Soil borings were advanced to a maximum depth of 35 feet bgs

Each of the twenty-seven soil samples were submitted for analysis of ETPH. Laboratory analytical results indicated that ETPH was detected at 880 mg/Kg in B-111 (16-18'), which is above applicable RSR criteria. ETPH was detected below applicable RSR criteria in soil samples TP-7 (6'), B-107 (6-8'), B-109 (12-14'), B-117 (2-4') and B-111 (16-18') DUP. Concentrations of ETPH ranged from 62 mg/kg to 480 mg/kg.

Sixteen soil samples were submitted for analysis of VOCs. Laboratory analytical results indicated that VOCs were detected in TP-5 (6'), TP-7 (6'), and B-112 (22-24') at concentrations above laboratory reporting limits, but below applicable RSR criteria.

Fifteen soil samples were submitted for analysis of SVOCs. SVOCs were detected in TP-7 (6'), B-109 (12-14'), B-110 (11-13'), and B-118 (10-12') at concentrations above applicable RSR criteria. Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Indeno[1,2,3-cd]pyrene, and Phenanthrene were detected above applicable RSR criteria. SVOCs were detected in B-106 (4-6'), B-111 (16-18'), and B-115 (7-9') above laboratory reporting limits, but below applicable RSR criteria.

Soil samples B-104 (3-5'), B-108 (12-14'), and B-115 (7-9') were submitted for analysis of pesticides. Pesticide 4,4-DDE was detected in sample B-108 (12-14') at 0.026 mg/Kg and pesticide 4,4-DDT was detected in sample B-108 (12-14') at 0.032 mg/Kg. RSR criteria has not been established for this compound; however, an additional polluting substance value of 1.8 mg/Kg is applicable for RES DEC and 0.02 mg/Kg is applicable for GB PMC. Pesticides were not detected at concentrations above laboratory reporting limits in B-104 (3-5') or B-115 (7-9').

Soil samples TP-2 (4.5'), B-102 (1-3'), B-103 (1-3'), B-104 (3-5'), B-107 (6-8'), B-109 (12-14'), B-110 (11-13'), B-112 (22-24'), B-116 (1-3'), B-117 (2-4'), B-118 (10-12), and B-119 (2-4') were submitted for analysis of PCBs. Laboratory analytical results

indicated that PCBs were not detected at concentrations above laboratory reporting limits in the analyzed samples.

Samples TP-2 (4.5'), B-107 (6-8'), B-109 (12-14'), and B-118 (10-12') were submitted for analysis of Total Cyanide. Laboratory analytical results indicated that Total Cyanide was not detected at concentrations above laboratory reporting limits in the analyzed samples.

Twenty soil samples were submitted for analysis of RCP metals and several RCP metals were reported in all twenty of the soil samples. A majority of the metals concentrations were consistent and appear to be suggestive of urban fill, which was observed in the borings. Total lead was detected in TP-5 (6') and B-108 (12-14') above applicable RSR criteria. Arsenic was detected in TP-7 (6') and B-112 (22-24') above applicable RSR criteria. Elevated levels of total lead were detected in soil samples B-112 (22-24') and B-118 (10-12') below applicable RSR criteria. One soil sample, B-111 (16-18') was only analyzed for total lead, which was reported at 621 mg/Kg, which is above the applicable RSR criteria.

Soil sample locations are depicted on Figure 3. Soil sample exceedances are depicted on the Figure 5. A summary table of the soil laboratory analytical results is attached as Table 2. The soil laboratory analytical report is attached as Appendix E.

7.2 Groundwater Analytical Results

Groundwater samples were collected from groundwater monitoring wells MW-1 and MW-3 through MW-7 and were submitted for laboratory analysis of one or more of the following constituents: VOCs, ETPH, PAHs, RCP metals, and PCBs.

All six of the groundwater samples were submitted for analysis of ETPH. ETPH was detected in MW-3 at 310 micrograms per liter (ug/L), which is above the applicable APS SWPC of 250 ug/L. ETPH was also detected in MW-7 at 150 ug/L, which is below the applicable APS SWPC. ETPH was not detected in MW-1, MW-4, MW-5, or MW-6 above laboratory detection limits.

All six of the groundwater samples were submitted for analysis of VOCs. VOCs chloroform, methylene chloride, tetrachloroethene (PCE), and trichloroethylene (TCE) were detected in MW-5 above laboratory detection limits, but below applicable RSR criteria. VOCs were not detected in the other groundwater sample.

Three of the groundwater samples (MW-4, MW-5, and MW-6) were submitted for analysis of PAHs and PCBs. PAHs and PCBs were not detected in these groundwater samples above laboratory detection limits.

Five of the groundwater samples (MW-1, MW-4, MW-5, MW-6, and MW-7) were submitted for analysis of RCP metals. RCP metals barium, chromium, copper, lead, nickel, vanadium, and zinc were detected in MW-1 below applicable RSR criteria. RCP metals barium, nickel, and zinc were detected in MW-4, MW-5, MW-6, and MW-7 below applicable RSR criteria.

The groundwater laboratory analytical report is attached as Appendix E. A summary table of the groundwater laboratory analytical results is attached as Table 3.

Section 8
Hazardous Building Materials Assessments

The purpose of the assessment was to evaluate if hazardous building materials are located on the site and will be impacted during future redevelopment of the site.

8.1 Assessment Summary

The Hazardous Building Materials Assessment (HBMA) was conducted by State of Connecticut licensed inspector, Samantha Avis of Tighe & Bond on October 7, 2016. The inspection included sampling of suspect asbestos containing materials (ACM) found within building debris piles throughout the site. The inspection was limited to surficial and accessible materials. Suspect PCB containing source materials including major paint systems, window caulking and glazing, and door caulking were not encountered during the Phase II ESA.

Suspect Asbestos-Containing Material Sampling

A total of four different types of suspect ACM were observed and sampled including black fibrous paper and other miscellaneous materials. Sampled materials are listed in Table 4. Up to three samples were collected of each suspect material in accordance with the EPA requirements for asbestos identification. Samples were submitted to EMSL Laboratories in Wallingford, Connecticut for asbestos analysis via Polarized Light Microscopy (PLM) using EPA approved protocol in accordance with accreditation of the National Institute of Standards and Technology (NIST).

During assessment activities the sample locations, types of material, and approximate quantities were recorded. Homogenous materials were noted when observed.

8.2 Findings and Conclusions

Asbestos Sampling Results

During the course of the assessment, a total of 12 bulk samples of suspect ACM were collected and 12 samples were analyzed by PLM based on the "stop on first positive" request from the laboratory.

EPA defines any material containing more than 1% asbestos as ACM. Based on laboratory results, the materials sampled as part of this assessment were not identified as asbestos containing. Refer to Table 4 for a summary of materials sampled and locations. Laboratory analytical reports for asbestos sampling are provided in Appendix E.

If additional materials are encountered during redevelopment activities that were not previously sampled, then they would need to be sampled to evaluate if it is an ACM or should be assumed to be asbestos containing.

All regulated friable and non-friable ACM must be removed prior to renovation or demolition activities. A State of Connecticut Licensed Asbestos Abatement Contractor must be retained to perform removal work. Visual inspections must be performed within each abatement area at the completion of the abatement work. The visual inspection must be performed by a State of Connecticut Licensed Asbestos Project Monitor. The abatement areas must meet final visual inspection criteria prior to renovation or

demolition activities. Re-occupancy air monitoring is required before any entry of any person into the work area.

The Asbestos Abatement Contractor must submit a notice of asbestos abatement to the State of Connecticut Department of Health post marked or hand delivered 10 days prior to the commencement of any asbestos abatement activities involving the abatement of greater than 10 linear feet or 25 square feet of asbestos containing materials.

Section 9
Quality Assurance / Quality Control (QA/QC)

Field sampling quality assurance included the collection of duplicate and blank samples. Quality control checks on field activities were performed to assure collection of data that is representative and valid. Laboratory quality assurance measures are also provided.

9.1 Duplicate Samples

Field duplicate samples are collected to provide information on data reproducibility. The duplicate samples were obtained by collecting two identical sets of samples from a single sample location. The respective duplicate samples were analyzed for several parameters analyzed in the original sample. The comparison is a measurement of analytical precision.

Two duplicate samples were collected during the soil investigation at the site. Duplicate samples were collected from soil borings B-106 (4-6') and B-111 (16-18').

ETPH was not detected in B-106 (4-6') or its duplicate sample above laboratory detection limits. The SVOCs, fluoranthene, phenanthrene, and pyrene were detected in B-106 (4-6'), but were not detected in its duplicate sample. This discrepancy may be related to sample heterogeneity within the two samples based on the sample location. The sample was collected within the building footprint where fill material was observed.

Several RCP metals were detected in B-106 (4-6') and its duplicate sample above laboratory detection limits. The relative percent difference (RPD) between the RCP metals sample results for B-106 (4-6') and its duplicate ranged between 9% and 58%, with the exception of Lead which had an RPD of 124%. The discrepancies may be related to sample heterogeneity. Also RPDs are expected to be greater for analysis such as metals which are detected at low concentrations and tend to have greater variability.

The RPD between the ETPH sample results for B-111 (16-18') and its duplicate was 59%. SVOCs chrysene and naphthalene were detected in B-111 (16-18'), but were not detected in its duplicate sample. These discrepancies may be related to sample heterogeneity within the two samples based on the sample location. The sample was collected within the area adjacent to the railroad tracks where fill material was observed.

One duplicate sample was collected during the groundwater sampling event at the site from MW-4. ETPH, VOCs, PAHs, and PCBs were not detected in MW-4 and its duplicate sample above laboratory detection limits. Barium was detected in both MW-4 and its duplicate sample at 117 ug/L. Nickel was detected in both MW-4 and its duplicate sample at 3.0 ug/L. The RPD between the zinc sample results for MW-4 and its duplicate was 29%. RPDs are expected to be greater for analysis such as metals which are detected at low concentrations and tend to have greater variability.

Based on our data evaluation, the discrepancies noted from the RPD values do not have a significant effect on the data quality objectives for this Phase II ESA.

9.2 Blank Samples

A trip blank sample was used for site activities during groundwater VOC sampling activities. The purpose of analyzing this control sample was to determine if potential cross-contamination occurred as a result of improper sample container cleaning, contaminated blank source water, sample contamination during storage and transportation, and other environmental conditions during the sampling event. The trip blank sample consisted of a container of laboratory-supplied reagent-grade water that was kept with the field groundwater sample containers from the time they left the laboratory until the time they were returned to the laboratory.

VOCs were not reported in the trip blank. Accordingly, VOC cross-contamination did not likely occur during the groundwater sampling event.

Dedicated tubing was used to collect the groundwater samples at each monitoring well. As such, an equipment blank sample was not collected.

9.3 Laboratory Quality Control

Tighe & Bond performed a detailed review of the soil and groundwater samples collected, laboratory results, and the laboratory RCP case narratives to identify if quality control deficiencies were present. The evaluation forms and the case narratives are included in the soil and groundwater laboratory analytical reports included as Appendix E. Significant biases were not identified.

An analysis of the laboratory results, detected compounds, and collected samples affected by laboratory quality control deficiencies was performed. The laboratory analytical reports detail non-conformances involving Laboratory Control Samples (LCS), surrogate recoveries, matrix spikes, matrix spike duplicates, and calibration checks. Based on the review of the non-conformances and the laboratory certification documenting each lab report meets CTDEEP RCP, the non-conformances identified do not affect the usability of the laboratory data. In those areas where COCs were involved, the data quality is only slightly affected by these deficiencies and is sufficient to satisfy the data quality objectives (DQOs) for the project. The laboratory analytical reports which include the RCP case narratives are included in Appendix E.

9.4 Data Usability Assessment

The quality control data and the analytical data were reviewed to form a data usability assessment. This assessment takes into consideration the following parameters:

- Detection limits
- Regulatory criteria
- Matrix effects
- Importance of nonconforming data

Multiple soil samples were collected across the site to provide characterization of the site. Laboratory analysis of soil samples had sufficiently low detection limits in order to identify constituent concentrations approaching the RSR. Based on a review of the laboratory reporting limits and sample analytical results it is determined that the data derived from this ESA is usable and adequate for the project objectives.

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 assessment 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.

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 releases have not occurred
- Data and rationale to support the conclusion

10.1 Description of Site, Environments and AOCs

A detailed description of the site and environmental setting is provided in Section 2, while a description of the previous assessments and reports prepared for the site, including the identification of the AOCs, is provided in Section 3.

10.2 Nature and Extent of Contamination

A Phase II ESA was performed to determine if releases had occurred to the environment at the identified AOCs at the site. The COCs confirmed in fill material at the site include SVOCs, ETPH, RCP metals, and pesticides. Detections of these COCs were identified in soils on the site ranging from 0 to 25 feet. Low levels of several RCP metals, SVOCs, VOCs, pesticides, and ETPH concentrations were detected in soil samples collected during the Phase II ESA. These concentrations were below applicable RSR criteria. The detected RCP metals are likely representative of background concentrations and urban fill and not indicative of a release. SVOCs above applicable RSR criteria were identified in TP-7 (6'), B-109 (12-14'), B-110 (11-13'), and B-118 (10-12'). These COCs are suggestive of urban fill on the site. Fill material was observed in several soil samples including sand, brick, crushed concrete, asphalt, and gravel.

Concentrations of ETPH above RSR criteria in B-111 (16-18') and high levels of total lead above RSR criteria in TP-5 (6'), TP-108 (12-14'), and B-111 (16-18') are likely indicative of a release.

Detections of RCP metals barium, nickel, and zinc were detected in all of the groundwater samples submitted for RCP analysis at concentrations below the applicable

RSR criteria and suggestive of naturally occurring concentrations. RCP metals chromium, copper, lead, and vanadium were detected in MW-1 and may be indicative of a release or suggestive of fill material. ETPH was detected in MW-3 and MW-7 and may be indicative of a release or suggestive of fill material. VOCs were detected in MW-5 and may be indicative of a release.

Detailed results of the Phase II ESA soil and groundwater sampling are discussed in Section 7 and are presented in Tables 2 and 3, respectively.

10.3 Potential Release Mechanisms

Common potential release mechanisms fall into three general types depending on the source.

- A release directly onto the ground, asphalt or building slab. Releases onto asphalt or building slabs can migrate through cracks over time.
- Current or historical deposition of polluted fill material directly onto the surface. Polluted fill material could currently be underneath the former building location, roads, or other areas of the site.
- A release from a UST or other subgrade features (e.g. floor drains, in-ground lifts, etc.) directly to the subsurface.

The potential release mechanisms for each AOC are identified in section 10.3.

10.4 Migration Pathways

Common 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 bgs with vertical migration to the water table, then horizontally with groundwater. The second migration pathway is contaminant transport through overland flow at the ground surface. Preferential pathways can also influence contaminant transport. Potential migration pathways for each AOC are identified in Section 10.3.

10.5 Areas of Concern & Phase II ESA Findings

The findings of the Phase II ESA are provided below by AOC along with a discussion of the data relative to this Phase II ESA CSM.

AOC 1: Former Manufacturing Areas

The site was used for manufacturing from approximately 1912 until the late 1980s. Operations on the site included manufacturing of electrical components, including light switches, industrial electric motor controls, and electrical wiring devices. Manufacturing processes included metal stamping with pneumatic presses, screw machine operations, drilling, tapping, degreasing, machining, burnishing, heat treating, brite dipping (acid bath), spot welting, metal plating, painting, and parts assembly. Petroleum products and chemicals used in manufacturing processes were stored in several areas throughout the building.

COCs include ETPH, RCP metals, SVOCs, VOCs, PCBs, and Cyanide

Release Mechanisms and Anticipated Depth: Releases from the former manufacturing areas to an anticipated depth up to five feet bgs. Releases from surficial spills.

Migration Pathways: Soil directly below the concrete slab could be impacted by leachates that migrate through cracks and expansion joints downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: The AOCs from the Phase II report by SMC indicate that the basement and sub-basement areas were used for chemical storage and also as a wastewater disposal area. The report also indicated that there was a chemical storage building located in the southwestern corner of the site.

Soil contamination was identified in the SMC Phase II ESA in several areas within the building footprint. Naphthalene-impacted soil was identified beneath the building. Several soil samples had concentrations of metals above RSR criteria including Chromium, Lead, and Copper. ETPH was also detected in samples above RSR criteria in several soil samples throughout the site.

Phase II ESA Soil Results: Three soil borings (B-101, B-105, and B-118) and two test pits (TP-2 and TP-6) were advanced in the building footprint in former manufacturing areas. Soil sample B-101 (0-2') was submitted for analysis of ETPH, VOCs, SVOCs, and RCP metals. Soil sample B-105 (0-2') was submitted for analysis of ETPH, VOCs, and RCP metals. Several RCP metals were detected in B-101 and B-105 below applicable RSR criteria and the remaining COCs were not detected in B-101 or B-105 above laboratory detection limits. Soil sample B-118 (10-12') was submitted for analysis of ETPH, Total Cyanide, VOCs, SVOCs, PCBs, and RCP metals. Several SVOCs and Total Lead were detected above RSR criteria. Several RCP metals were detected above laboratory detection limits, but below RSR criteria. Soil sample TP-2 (4.5') was submitted for analysis of ETPH, Total Cyanide, and PCBs. COCs were not detected above laboratory reporting limits in TP-2. Soil sample TP-6 (7') was submitted for analysis of ETPH and RCP metals. Several RCP metals were detected in TP-7 below applicable RSR criteria.

Summary: The elevated detections of SVOCs and Total Lead in soil sample B-118 (10-12') is likely indicative of a release. The detections of RCP metals in soil samples is consistent with other soil samples throughout the site and is likely indicative of the fill material on the site.

AOC 2: Former Oil House

An "oil house" was mentioned in several reports located on the west side of the building. The oil house was labeled on the 1950 and 1979 Sanborn maps.

COCs include ETPH, PCBs, SVOCs, and VOCs

Release Mechanisms and Anticipated Depth: Releases from the former oil house to an anticipated depth up to five feet bgs. Releases from surficial spills.

Migration Pathways: Soil directly below the concrete slab could be impacted by leachates that migrate through cracks and expansion joints downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: The oil house building appears to be in the same location as the storage building that was assessed in the Fuss & O'Neill building demolition report. Five samples were collected from soil around the Capitol

Avenue storage shed. Several metals were detected in all five samples and total Lead was detected above the RSR RES DEC in one soil sample. ETPH was detected in all of the samples at concentrations ranging from 510 mg/Kg to 6,500 mg/Kg. SVOCs were detected in two of the samples submitted for analysis and PCBs were detected in one of the samples. Detected concentrations of ETPH, SVOCs, and PCBs exceeded the RSR RES DEC.

Phase II ESA Soil Results: One soil boring was advanced in the area of the former oil house (B-119). Soil Sample B-119 (2-4') was collected below the gravel and submitted for analysis of ETPH, SVOCs, and PCBs. COCs were not detected in B-119 (2-4') above laboratory reporting limits.

Phase II ESA Groundwater Results: One groundwater monitoring well (MW-3) was installed in boring B-119 in the area of the former oil house. One groundwater sample was collected from MW-3 and submitted for analysis of ETPH and VOCs. ETPH was detected in MW-3 at 310 ug/L, which is above the applicable APS SWPC of 250 ug/L. VOCs were not detected in MW-3 above laboratory detection limits.

Summary: The detections of PCBs in the Fuss & O'Neill demolition report are likely from former building materials. The detections of ETPH and SVOCs may be indicative of a release. The soil samples collected by Fuss & O'Neill were surficial samples ranging from zero to one foot bgs and may have included surficial fill or asphalt. ETPH, SVOCs, and PCBs were not detected in B-119 above laboratory detection limits. ETPH was detected in MW-3 above RSR criteria and may be indicative of an oil release to groundwater.

AOC 3: Former Shipping & Receiving Areas/Loading Docks

The building had shipping & receiving areas located on the southwest side of the building, the southeast side of the building, and the east side of the building. The loading docks and delivery areas have the potential for spills during the handling of chemicals and hazardous materials. Inspection notes from the Hartford Fire Marshal building records indicated that chemical storage was observed on the building loading docks.

COCs include ETPH, SVOCs, VOCs, PCBs, RCP metals, and Cyanide

Release Mechanisms and Anticipated Depth: Releases directly to the ground surface from trucks in loading docks and handling of materials.

Migration Pathways: Soil directly below the asphalt/concrete could be impacted by leachates that migrate downward through cracks in the asphalt/concrete through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Previous assessments were not conducted for this AOC.

Phase II ESA Soil Results: Three soil borings (B-103, B-108, and B-117) were collected from the former loading dock areas. Soil sample B-103 (1-3') was collected from the northwest loading dock off of the existing concrete edge of the building. The sample was collected from below a concrete slab. Soil sample B-108 (12-14') was collected in the area of the former southern loading dock along the former railroad. The boring was advanced through fifteen and a half feet of fill material. Refusal was encountered at concrete located at fifteen and a half feet bgs. Soil sample B-117 (2-4') was collected from the northwest loading dock from below a layer of tan sand and asphalt. Oil soaked wood was observed in B-117 at approximately two feet bgs.

Soil sample B-103 (1-3') was submitted for analysis of ETPH, VOCs, SVOCs, PCBs, and RCP metals. COCs were not detected in B-103 (1-3') above laboratory detection limits. Soil sample B-108 (12-14') was submitted for analysis of ETPH, VOCs, pesticides, and RCP metals. Pesticides 4,4-DDE and 4,4-DDT were detected in B-108 (12-14') above the GB PMC. Lead was detected in B-108 (12-14') above the RES DEC. Soil sample B-117 (2-4') was submitted for analysis of ETPH, VOCs, PCBs, and RCP metals. ETPH was detected in B-117 (2-4') at 260 mg/Kg and low levels are RCP metals were detected below applicable RSR criteria. VOCs and PCBs were not detected in B-117 (2-4') above laboratory detection limits.

Summary: The detection of metals in B-108 and B-117 are consistent with other site soil samples and may be indicative of localized fill material. The exceedance of Lead and the detection of pesticides in B-108 is also suggestive of fill material based on observations in the soil boring and surrounding borings. The detection of ETPH in B-117 is likely from the oil soaked wood observed in the soil boring. Releases identified at this AOC may be indicative of fill/building debris.

AOC 4: Former USTs

Three former USTs were located on the southwest side of the building. The USTs included one 3,000-gallon gasoline UST installed in 1979, one 1,000-gallon gasoline UST installed in 1977, and one 750-gallon kerosene UST installed in 1962. The USTs were reportedly closed in place; however, a report or analysis of the closure was not available. A GPR survey was conducted in the area of the former USTs; however, no USTs were identified during the GPR survey. The thickness of the fill in the area of the former USTs may have had an impact on the ability for the GPR equipment to identify utilities or the USTs; therefore, it was inconclusive as to whether the USTs remain in place.

COCs include ETPH, PAHs, Lead, and VOCs

Release Mechanisms and Anticipated Depth: Releases from the USTs or associated piping within the tank grave to an anticipated depth up to 12 feet bgs. Releases from surficial spills during filling of the UST.

Migration Pathways: Soil around and directly below the USTs could be impacted by leachates that migrate downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways. Surficial soils could also be impacted from surficial releases.

Previous Assessments: Previous assessments were not conducted for this AOC.

Phase II ESA Soil Results: Two soil borings (B-111 and B-112) were advanced in the area of the former USTs. Soil sample B-111 (16-18') was submitted for analysis of ETPH, SVOCs, and Total Lead. ETPH was detected in B-111 at 880 mg/Kg and Total Lead was detected at 621 mg/Kg. Low levels of SVOCs Chrysene and Naphthalene in B-111 (16-18') below applicable RSR criteria. Soil sample B-112 (22-24') was submitted for analysis of ETPH, VOCs, PCBs, and RCP metals. The VOC, Trichloroethylene was detected in B-112 (22-24') below applicable RSR criteria. Arsenic and lead were also detected in this sample. One test pit was excavated in the area of the former USTs (TP-7) to a depth of nine feet bgs where a layer of asphalt was encountered. Fill material was observed throughout the test pit. Soil sample TP-7 (6') was collected and submitted for analysis of ETPH, VOCs, SVOCs, and RCP metals. ETPH, several RCP metals, and VOCs Naphthalene and P-Isopropyltoluene were detected above laboratory

detection limits, but below applicable RSR criteria. Several SVOCs and Arsenic were detected above RSR criteria.

Phase II ESA Groundwater Results: One groundwater monitoring well (MW-4) was installed in soil boring B-112 in the area of the former USTs. One groundwater sample was collected from MW-4 and submitted for analysis of RCP metals, PAHs, PCBs, ETPH, and VOCs. RCP metals barium, nickel, and zinc were detected in MW-4 below applicable RSR criteria. ETPH, PAHs, PCBs, and VOCs were not detected in MW-4 above laboratory detection limits.

Summary: The detections of ETPH and Total Lead in soil may be indicative of a release in the area of the former USTs. The presence of these COCs may be the result of a release from the tank system or overfilling. Detections of COCs in TP-7 are suggestive of fill material observed throughout the site. The detection of metals in MW-4 is suggestive of naturally occurring metals in groundwater.

AOC 5: Former ASTs

Two former 15,000-gallon fuel oil ASTs were located on the eastern side of the building and were used to fire three boilers for the building. During the Phase II ESA, TRC observed a partially collapsed 15,000-gallon AST and its containment pit that appeared to be leaking. The Fire Marshal building records also referenced the ruptured 15,000-gallon AST observed during an inspection. The inspection indicated that the AST of fuel oil was being heated via steam so that the oil would flow and could be used in the boilers. The pressure from the steam caused the tank to rupture. The CTDEEP responded to the incident and the tanks were ordered to be removed and new tanks installed. Further information about the removal of the ASTs was not available.

COCs include ETPH, PAHs, and VOCs

Release Mechanisms and Anticipated Depth: Surficial releases from the ASTs or associated piping to an anticipated depth up to 5 feet bgs or greater. Releases from surficial spills during filling of the ASTs.

Migration Pathways: Surficial soils directly below the ASTs could be impacted by leachates that migrate downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Previous assessment were not conducted for this AOC.

Phase II ESA Soil Results: The area where the former ASTs were located was inaccessible. Soil boring B-103 was collected off of the loading dock and in the vicinity of the former ASTs. The sample was collected from below the concrete slab of the loading dock. Soil sample B-103 (1-3') was submitted for analysis of ETPH, VOCs, SVOCs, PCBs, and RCP metals. COCs were not detected in B-103 above laboratory reporting limits.

Phase II ESA Groundwater Results: One groundwater monitoring well (MW-1) was installed in soil boring B-109 hydrogeologically downgradient from the two ASTs. One groundwater sample was collected from MW-1 for and submitted for analysis of ETPH, VOCs, and RCP metals. ETPH and VOCs were not detected in MW-1 above laboratory detection limits. RCP metals barium, chromium, copper, lead, nickel, vanadium, and zinc were detected in MW-1 above laboratory detection limits, but below applicable RSR criteria.

Summary: The detection of RCP metals barium, nickel, and zinc are suggestive of naturally occurring metals in groundwater throughout the site. The detection of

chromium, copper, lead, and vanadium may be indicative of a release to groundwater or suggestive of the fill material on the site.

AOC 6: Former Vault

The 1950 and 1979 Sanborn maps show a small addition on the northwest side of the building. The structure was built in 1948 is labeled "Vault" on the second floor and "Hospital" on the first floor. This vault was likely used for secure storage of expensive manufactured hospital products and was not likely used to house transformers based on its location on the second floor.

COCs include ETPH, PCBs, and PAHs

Release Mechanisms and Anticipated Depth: Releases from the former vault to an anticipated depth up to 5 feet bgs or greater. Releases from surficial spills.

Migration Pathways: Soil directly below the concrete slab could be impacted by leachates that migrate through cracks and expansion joints downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Previous assessments were not conducted for this AOC.

Phase II ESA Soil Results: One hand sample (HS-1) was collected from the area of the former vault. The former vault was located by using GPS coordinates. Due to an unmarked sewer line, drilling could not be conducted in this area. One hand sample was collected to two feet bgs. The top two feet of surficial material consisted of the medium tan sand observed throughout the site that was similar to the piles on the western side of the site. The sample HS-1 was not submitted for laboratory analysis, because it was not representative of subsurface material bgs in the area of the former vault.

Summary: It is likely that this area is not an AOC as the vault did not house a former transformer, but was used for storage.

AOC 7: Former Press Room

The 1922 Sanborn map shows a press room located on the north side of the building, before any additions were constructed. The Sanborn map label indicated that the press room was located in the basement of the building. Another press room was located on the south side of the building. This press room was located on the first floor of the building.

COCs include ETPH, RCP metals, SVOCs, VOCs, and PCBs

Release Mechanisms and Anticipated Depth: Releases from the former press room to an anticipated depth up to 5 feet bgs or greater. Releases from surficial spills.

Migration Pathways: Soil directly below the concrete slab could be impacted by leachates that migrate through cracks and expansion joints downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Previous assessments were not conducted for this AOC.

Phase II ESA Soil Results: One soil boring (B-110) and one test pit (TP-6) were advanced in the area of the former press room. Soil sample B-110 (11-13') was submitted for analysis of ETPH, VOCs, SVOCs, PCBs, and RCP metals. Several SVOCs were detected in B-110 above laboratory reporting limits. SVOC

benzo[a]anthracene and chrysene were detected above RSR criteria. Several metals were detected below applicable RSR criteria. ETPH, VOCs, and PCBs were not detected above laboratory reporting limits. Soil sample TP-6 (7') was submitted for analysis of ETPH and RCP metals. ETPH was not detected in TP-6 above laboratory detection limits. Several metals were detected below applicable RSR criteria.

Phase II ESA Groundwater Results: One groundwater monitoring well (MW-2) was installed in soil boring B-110 in the area of the former press room. The monitoring well was dry at the time of the groundwater sampling event and a groundwater sample was not collected from MW-2.

Summary: The detection of PAHs and RCP metals in soil samples is consistent with other soil samples throughout the site and may be indicative of fill/building debris on the site.

AOC 8: Former Plating Room

The 1922 Sanborn map shows a plating room located on the south side of the building. The labels on the Sanborn map indicated that the plating room was located in the basement area of the building.

COCs include ETPH, RCP metals, SVOCs, VOCs, PCBs, and Cyanide

Release Mechanisms and Anticipated Depth: Releases from the former plating room to an anticipated depth up to 5 feet bgs or greater. Releases from surficial spills.

Migration Pathways: Soil directly below the concrete slab could be impacted by leachates that migrate through cracks and expansion joints downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Previous assessments were not conducted for this AOC.

Phase II ESA Soil Results: Two soil borings (B-108 and B-109) and one test pit (TP-5) were advanced in the area of the former plating room. Soil sample B-108 (12-14') was submitted for analysis is of ETPH, VOCs, Pesticides, and RCP metals. Pesticides 4,4'- DDE and 4,4'-DDT were detected in B-108 above applicable RSR criteria. Several RCP metals were detected in B-108 below applicable RSR criteria, with the exception of Lead which was detected above RSR criteria. Sample B-109 (12-14') was submitted for analysis of ETPH, Total Cyanide, VOCs, SVOCs, PCBs, and RCP metals. ETPH was detected in B-109 below applicable RSR criteria. Several PAHs were detected below applicable RSR criteria, with the exception of Chrysene which was detected above RSR criteria. Several RCP metals were detected below RSR criteria. Total Cyanide, VOCs, and PCBs were not detected in B-109. Soil sample TP-5 (6') was submitted for analysis of ETPH, VOCs, and RCP metals. The, VOC, 2-Butanone was detected above laboratory reporting limits, but below RSR criteria. Several RCP metals were detected below applicable RSR criteria, with the exception of Lead which was detected above RSR criteria.

Phase II ESA Groundwater Results: One groundwater monitoring well (MW-5) was installed in soil boring B-109 in the area of the former plating room. One groundwater sample was collected from MW-5 for and submitted for analysis of ETPH, VOCs, PAHs, PCBs, and RCP metals. VOCs chloroform, PCE, methylene chloride and TCE were detected in MW-5 above laboratory detection limits, but below applicable RSR criteria. RCP metals barium and zinc were detected in MW-

5 below applicable RSR criteria. ETPH, PAHs, and PCBs were not detected in MW-5 above laboratory detection limits.

Summary: The detection of RCP metals in soil samples is consistent with other soil samples throughout the site and may be indicative of fill/building debris. The elevated detections of Lead and PAHs are likely indicative of a release in the area of the former plating room. The detection of pesticides may be indicative of former pesticide application, but at the depth detected, is likely indicative of fill material. The RCP metals detected in groundwater are suggestive of naturally occurring metals in groundwater on the site. The detection of VOCs is likely indicative of a release to groundwater.

AOC 9: Storm Drains and Floor Drains

The previous Phase I ESAs referenced several storm drains and floor drains throughout the site. TRC indicated that floor and sewer drains may act as conduits through which a potential spill or release of chemical or petroleum products may be released into a sanitary sewer system. The Land-Tech Phase I ESA indicated that there was a history of liquid hazardous materials discharged into storm drains. The drains associated with plating and wastewater treatment were believed to be connected to municipal sanitary sewer system. The drains may contain residual waste and chemicals. In 1989 a release of approximately 100 gallons of fuel oil entered a sump and was pumped to a storm drain line located behind the site. The release was contained in a catch basin and reportedly removed.

COCs include ETPH, SVOCs, VOCs, RCP metals, PCBs, and Cyanide

Release Mechanisms and Anticipated Depth: Releases directly to the ground surface from manufacturing operations and releases into the floor drains. Surficial releases into storm drains.

Migration Pathways: Soil directly below the concrete slab/asphalt could be impacted by leachates that migrate downward through cracks in the concrete slab/asphalt through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Previous assessments were not conducted for this AOC.

Phase II ESA Soil Results: Two soil borings (B-106 and B-107) were advanced in the area of the former storm drains and floor drains. Soil sample B-106 (4-6') was submitted for analysis of ETPH, SVOCs, and RCP metals. A few SVOCs and several RCP metals were detected in B-106 above laboratory reporting limits, but below RSR criteria. Soil sample B-107 (6-8') was submitted for analysis of ETPH, Total Cyanide, VOCs, PCBs, and RCP metals. ETPH and several RCP metals were detected in B-107 above laboratory reporting limits, but below RSR criteria.

Summary: The detection of RCP metals is consistent with other site soil samples and may be indicative of fill/building debris. The low detections of SVOCs in B-106 and ETPH in B-107 also may be indicative of fill material.

AOC 10: Building Debris

It is unknown where building debris was disposed of after the fire in 1999. Demolition permits were reviewed at the Hartford Building Department. A permit from 1999 was approved for emergency demolition for the existing building; however, other information was not provided. The Phase I ESA by Land-Tech indicated that degreasing and plating floors of the basement and sub-basement

areas were likely to contain residual cyanide, metals, or degreasing solvents. In addition, due to the age of the building, asbestos was likely used in its construction. Hazardous waste files from the CTDEEP were reviewed and a notice of violation dated March 8, 2000 indicated that waste on the site included bulky waste in the form of building debris.

COCs include ETPH, PCBs, SVOCs, VOCs, RCP metals, Cyanide, Asbestos

Release Mechanisms and Anticipated Depth: Releases directly to the surface due to current or historical deposition of fill material. Fill material was observed to approximately 24 feet bgs.

Migration Pathways: Soil directly below potential fill deposition areas could be impacted by leachates that migrate downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Concentrations of PCBs were detected in soil samples around the former storage shed and garage buildings on the west side of the building during the Fuss & O'Neill demolition assessment.

Phase II ESA Soil Results: Two soil borings (B-102 and B-104) were advanced in the area of visible surficial building debris. Soil sample B-102 (1-3') was submitted for analysis of ETPH, VOCs, SVOCs, PCBs, and RCP metals. Several RCP metals were detected in B-102 below applicable RSR criteria. Other COCs were not detected in B-102 above laboratory detection limits. Soil sample B-104 (3-5') was submitted for ETPH, VOCs, pesticides, PCBs, and RCP metals. Several RCP metals were detected in B-104 below applicable RSR criteria. Other COCs were not detected in B-104 above laboratory detection limits.

Summary: Impacted fill material was observed throughout the site in all of the soil borings. There does not appear to be a release in the area of the surficial building material piles. The detection of PCBs from the Fuss & O'Neill assessment are likely from deteriorating caulking observed on the exterior of the site building. Suspect building materials were submitted for analysis of asbestos. The samples collected did not identify any asbestos-containing building materials.

AOC 11: Former Car Detailing and Repair Area

In the 1999 City Directory, the site was listed as Hawthorn Center, Hawthorn Detailing & Tire Repair Center, and Hawthorn Used Appliances.

COCs include ETPH, VOCs, and PAHs

Release Mechanisms and Anticipated Depth: Releases from the former manufacturing areas to an anticipated depth up to 5 feet bgs or greater. Releases from surficial spills.

Migration Pathways: Soil directly below the concrete slab could be impacted by leachates that migrate through cracks and expansion joints downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Previous assessments were not conducted for this AOC.

Phase II ESA Soil Results: The location of the former car detailing and repair area was unknown at the time of the Phase II ESA. All of the soil borings advanced in the area of the building footprint were used to analyze several former building activities including the former auto repair operations.

Summary: Several COCs were detected in borings throughout the building footprint at various depths. Due to the lack of information on the location of the former car repair area, it is unknown if any of the detected releases were in the area of the former auto repair operations.

AOC 12: Existing Piles of Dumped Material and Soil

During the site reconnaissance, several piles of debris and soil were observed on the site. Spill reports at the CTDEEP indicated that three drums of waste oil were observed on the site in 2005 and three drums of unknown waste was dumped on the site in 2006.

COCs include ETPH, PCBs, SVOCs, VOCs, and RCP metals

Release Mechanisms and Anticipated Depth: Releases directly to the surface due to current or historical deposition of fill material. Fill material was observed to approximately 24 feet bgs.

Migration Pathways: Soil directly below potential fill deposition areas could be impacted by leachates that migrate downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Previous assessments were not conducted for this AOC.

Phase II ESA Soil Results: Two soil borings (B-114 and B-115) and one test pit (TP-1) were advanced in the area of the existing piles of dumped material and soil. The piles appeared to primarily consist of medium tan sand. Soil sample B-114 (7-9') was submitted for analysis of ETPH and SVOCs. COCs were not detected in B-114 above laboratory reporting limits. Soil sample B-115 (7-9') was submitted for analysis of ETPH, SVOCs, pesticides, and RPC metals. Several SVOCs and RCP metals were detected in B-115 below applicable RSR criteria. ETPH and pesticides were not detected in B-115 above laboratory reporting limits. Soil sample TP-1 (8.5') was submitted for laboratory analysis of ETPH and RCP metals. Several RCP metals were detected in TP-1 below applicable RSR criteria. ETPH was not detected above laboratory reporting limits in TP-1.

Phase II ESA Groundwater Results: One groundwater monitoring well (MW-6) was installed in soil boring B-115 in the area of the existing piles of dumped material and soil. One groundwater sample was collected from MW-6 for and submitted for analysis of ETPH, VOCs, PAHs, PCBs, and RCP metals. ETPH, VOCs, PAHs, and PCBs were not detected in MW-6 above laboratory detection limits. RCP metals barium, nickel, and zinc were detected in MW-6 below applicable RSR criteria.

Summary: Impacted fill material was observed throughout the site in all of the soil borings. Detections of PAHs, ETPH, RCP metals, and pesticides in soil were consistent and suggestive of fill material on-site. The detections of RCP metals in groundwater are suggestive of naturally occurring metals in groundwater throughout the site.

AOC 13: Urban Fill

The soils at the site are identified as urban land. Urban land consists mostly sites for buildings, paved roads, and parking lots.

Fuss & O'Neill collected soil samples during their Phase II ESA to assess the condition of the soil on the site. The metals barium, chromium, and lead were detected in each of the soil samples. The metals silver, arsenic, cadmium,

chromium, and mercury were also detected in several of the soil samples. Metals detected after extraction by TCLP consisted of barium, cadmium, and lead. ETPH was detected in all but two of the samples at concentrations ranging from 80 mg/Kg to 6,900 mg/Kg. SVOCs were detected in two of the three samples submitted for analysis and PCBs were detected in two soil borings. Detected concentrations of arsenic, lead, ETPH, SVOCs, and PCBs exceed the Connecticut Remediation Standard Regulation (RSR) baseline criteria for direct exposure. Fill material was observed along the southwestern boundary of the site along the former railroad. Fill material may have been used during the construction of the CTFastTrak busway.

COCs include ETPH, PCBs, SVOCs, VOCs, RCP metals, and Cyanide

Release Mechanisms and Anticipated Depth: Releases directly to the surface due to current or historical deposition of fill material. Fill material was observed to approximately 24 feet bgs.

Migration Pathways: Soil directly below potential fill deposition areas could be impacted by leachates that migrate downward through soil towards the overburden aquifer and then migrate along the water table and preferential pathways.

Previous Assessments: Concentrations of PCBs were detected in soil samples around the former storage shed and garage buildings on the west side of the building during the Fuss & O'Neill demolition assessment.

Phase II ESA Soil Results: Fill material was observed in several soil borings and test pits throughout the site. All of the soil borings and test pits were used to analyze the fill material across the site. Detections of ETPH, VOCs, SVOCs, pesticides, and RCP metals were reported in soil borings throughout the site.

Summary: Fill material was observed throughout the site in all of the soil borings. Detections of ETPH, VOCs, SVOCs, pesticides, and RCP metals may be indicative of fill/building debris.

Section 11
Summary and Recommendations

Tighe & Bond has completed this Phase II ESA for the site located at 85 Hawthorn Street in Hartford, Connecticut. The results of the Phase II ESA activities were utilized to evaluate if releases of contaminants of concern (COCs) have occurred to the environment at areas of concern (AOCs) identified in Tighe & Bond's recent Phase I ESA of the site. It is our understanding that this work was conducted as part of the MetroHartford Brownfields Assessment Program and is being funded via a Connecticut Department of Economic and Community Development (DECD) Brownfields Grant. This Phase II ESA was conducted to help facilitate the possible redevelopment of the site.

The site includes an approximately 6.79-acre parcel of land located south of Hawthorn Street. The site is currently owned by the City of Hartford and is vacant and overgrown with vegetation and trees. A 130,000 square foot building existed at the site until it burned in 1999. The building was constructed circa 1912 and was used for manufacturing until the late 1980s. The site was used for manufacturing by the Former Arrow Hart & Hegeman Company, Arrow-Hart, Inc., and Cooper Industries. Historic operations on the site included manufacturing of electrical components, including light switches, industrial electric motor controls, and electrical wiring devices. Manufacturing processes included metal stamping with pneumatic presses, screw machine operations, drilling, tapping, degreasing, machining, burnishing, heat treating, brite dipping (acid bath), spot welting, metal plating, painting, and parts assembly. From approximately 1992 through 1999, the site building had several commercial tenants including a car detailing and tire repair center. In addition, the site historically included several residential dwellings.

Previous assessments of the site have included a Phase II Environmental Site Investigation conducted by SMC Environmental in June 1999. SMC referenced a Phase I ESA conducted by TRC Environmental Consultants, Inc. in October, 1990 and a Phase I ESA conducted by Land-Tech Consultants, Inc. in January, 1993. These studies were not available to Tighe & Bond during the completion of Tighe & Bond's Phase I in March 2016. The Phase II conducted by SMC consisted of groundwater and soil sampling from AOCs located in a proposed parking lot area along the western side of the site. Fourteen subsurface soil samples were collected and one groundwater sample was collected from the site. Analytical results for the soil samples indicated the presence of naphthalene in two soil samples which exceeded Connecticut Department of Energy and Environmental Protection (CTDEEP) Remediation Standard Regulation (RSR) criteria. In addition, elevated concentrations of lead and chromium were detected in several samples. Analytical results for the groundwater sample indicated detectable levels of metals.

In addition, to the SMC Phase II ESA, Fuss & O'Neill (F&O) conducted and provided oversight of hazardous building material assessments and demolition of three structures consisting of a garage, a guard shack, and a small storage shed in the late 1990s. Prior to demolition of the above structures, F&O collected soil samples at the three structures to evaluate the soil in the vicinity of the structures to facilitate preparation of demolition plans and specifications. A total of ten surficial soil samples were collected around the structures. COCs detected in soil included ETPH, SVOCs, PCBs, and various metals, of which some exceeded CTDEEP RSR criteria.

An "Establishment" is defined as any real property at which or any business operation from which (A) on or after November 19, 1980, there was generated, except as the result of (i) remediation of polluted soil, groundwater or sediment, or (ii) the removal or abatement of building materials, more than one hundred kilograms of hazardous waste in any one month, (B) hazardous waste generated at a different location was recycled, reclaimed, reused, stored, handled, treated, transported or disposed of, (C) the process of dry cleaning was conducted on or after May 1, 1967, (D) furniture stripping was conducted on or after May 1, 1967, or (E) a vehicle body repair facility was located on or after May 1, 1967. On December 30, 1986 a Form III was filed for the site through the CT Property Transfer Program. Based on this information, the site appears to be "establishment" as defined by Section 22a-134 (the CT Transfer Act) of the Connecticut General Statutes (CGS).

The following AOCs were identified by Tighe & Bond in the previous Phase I ESA:

AOC 1: Former Manufacturing Areas

The site was used for manufacturing from approximately 1912 until the late 1980s. The site was used for manufacturing by the Former Arrow Hart & Hegeman Company, Arrow-Hart, Inc., and Cooper Industries. Manufacturing processes included metal stamping with pneumatic presses, screw machine operations, drilling, tapping, degreasing, machining, burnishing, heat treating, brite dipping (acid bath), spot welting, metal plating, painting, and parts assembly. Chemicals used in manufacturing processes were stored in several areas throughout the building.

The Sanborn fire insurance maps show the west side of the building had storage in the basement. The center of the building had a press room, machine shop, tool shop, assembling area, and a plating room.

The AOCs identified within the Phase II report by SMC indicate that the basement and sub-basement areas were used for chemical storage and also as a wastewater disposal area. The report also indicated that there was a chemical storage building located in the southwestern corner of the site.

Soil contamination was identified in the SMC Phase II ESA in several areas. Naphthalene-impacted soil was identified beneath the building. Several soil samples had concentrations of metals above RSR criteria including Chromium, Lead, and Copper. ETPH was also detected in samples above RSR criteria in several soil samples.

AOC 2: Former Oil House

An "oil house" was mentioned in several reports located on the west side of the building. The oil house was labeled on the 1950 and 1979 Sanborn maps. This building appears to be in the same location as the storage building that was assessed in the F&O building demolition report. The specific use of this building is has not been identified.

AOC 3: Former Shipping & Receiving Areas/Loading Docks

The building had shipping & receiving areas located on the southwest side of the building, the southeast side of the building, and the east side of the building. The loading docks and delivery areas have the potential for spills during the handling of chemicals and hazardous materials. Inspection notes from the Hartford Fire Marshal building records indicated that chemical storage was observed on the building loading docks. In addition, a former eight-ton leak proof dumpster was reportedly located within in area near the southwest loading dock. Waste plating room sludges were

reportedly stored in the dumpster. It was reported that waste sludges were periodically disposed of off-site at an approved facility in Waterbury, Connecticut.

AOC 4: Former USTs

Three former USTs were located on the southwest side of the building. The USTs included one 3,000-gallon gasoline UST installed in 1979, one 1,000-gallon gasoline UST installed in 1977, and one 750-gallon kerosene UST installed in 1962. The USTs were reportedly closed in place; however, a report or analysis of the closure was not available. USTs were not identified during the GPR survey. The thickness of the fill in the area of the former USTs may have had an impact on the ability for the GPR equipment to identify utilities or the USTs; therefore, it was inconclusive as to whether the USTs remain in place.

AOC 5: Former ASTs

Two former 15,000-gallon fuel oil ASTs were located on the eastern side of the building and were used to fire three boilers for the building. During a previous Phase I ESA, TRC observed a partially collapsed 15,000-gallon AST and its containment pit that appeared to be leaking. The Fire Marshal building records also referenced the ruptured 15,000-gallon AST observed during an inspection. The inspection indicated that the AST of fuel oil was being heated via steam so that the oil would flow and could be used in the boilers. The pressure from the steam caused the tank to rupture. The CTDEEP responded to the incident and the tanks were ordered to be removed and new tanks installed. Further information about the removal of the ASTs was not available.

AOC 6: Former Vault

The 1950 and 1979 Sanborn maps show a small addition on the northwest side of the building. The structure was built in 1948 is labeled "Vault" on the second floor and "Hospital" on the first floor. This vault was likely used for secure storage of expensive manufactured hospital products and was not likely used to house transformers based on its location on the second floor.

AOC 7: Former Press Room

The 1922 Sanborn map shows a press room located on the north side of the building, before any additions were constructed. The Sanborn map label indicated that the press room was located in the basement of the building. Another press room was located on the south side of the building on the first floor.

AOC 8: Former Plating Room

The 1922 Sanborn map shows a plating room located on the south side of the building. The labels on the Sanborn map indicated that the plating room was located in the basement area of the building.

AOC 9: Storm Drains and Floor Drains

The previous Phase I ESAs referenced several storm drains and floor drains throughout the site. TRC indicated that floor and sewer drains may act as conduits through which a potential spill or release of chemical or petroleum products may be released into a sanitary sewer system. The Land-Tech Phase I ESA indicated that there was a history of liquid hazardous materials discharged into storm drains. The drains associated with plating and wastewater treatment were believed to be connected to municipal sanitary sewer system. The drains may contain residual waste and chemicals. In 1989 a release of approximately 100 gallons of fuel oil entered a sump and was pumped to a storm drain line located behind the site. The release was contained in a catch basin and removed.

AOC 10: Building Debris

It is unknown where building debris was disposed of after the fire in 1999. Demolition permits were reviewed at the Hartford Building Department. A permit from 1999 was approved for emergency demolition for the existing building; however, other information was not provided. The Phase I ESA by Land-Tech indicated that degreasing and plating floors of the basement and sub-basement areas were likely to contain residual cyanide, metals, or degreasing solvents. In addition, due to the age of the building, asbestos was likely used in its construction. Hazardous waste files from the CTDEEP were reviewed and a notice of violation dated March 8, 2000 indicated that waste on the site included bulky waste in the form of building debris.

Concentrations of PCBs were detected in soil samples around the former storage shed and garage buildings on the west side of the building during the F&O demolition assessment.

AOC 11: Former Car Detailing and Repair Area

In the 1999 City Directory, the site was listed as Hawthorn Center, Hawthorn Detailing & Tire Repair Center, and Hawthorn Used Appliances.

AOC 12: Existing Piles of Dumped Material and Soil

During the site reconnaissance, several piles of debris and soil were observed on the site. Spill reports at the CTDEEP indicated that three drums of waste oil were observed on the site in 2005 and three drums of unknown waste was dumped on the site in 2006.

AOC 13: Urban Fill

The soils at the site are identified as urban land. Urban land consists mostly sites for buildings, paved roads, and parking lots.

F&O collected soil samples during their Phase II ESA to assess the condition of the soil on the site. The metals barium, chromium, and lead were detected in each of the soil samples. The metals silver, arsenic, cadmium, chromium, and mercury were also detected in several of the soil samples. Metals detected after extraction by TCLP consisted of barium, cadmium, and lead. ETPH was detected in all but two of the samples at concentrations ranging from 80 mg/Kg to 6,900 mg/Kg. SVOCs were detected in two of the three samples submitted for analysis and PCBs were detected in two soil borings. Detected concentrations of arsenic, lead, ETPH, SVOCs, and PCBs exceeded the CTDEEP RSRs.

Phase II ESA activities included the collection of a total of eighteen soil samples from soil borings, one surficial hand sample, and seven soil samples from test pits. Seven groundwater monitoring wells were installed and six of the seven monitoring wells were sampled.

Soil and groundwater samples were collected with the objective identifying if releases to the environment had occurred at the identified AOCs.

Based on the results of the Phase II ESA, releases to soil and groundwater have occurred at the site. The releases were identified at the following areas and appear to be attributable to historic site operations and fill/building debris.

- Impacted soil was identified at 12 boring locations spread across the site and included the following COCs; ETPH, VOCs, PAHs, Pesticides, and Metals (namely lead and arsenic). These locations were in or within the vicinity of the Former Manufacturing Areas (AOC 1), the Former Oil House (AOC 2), the Former USTs Area (AOC 4), the Plating Room (AOC 8), and Urban Fill (AOC 13). Soil impacts

identified at or within these areas exceeded one or more CTDEEP RSR criteria. Soil conditions observed during the Phase II ESA indicated thick areas of fill present at the site, particularly within and around the former manufacturing facility building footprint. These conditions, including the significant amount of buried building debris, ground disturbance, and surficial debris the site soil/fill may have been significantly reworked and moved around the site. Staining and odors were observed in several borings throughout the site and appeared to be in fill material. Evidence of fill including wood, brick, concrete, glass, and asphalt was observed in several soil borings and test pits. The soil impacts identified during the Phase II ESA may be related to both releases at AOCs and widespread fill material. In addition, it is important to note that previous investigations by SMC and F&O identified similar contaminants in soil and in some locations were detected in excess of CTDEEP RSRs. In addition, PCBs detected in surficial soils during the F&O assessment exceeded RSR criteria and may be attributed to deteriorated caulking on the exterior of the site building and outbuildings observed by and confirmed to be PCB containing by F&O.

- Releases to groundwater were identified at three locations (MW-3, MW-5, and MW-7) during the Phase II ESA. ETPH was detected at MW-3 and MW-7 and exceeded CTDEEP RSR criteria at MW-3, which is located down gradient of the Former Oil House (AOC 2). ETPH was detected in MW-7 located along the northwest corner of the site but was below CTDEEP RSR criteria. Chlorinated VOCs were detected below CTDEEP RSR criteria in MW-5 located down gradient of the Former Manufacturing Areas (AOC 1) and are likely associated with releases from historic site operations. Metals were detected in each of the groundwater samples but were not detected in excess of CTDEEP RSR criteria.
- Groundwater at the site ranged between approximately 9 and 25 feet bgs during this Phase II ESA. Based on the results of a groundwater monitoring well elevation survey conducted by Martinez Couch & Associates, shallow overburden groundwater flow direction is generally to the southwest towards the North Branch of Park River.
- Based on bulk sampling conducted for building debris located in the debris pile on the eastern side of the site, the materials were not identified to be asbestos containing.

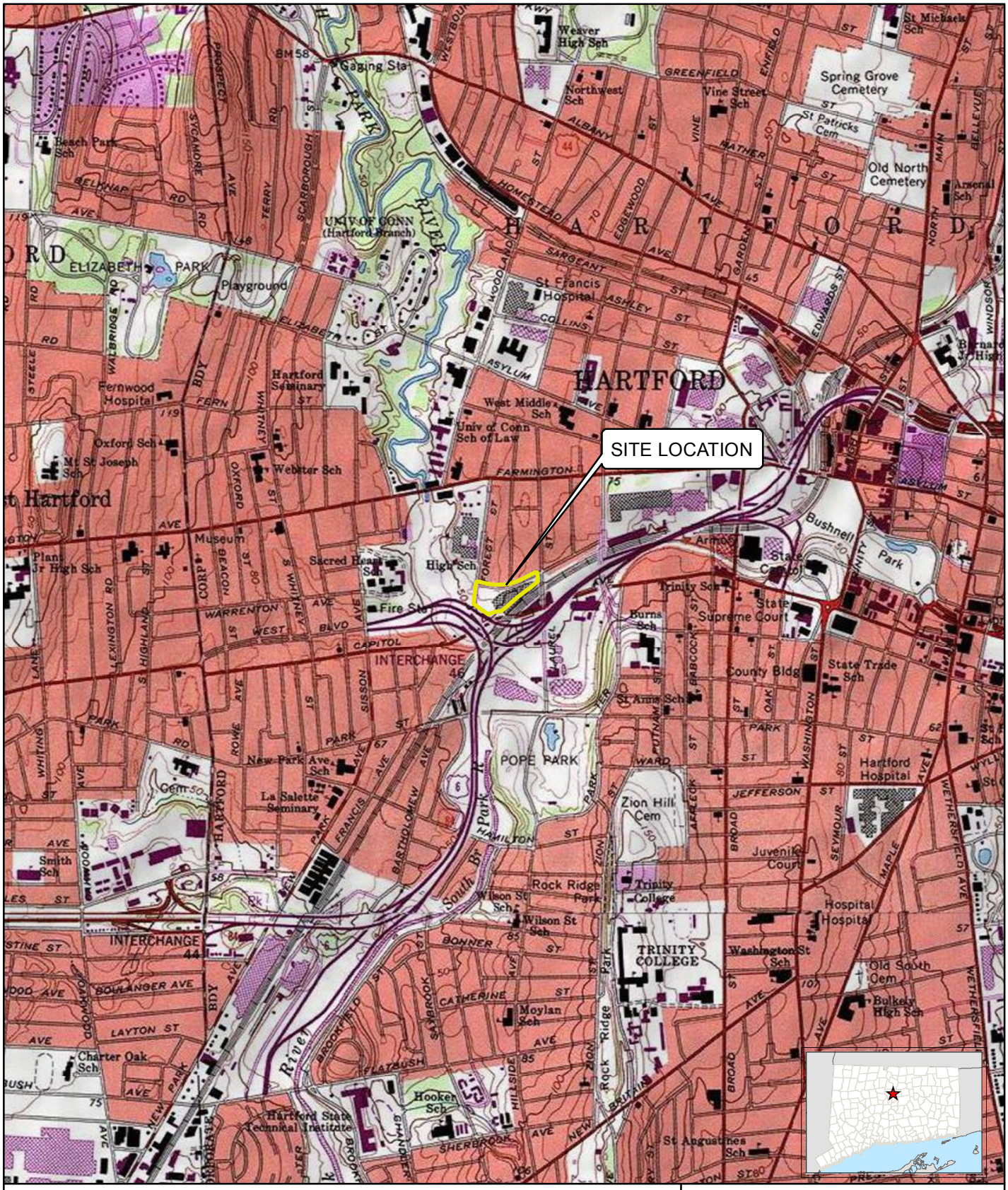
Based on the results of the Phase II ESA Tighe & Bond recommends the following activities:

- Additional investigations are warranted to better characterize the environmental conditions at the site; however, prior to conducting subsurface activities, an additional records review and inquiries associated with previous environmental studies should be made. Phase I ESAs conducted prior to the 1999 fire may provide a better evaluation of former site operations and AOCs.
- A Phase III ESA should be conducted to evaluate the nature, degree, and extent of soil and groundwater contaminants identified during this Phase II ESA as well as previous investigations. Due to the significant areas of fill identified during this Phase II ESA as well as the likely reworking of fill and building debris during demolition activities following the fire in 1999, the Phase III ESA should be designed to provide adequate spatial coverage across areas of the site that have been significantly filled or possibly reworked as part of previous demolition activities. The Phase III should also include completion of a water supply well receptor survey. This generally includes evaluating public or private water resources within a minimum distance of 500 feet from the parcel boundaries.

- Due to the significant presence of surficial and buried building debris (e.g. oily soaked wood) additional HBMAs may be needed to evaluate if debris would require special handling if disposed of off-site.
- The site is reportedly in the CTDEEP Property Transfer Program under a Form-III filing on December 30, 1986. In addition, CTDEEP enforcement action including notices of violation and / or consent orders have been identified for the site. It is recommended that further inquiry be made to determine the current regulatory status of the site and overall status of compliance with any NOVs and / orders issued by CTDEEP. These potential regulatory obligations could have an impact on any additional investigations planned for the site or future site redevelopment.

Tighe&Bond

APPENDIX A



LEGEND

Approximate Site Boundary

FIGURE 1
SITE LOCATION MAP

85 Hawthorn Street
Hartford, CT

January 2017

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

Based on USGS Topographic Map for Hartford North, Rev. 1992, 1:24,000

Map Date: January 2017

1:24,000

0 1,000 2,000

Feet

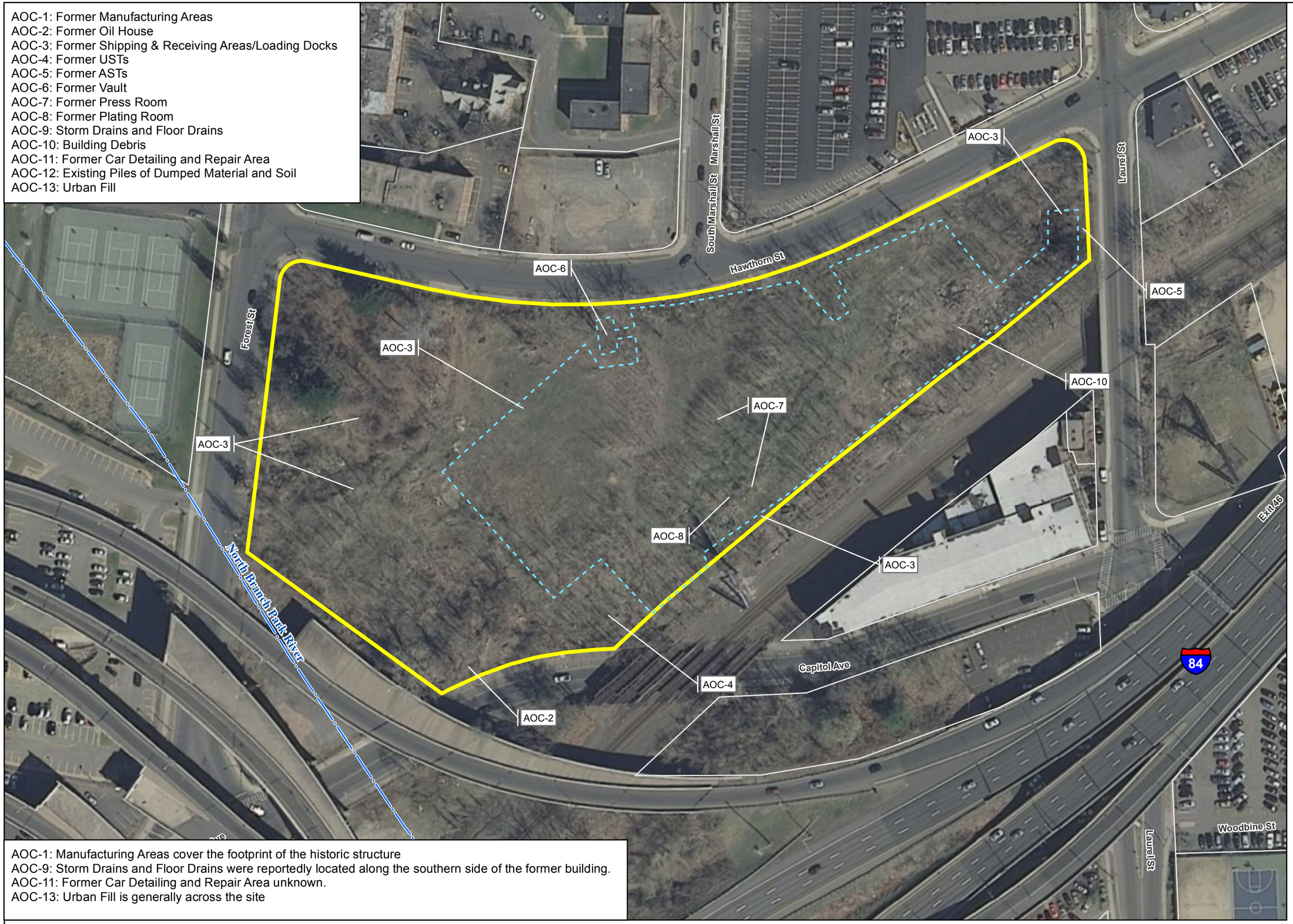
N

Tighe&Bond
Engineers | Environmental Specialists

Y:\Site_Locus_Figures\HartfordCT\85 Hawthorn Street\Phase II\MXD\Figure 1 - Topo.mxd

C-107714

AOC-1: Former Manufacturing Areas
AOC-2: Former Oil House
AOC-3: Former Shipping & Receiving Areas/Loading Docks
AOC-4: Former USTs
AOC-5: Former ASTs
AOC-6: Former Vault
AOC-7: Former Press Room
AOC-8: Former Plating Room
AOC-9: Storm Drains and Floor Drains
AOC-10: Building Debris
AOC-11: Former Car Detailing and Repair Area
AOC-12: Existing Piles of Dumped Material and Soil
AOC-13: Urban Fill



AOC-1: Manufacturing Areas cover the footprint of the historic structure
AOC-9: Storm Drains and Floor Drains were reportedly located along the southern side of the former building.
AOC-11: Former Car Detailing and Repair Area unknown.
AOC-13: Urban Fill is generally across the site

Y:\Site_Locus_Figures\HartfordCT\85 Hawthorn Street\Phase II\MXD\Figure 2 - AOC Map.mxd

FIGURE 2
AREA OF CONCERN MAP

LEGEND

- Approximate Site Boundary
- Approximate Parcel Boundary
- Watercourse
- Historic Structure

N

0 50 100
Feet
1:1,200

NOTES

1. Based on 2012 Statewide Leaf-Off Orthophotography, Courtesty of University of Connecticut.

85 Hawthorn Street
Hartford, Connecticut

January 2017

Tighe&Bond
Engineers | Environmental Specialists

C-1077

FIGURE 3
SAMPLE LOCATION MAP

LEGEND

- Hand Sample
- Monitoring Well
- Soil Boring
- Test Pit
- Former Boring Locations - SMC
- Former Concrete Sample Location - F&O
- Former Soil Sample Location - F&O
- Sewer Manhole
- Watercourse
- Historic Structure
- Site Boundary
- Parcel Boundary

N

0 50 100

Feet

1:1,200

NOTES

1. Based on 2012 Statewide Leaf-Off Orthophotography, Courtesy of University of Connecticut.

2. Source of former building location and previous sample locations:
- Figure 1: Site Plan and Sample Locations by Fuss & O'Neill dated September 2009
- Figure 2: Site Layout & Sample Locations by SMC Environmental dated May 1999

85 Hawthorn Street
Hartford, Connecticut

January 2017

Tighe&Bond
Engineers | Environmental Specialists

Y:\Site_Locus_Figures\HartfordCT\85 Hawthorn Street\Phase II\MXD\Figure 3 - Sample Location Map.mxd

C-1077

FIGURE 4
GROUNDWATER CONTOUR MAP

LEGEND

- Monitoring Well
- Watercourse
- Groundwater Contours
- Approximate Groundwater Flow Direction
- Approximate Site Boundary
- Approximate Parcel Boundary

N

0 50 100
Feet
1:1,200

NOTES

1. Based on 2012 Statewide Leaf-Off Orthophotography, Courtesty of University of Connecticut.

85 Hawthorne Street
Hartford, Connecticut

January 2017

Tighe&Bond
Engineers | Environmental Specialists

Y:\Site_Locus_Figures\HartfordCT\85 Hawthorn Street\Phase II\MXD\Figure 4 - GroundwaterContourMap.mxd

C-1077

FIGURE 5
SOIL EXCEEDANCE MAP

B-118 (10-12')		
Parameter	**Concentration**	**Exceedance**
Benzo[a]antrhacene	2.9 mg/Kg	RES, GB PMC
Benzo[a]pyrene	2.6 mg/Kg	RES, I/C, GB PMC
Benzo[b]fluoranthene	2.9 mg/Kg	RES, GB PMC
Benzo[g,h,i]perylene	1.5 mg/Kg	GB PMC
Benzo[k]fluoranthene	2.5 mg/Kg	GB PMC
Chrysene	3.1 mg/Kg	GB PMC
Indeno[1,2,3-cd]pyrene	1.7 mg/Kg	RES, GB PMC

B-110 (11-13')		
Parameter	**Concentration**	**Exceedance**
Benzo[a]antrhacene	1.1 mg/Kg	RES, GB PMC
Chrysene	1.3 mg/Kg	GB PMC

B-108 (12-14')		
Parameter	**Concentration**	**Exceedance**
4,4-DDE	0.026 mg/Kg	GB PMC
4,4-DDT	0.032 mg/Kg	GB PMC
Lead	545 mg/Kg	RES

B-109 (12-14')		
Parameter	**Concentration**	**Exceedance**
Chrysene	1.1 mg/Kg	GB PMC

TP-5 (6')		
Parameter	**Concentration**	**Exceedance**
Lead	691 mg/Kg	RES

TP-7 (6')		
Parameter	**Concentration**	**Exceedance**
Benzo[a]antrhacene	1.3 mg/Kg	RES, GB PMC
Benzo[a]pyrene	1.2 mg/Kg	RES, I/C, GB PMC
Benzo[b]fluoranthene	1.5 mg/Kg	RES, GB PMC
Benzo[k]fluoranthene	1.3 mg/Kg	GB PMC
Chrysene	1.7 mg/Kg	GB PMC
Indeno[1,2,3-cd]pyrene	1.1 mg/Kg	RES, GB PMC
Arsenic	11 mg/Kg	RES, I/C

LEGEND

- Hand Sample
- Monitoring Well
- Soil Boring
- Test Pit
- Former Boring Locations - SMC
- Former Concrete Sample Location - F&O
- Former Soil Sample Location - F&O
- Sewer Manhole
- Watercourse
- Historic Structure
- Approximate Site Boundary
- Approximate Parcel Boundary

N

0 50 100
Feet
1:1,200

NOTES

1. Based on 2012 Statewide Leaf-Off Orthophotography, Courtesy of University of Connecticut.

2. Source of former building location and previous sample locations:
- Figure 1: Site Plan and Sample Locations by Fuss & O'Neill dated September 2009
- Figure 2: Site Layout & Sample Locations by SMC Environmental dated May 1999

85 Hawthorn Street
Hartford, Connecticut

January 2017

Tighe&Bond
Engineers | Environmental Specialists

Y:\Site_Locus_Figures\HartfordCT\85 Hawthorn Street\Phase II\MXD\Figure 5 - Soil Exceedance Map.mxd

C-1077

Tighe&Bond

APPENDIX B

Table 1

Summary of Well Construction and Elevation Data

Phase II ESA

85 Hawthorn Street

Hartford, CT

Well ID	Elevation	Construction			Well Installation Date	Well Screen or Open Borehole Interval			Groundwater Elevation October 29, 2016		Groundwater Elevation November 30, 2016	
	Top of Casing	Total Well Depth (ft)	Stand Pipe Height (ft)	Casing Material		Depth (ft)	Screen Length (ft)	Media Screened	Depth to GW (feet)	GW Elevation (feet NGVD)	Depth to GW (feet)	GW Elevation (feet NGVD)
MW-1	63.95	20'	3.41'	2-inch PVC	10/6/16	10'-20'	10'	Overburden	17.50	46.45	17.72	46.23
MW-2	65.13	25'	3.00'	2-inch PVC	10/6/16	15'-25'	10'	Overburden	24.90	40.23	24.47	40.66
MW-3	41.98	12'	3.30'	2-inch PVC	10/6/16	2'-12'	10'	Overburden	9.26	32.72	8.17	33.81
MW-4	55.50	30'	3.81'	2-inch PVC	10/7/16	20'-30'	10'	Overburden	18.01	37.49	17.72	37.78
MW-5	60.81	35'	3.63'	2-inch PVC	10/7/16	25'-35'	10'	Overburden	17.80	43.01	18.01	42.80
MW-6	62.37	35'	3.01'	2-inch PVC	10/7/16	25'-35'	10'	Overburden	24.19	38.18	24.83	37.54
MW-7	62.45	25'	3.63'	2-inch PVC	10/7/16	15'-25'	10'	Overburden	21.77	40.68	21.96	40.49

Notes:

NAVD - North American Vertical Datum

Elevation data obtained from Martinez Couch & Associates, LLC elevation survey conducted on 11/30/2016

Table 2
Summary of Soil Analytical Data
Phase II ESA
85 Hawthorn Street
Hartford, CT

Sample ID				TP-1 (8.5')	TP-2 (4.5')	TP-3 (8')	TP-4 (6')	TP-5 (6')	TP-6 (7')	TP-7 (6')	B-101 (0-2')	B-102 (1-3')	B-103 (1-3')	B-105 (0-2')	B-104 (3-5')	B-106 (4-6')	B-DUP	B-107 (6-8')	B-108 (12-14')
Sample Material	CT DEEP RSRs			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Laboratory ID				BV37254	BV37255	BV37256	BV37257	BV37258	BV37259	BV37260	BV37261	BV37262	BV37263	BV37264	BV37265	BV37266	BV37267	BV41729	BV41730
Date Sampled				10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/3/2016	10/5/2016	10/5/2016
	RES DEC	I/C DEC	GB PMC*																
CT ETPH (mg/Kg)	500	2,500	2,500	ND<59	ND<56	ND<75	ND<55	ND<300	ND<57	110	ND<56	ND<53	ND<58	ND<54	ND<52	ND<62	ND<57	62	ND<320
Total Cyanide (mg/Kg)	1,400	41,000	NE	-	ND<0.51	-	-	-	-	-	-	-	-	-	-	-	-	ND<0.52	-
VOCs (mg/Kg)																			
2-Butanone (MEK)	500	1,000	80	-	-	-	ND<0.031	0.05	-	ND<0.033	ND<0.029	ND<0.026	ND<0.028	ND<0.019	ND<0.026	-	-	ND<0.029	ND<0.02
Naphthalene	1,000	2,500	56	-	-	-	ND<0.0052	ND<0.0052	-	0.41	ND<0.0048	ND<0.0043	ND<0.0047	ND<0.36	ND<0.0044	-	-	ND<0.0049	ND<0.0033
P-Isopropyltoluene	500	1,000	5.0	-	-	-	ND<0.0052	ND<0.0052	-	0.53	ND<0.0048	ND<0.0043	ND<0.0047	ND<0.0032	ND<0.0044	-	-	ND<0.0049	ND<0.0033
Trichloroethylene (TCE)	56	520	1	-	-	-	ND<0.0052	ND<0.0052	-	ND<0.0055	ND<0.0048	ND<0.0043	ND<0.0047	ND<0.0032	ND<0.0044	-	-	ND<0.0049	ND<0.0033
SVOCs (mg/Kg)																			
Acenaphthene	*1,000*	*2,500*	*84*	-	-	-	ND<0.25	-	-	ND<0.27	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Acenaphthylene	1,000	2,500	84	-	-	-	ND<0.25	-	-	0.54	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Anthracene	1,000	2,500	400	-	-	-	ND<0.25	-	-	0.44	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Benzo[a]anthracene	1	7.8	1	-	-	-	ND<0.25	-	-	**1.3**	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Benzo[a]pyrene	1	1	1	-	-	-	ND<0.25	-	-	**1.2**	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Benzo[b]fluoranthene	1	7.8	1	-	-	-	ND<0.25	-	-	**1.5**	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Benzo[g,h,i]perylene	*8.4*	*78*	*1*	-	-	-	ND<0.25	-	-	0.75	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Benzo[k]fluoranthene	8.4	78	1	-	-	-	ND<0.25	-	-	**1.3**	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Carbazole	*31*	*290*	*1.0*	-	-	-	ND<0.36	-	-	ND<0.38	ND<0.038	ND<0.35	ND<0.39	-	-	ND<0.42	ND<0.38	-	-
Chrysene	*84*	*780*	*1*	-	-	-	ND<0.25	-	-	**1.6**	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Dibenzofuran	*68*	*1,000*	*1.4*	-	-	-	ND<0.25	-	-	ND<0.27	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Flourene	1,000	2,500	56	-	-	-	ND<0.25	-	-	ND<0.27	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Fluoranthene	1,000	2,500	56	-	-	-	ND<0.25	-	-	2.4	ND<0.27	ND<0.25	ND<0.27	-	-	0.570	ND<0.27	-	-
Indeno[1,2,3-cd]pyrene	*1.0*	*7.8*	*1*	-	-	-	ND<0.25	-	-	**1.1**	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Naphthalene	1,000	2,500	56	-	-	-	ND<0.25	-	-	ND<0.27	ND<0.27	ND<0.25	ND<0.27	-	-	ND<0.29	ND<0.27	-	-
Phenanthrene	1,000	2,500	40	-	-	-	ND<0.25	-	-	1.2	ND<0.27	ND<0.25	ND<0.27	-	-	0.480	ND<0.27	-	-
Pyrene	1,000	2,500	40	-	-	-	ND<0.25	-	-	2.0	ND<0.27	ND<0.25	ND<0.27	-	-	0.410	ND<0.27	-	-
Pesticides (mg/Kg)																			
4,4-DDE	*1.8*	*17*	*0.02*	-	-	-	-	-	-	-	-	-	-	-	ND<0.0069	-	-	-	**0.026**
4,4-DDT	*1.8*	*17*	*0.02*	-	-	-	-	-	-	-	-	-	-	-	ND<0.0069	-	-	-	**0.032**
PCBs (mg/Kg)				-	ND<0.36	-	-	-	-	-	-	ND<0.36	ND<0.39	-	ND<0.34	-	-	ND<0.38	-
RCP Metals (mg/Kg)																			
Antimony	27	8,200	NA	ND<0.37	-	-	-	ND<4.2	ND<3.7	ND<3.6	ND<4.0	ND<3.5	ND<4.0	ND<3.8	ND<3.5	ND<4.1	ND<3.6	ND<3.5	ND<4.4
Arsenic	10	10	NA	2.44	-	-	-	7.84	3.38	**11**	3.09	2.49	4.92	2.38	1.77	2.85	2.52	7	6.67
Barium	4,700	140,000	NA	39.6	-	-	-	282	98.5	116	79.5	50	152	52.10	26.9	61.9	48.3	95.1	293
Beryllium	2	2	NA	0.46	-	-	-	0.54	0.55	0.58	0.62	0.50	0.78	0.54	0.38	0.55	0.50	0.54	0.53
Cadmium	34	1,000	NA	ND<0.37	-	-	-	1.30	ND<0.37	0.65	ND<0.40	ND<0.35	0.45	ND<0.38	ND<0.35	ND<0.41	ND<0.36	0.7	0.94
Chromium	NE	NE	NA	16.7	-	-	-	28.8	23.8	23.3	20.6	17.3	34.5	18.7	12.2	18.4	16.4	25.7	26.1
Copper	2,500	76,000	NA	13.2	-	-	-	120	29.3	57.7	18.8	60.0	33.6	46.6	14	26.3	48.2	57.9	101
Lead	400	1,000	NA	5.75	-	-	-	**691**	20.2	69.7	14.6	10.4	7.91	88.6	2.72	9.47	40.5	64.6	**545**
Mercury	20	610	NA	ND<0.03	-	-	-	0.44	ND<0.03	0.09	0.07	ND<0.03	ND<0.03	ND<0.03	ND<0.03	ND<0.03	ND<0.03	0.06	0.54
Nickel	1,400	7,500	NA	13	-	-	-	24.4	21.5	22.4	16.1	15.5	34.0	16.9	11.4	15.9	13.4	20.9	22.1
Silver	340	10,000	NA	ND<0.37	-	-	-	ND<0.42	ND<0.37	ND<0.36	ND<0.40	ND<0.35	ND<0.40	ND<0.38	ND<0.35	ND<0.41	ND<0.36	ND<0.35	ND<0.44
Vanadium	470	14,000	NA	26.3	-	-	-	48.0	41.1	39.8	33	27.6	50.1	31.4	21.2	32	27.6	39.1	44.8
Zinc	20,000	610,000	NA	36	-	-	-	377	70.4	103	53.7	181	84	61.4	24.4	47.7	57.9	133	303

Notes:
Only compounds detected are summarized in the table (compounds that are not listed were not detected)
CTDEEP RSRs - Connecticut Department of Energy & Environmental Protection Remediation Standard Regulations
RES DEC - Residential Direct Exposure Criteria
I/C DEC - Industrial/Commercial Direct Exposure Criteria
GB PMC - Pollutant Mobility Criteria for groundwater class GB
Bolded and boxed - Concentration exceeds RSR value
Italicized = Additional Polluting Substance
*GB PMC values are established for leachable metals and PCBs using TCLP or SPLP analysis. Total values are reported in the laboratory analytical report
ETPH - Extractable Total Petroleum Hydrocarbons
VOCs - Volatile Organic Compounds
SVOCs - Semi Volatile Organic Compounds
PCB - Polychlorinated Biphenyls
RCP - Reasonable Confidence Protocol
mg/Kg - milligrams per kilogram
ND - Not detected above laboratory limits
NE - CT RSR Criteria Not Established
NA - CT RSR Criteria is Not Applicable
- Sample not analyzed
BRL - Below laboratory reporting limits

Table 2
Summary of Soil Analytical Data
Phase II ESA
85 Hawthorn Street
Hartford, CT

Sample ID				B-109 (12-14')	B-110 (11-13')	B-111 (16-18')	B-DUP	B-112 (22-24')	B-114 (7-9')	B-115 (7-9')	B-116 (1-3')	B-117 (2-4')	B-118 (10-12')	B-119 (2-4')
Sample Material	CT DEEP RSRs			Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Laboratory ID				BV41731	BV41732	BV41733	BV41737	BV41734	BV41735	BV41736	BV41738	BV41739	BV41740	BV41741
Date Sampled				10/5/2016	10/5/2016	10/5/2016	10/5/2016	10/5/2016	10/5/2016	10/5/2016	10/6/2016	10/6/2016	10/6/2016	10/6/2016
	RES DEC	I/C DEC	GB PMC*											
CT ETPH (mg/Kg)	500	2,500	2,500	91	ND<300	**880**	480	ND<59	ND<51	ND<61	ND<52	260	ND<320	ND<350
Total Cyanide (mg/Kg)	1,400	41,000	NE	ND<0.54	-	-	-	-	-	-	-	-	ND<0.63	-
VOCs (mg/Kg)														
2-Butanone (MEK)	500	1,000	80	ND<0.033	ND<0.031	-	-	ND<0.038	-	-	ND<0.034	ND<0.033	ND<3.1	-
Naphthalene	1,000	2,500	56	ND<0.0054	ND<0.0052	-	-	ND<0.0063	-	-	ND<0.0057	ND<0.0056	ND<0.52	-
P-Isopropyltoluene	500	1,000	5.0	ND<0.0054	ND<0.0052	-	-	ND<0.0063	-	-	ND<0.0057	ND<0.0056	ND<0.52	-
Trichloroethylene (TCE)	56	520	1	ND<0.0054	ND<0.0052	-	-	0.61	-	-	ND<0.0057	ND<0.0056	ND<0.52	-
SVOCs (mg/Kg)								-						
Acenaphthene	*1,000*	*2,500*	*84*	ND<0.27	ND<0.28	ND<0.30	ND<0.29	-	ND<0.23	ND<0.28	-	-	0.94	ND<0.35
Acenaphthylene	1,000	2,500	84	ND<0.27	ND<0.28	ND<0.30	ND<0.29	-	ND<0.23	ND<0.28	-	-	ND<0.29	ND<0.35
Anthracene	1,000	2,500	400	0.420	0.49	ND<0.30	ND<0.29	-	ND<0.23	ND<0.28	-	-	1.5	ND<0.35
Benzo[a]anthracene	1	7.8	1	0.96	**1.1**	ND<0.30	ND<0.29	-	ND<0.23	0.52	-	-	**2.9**	ND<0.35
Benzo[a]pyrene	1	1	1	0.79	1.0	ND<0.30	ND<0.29	-	ND<0.23	0.61	-	-	**2.6**	ND<0.35
Benzo[b]fluoranthene	1	7.8	1	0.96	0.96	ND<0.30	ND<0.29	-	ND<0.23	0.5	-	-	**2.9**	ND<0.35
Benzo[g,h,i]perylene	*8.4*	*78*	*1*	0.42	0.56	ND<0.30	ND<0.29	-	ND<0.23	0.33	-	-	**1.5**	ND<0.35
Benzo[k]fluoranthene	8.4	78	1	0.89	0.98	ND<0.30	ND<0.29	-	ND<0.23	0.48	-	-	**2.5**	ND<0.35
Carbazole	*31*	*290*	*1.0*	ND<0.38	0.6	ND<0.43	ND<0.41	-	ND<0.33	ND<0.41	-	-	0.73	ND<0.50
Chrysene	*84*	*780*	*1*	**1.1**	**1.3**	0.32	ND<0.29	-	ND<0.23	0.67	-	-	**3.1**	ND<0.35
Dibenzofuran	*68*	*1,000*	*1.4*	ND<0.27	0.49	ND<0.30	ND<0.29	-	ND<0.23	ND<0.28	-	-	0.8	ND<0.35
Flourene	1,000	2,500	56	ND<0.27	0.86	ND<0.30	ND<0.29	-	ND<0.23	ND<0.28	-	-	0.77	ND<0.35
Fluoranthene	1,000	2,500	56	2.20	2.70	ND<0.30	ND<0.29	-	ND<0.23	0.88	-	-	7.2	ND<0.35
Indeno[1,2,3-cd]pyrene	*1.0*	*7.8*	*1*	0.59	0.67	ND<0.30	ND<0.29	-	ND<0.23	0.33	-	-	**1.7**	ND<0.35
Naphthalene	1,000	2,500	56	ND<0.27	0.84	0.51	ND<0.29	-	ND<0.23	ND<0.28	-	-	0.95	ND<0.35
Phenanthrene	1,000	2,500	40	1.40	3.10	ND<0.30	ND<0.29	-	ND<0.23	ND<0.28	-	-	6.6	ND<0.35
Pyrene	1,000	2,500	40	ND<0.27	2.20	ND<0.30	ND<0.29	-	ND<0.23	1.0	-	-	5.9	ND<0.35
Pesticides (mg/Kg)														
4,4-DDE	*1.8*	*17*	*0.02*	-	-	-	-	-	-	ND<0.0081	-	-	-	-
4,4-DDT	*1.8*	*17*	*0.02*	-	-	-	-	-	-	ND<0.0081	-	-	-	-
PCBs (mg/Kg)				ND<0.38	ND<0.40	-	-	ND<0.39	-	-	ND<0.35	ND<0.37	ND<0.42	ND<0.50
RCP Metals (mg/Kg)														
Antimony	27	8,200	NA	ND<4.1	ND<4.1	-	-	5.8	-	ND<3.9	ND<3.3	ND<3.6	4.6	-
Arsenic	10	10	NA	8.05	4.78	-	-	**25.7**	-	5.34	1.96	3.54	7.33	-
Barium	4,700	140,000	NA	134	214	-	-	102	-	147	24.7	101	476	-
Beryllium	2	2	NA	0.55	0.9	-	-	0.41	-	0.72	0.37	0.58	0.36	-
Cadmium	34	1,000	NA	0.6	0.68	-	-	1.74	-	0.53	ND<0.33	0.51	1.3	-
Chromium	NE	NE	NA	24.7	46.4	-	-	64.9	-	29	12.2	25.9	65	-
Copper	2,500	76,000	NA	192	320	-	-	305	-	41	10.1	129	651	-
Lead	400	1,000	NA	152	103	**621**	-	275	-	93.3	5.15	28.7	259	-
Mercury	20	610	NA	0.19	0.55	-	-	0.1	-	0.04	ND<0.03	ND<0.03	ND<0.03	-
Nickel	1,400	7,500	NA	21.6	36.5	-	-	37.1	-	26.6	10.2	17.3	52.9	-
Silver	340	10,000	NA	ND<0.41	ND<0.41	-	-	ND<0.38	-	ND<0.39	ND<0.33	ND<0.36	1.28	-
Vanadium	470	14,000	NA	39	58.5	-	-	52.4	-	49.2	19.5	39.3	38.1	-
Zinc	20,000	610,000	NA	184	192	-	-	220	-	107	28	68	334	-

Notes:
Only compounds detected are summarized in the table (compounds that are not listed were not detected)
CTDEEP RSRs - Connecticut Department of Energy & Environmental Protection Remediation Standard Regulations
RES DEC - Residential Direct Exposure Criteria
I/C DEC - Industrial/Commercial Direct Exposure Criteria
GB PMC - Pollutant Mobility Criteria for groundwater class GB
Bolded and boxed - Concentration exceeds RSR value
Italicized = Additional Polluting Substance
*GB PMC values are established for leachable metals and PCBs using TCLP or SPLP analysis. Total values are reported in the laboratory analytical report
ETPH - Extractable Total Petroleum Hydrocarbons
VOCs - Volatile Organic Compounds
SVOCs - Semi Volatile Organic Compounds
PCB - Polychlorinated Biphenyls
RCP - Reasonable Confidence Protocol
mg/Kg - milligrams per kilogram
ND - Not detected above laboratory limits
NE - CT RSR Criteria Not Established
NA - CT RSR Criteria is Not Applicable
- Sample not analyzed
BRL - Below laboratory reporting limits

Table 3
Summary of Groundwater Analytical Data
Phase II ESA
85 Hawthorn Street
Hartford, CT

Sample ID	CTDEEP RSRs			MW-1	MW-3	MW-4	MW-DUP	MW-5	MW-6	MW-7	TB
Laboratory ID											
Date Sampled				10/24/2016	10/24/2016	10/24/2016	10/24/2016	10/24/2016	10/24/2016	10/24/2016	10/24/2016
	SWPC	RES VC	I/C VC								
ETPH (ug/L)	*250*	*250*	*250*	ND <180	**310**	ND <72	ND <70	ND <74	ND <70	150	-
VOCs (ug/L)											
Chloroform	14,100	287	710	ND <1.0	ND <1.0	ND <1.0	ND <1.0	9.9	ND <1.0	ND <1.0	ND<1.0
Methylene Chloride	48,000	50,000	50,000	ND <1.0	ND <1.0	ND <1.0	ND <1.0	2.1	ND <1.0	ND <1.0	ND<1.0
Tetrachloroethene (PCE)	88	1,500	3,820	ND <1.0	ND <1.0	ND <1.0	ND <1.0	42	ND <1.0	ND <1.0	ND<1.0
Trichloroethylene (TCE)	2,340	219	540	ND <1.0	ND <1.0	ND <1.0	ND <1.0	1.1	ND <1.0	ND <1.0	ND<1.0
PAHs (ug/L)	Varies	Varies	Varies	-	-	ND	ND	ND	ND	-	-
PCBs (ug/L)	0.5	NE	NE	-	-	ND<0.28	ND<0.27	ND<0.27	ND<0.28	-	-
RCP Metals (ug/L)											
Barium	*2,200*	NE	NE	180	-	117	117	97	45	86	-
Chromium	NE	NE	NE	3.0	-	ND <1.0	ND <1.0	ND <1.0	ND <1.0	ND <1.0	-
Copper	48	NE	NE	6.0	-	ND <5.0	ND <5.0	ND <5.0	ND <5.0	ND <5.0	-
Lead	13	NE	NE	3.0	-	ND <2.0	ND <2.0	ND <6.0	ND <2.0	ND <2.0	-
Nickel	880	NE	NE	2.0	-	3.0	3.0	ND <1.0	2.0	2.0	-
Vanadium	*270*	NE	NE	3.0	-	ND <2.0	ND <2.0	ND <2.0	ND <2.0	ND <2.0	-
Zinc	123	NE	NE	19	-	4.0	3.0	3.0	3.0	6.0	-

Notes:
Only compounds detected are summarized in the table (compounds that are not listed were not detected)
CTDEEP RSRs - Connecticut Department of Energy & Environmental Protection Remediation Standard Regulations
RES VC - Residential Volatilization Criteria
I/C VC - Industrial/Commercial Volatilization Criteria
SWPC - Surface Water Protection Criteria
Bolded and boxed - Concentration exceeds RSR value
Italicized = Additional Polluting Substance
ETPH - Extractable Total Petroleum Hydrocarbons
VOCs - Volatile Organic Compounds
PAHs - Polycyclic Aromatic Hydrocarbons
RCP - Reasonable Confidence Protocol
ug/L - micrograms per Liter
ND - Not detected above laboratory reporting limit
NE - RSR Criteria Not Established
NA - RSR Criteria Not Applicable
- sample not analyzed

Table 4
Summary of Asbestos Analytical Data
Phase II ESA - Hazardous Building Materials Assessment
85 Hawthorn Street
Hartford, CT

Sampling Date: October 7, 2016

Sample #	Material	Color	Location	Result
1A	Fibrous paper	Black	Debris pile, east side of site	None Detected
1B	Fibrous paper	Black	Debris pile, east side of site	None Detected
1C	Fibrous paper	Black	Debris pile, east side of site	None Detected
2A	Coating	White/Gray	Debris pile, east side of site	None Detected
2B	Coating	White/Gray	Debris pile, east side of site	None Detected
2C	Coating	White/Gray	Debris pile, east side of site	None Detected
3A	Fibrous material	Tan/Gray	Debris pile, east side of site	None Detected
3B	Fibrous material	Tan/Gray	Debris pile, east side of site	None Detected
3C	Fibrous material	Tan/Gray	Debris pile, east side of site	None Detected
4A	Transite panel	Tan/Gray	Debris pile, east side of site	None Detected
4B	Transite panel	Tan/Gray	Debris pile, east side of site	None Detected
4C	Transite panel	Tan/Gray	Debris pile, east side of site	None Detected

Tighe&Bond

APPENDIX C

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-101**
Page 1 of 1
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/04/16 End: 10/04/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	48"	0-2'		0-0.5' Concrete	**CONCRETE**	1	No Well Installed
					0.5-2' Orange fine to medium SAND, trace silt, dry	**SAND**		
	0.0				2-3' Brown fine to medium SAND, trace silt, dry			
					3-5' Tan/yellow fine SAND and SILT, dry			
	0.0							
5		60"			5-8' Tan/yellow fine SAND and SILT, dry	**SAND/SILT**		
	0.0							
	0.0				8-10' Brown fine SAND and SILT, some CLAY, moist			
					Water at 10'			
10	0.0	60"			10-15' Brown CLAY, some SILT, trace sand, wet		2	
	0.0					**CLAY/SILT**		
	0.0							
15					End of Boring at 15'			
20								
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-101 (0-2')
2. Groundwater encountered at 10 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'48.398"N, 72°41'49.989"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

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

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/04/16 End: 10/04/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	36"			Auger through 8" concrete slab and rebar	CONCRETE	1	
			1-3'		1-2' White coarse SAND, concrete, ash, dry	SAND		
	0.0				2-4' Brown, fine to medium SAND and SILT, dry	SAND/SILT		Native Fill and Sand
	0.0				4-5' Tan, fine SAND, well sorted, dry	SAND		2" PVC Riser
5		30"			5-6' Tan, fine SAND, well sorted, dry			
	0.0				6-8' Brown fine SAND and SILT, some CLAY, moist	SAND/SILT		
	0.0				8-10' Brown CLAY, some SILT, trace sand, dry			Bentonite
10								
	0.0	60"			10-15' Brown CLAY, some SILT, trace sand, dry	CLAY/SILT		
	0.0				Water at 12.5'		2	
	0.0							10 Slot Screen
15					End of Boring at 15'			#2 Sand
20					Bottom of Monitoring Well at 20'			
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-102 (1-3')
2. Groundwater encountered at 10 ft below ground surface during drilling operations.

Coordinates of boring/monitoring well location: 41°45'48.194"N, 72°41'50.303"W
Monitoring well MW-1 installed on 10/7/16

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

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

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/04/16 End: 10/04/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	30"			1' Concrete	**CONCRETE**		
			1-3'		2-5' Fine tan SAND and SILT, dry		1	
	0.0					**SAND/SILT**		
	0.0							
5		60"			5-6' CLAY and gravel, brown, moist, water at 5.5'	**CLAY**	2	No Well Installed
	0.0				6-10' Brown CLAY, some SILT, trace fine sand, wet			
						CLAY/SILT		
	0.0							
10					End of Boring at 10'			
15								
20								
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-103 (1-3')
2. Groundwater encountered at 5.5 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'48.663"N, 72°41'50.239"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

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

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/04/16 End: 10/04/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	36"			1' Concrete	**CONCRETE**		No Well Installed
					1-3' Brown/tan fine SAND and SILT, dry			
	0.0							
			3-5'		3-5' Tan fine SAND, some SILT, colored layers, dry		1	
	0.0							
5		42"			5-9' Red/brown fine SAND and SILT, some clay, moist	**SAND/SILT**		
	0.0							
	0.0							
					9-10' Brown CLAY, some SILT, trace sand, wet, water at 9.5'			
10	0.0	48"			10-12.5' Brown CLAY, some SILT, trace sand, moist		2	
						CLAY/SILT		
	0.0				12.5-15' Brown CLAY and SILT, wet			
	0.0							
15					End of Boring at 15'			
20								
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-104 (3-5')
2. Groundwater encountered at 9.5 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'47.846"N, 72°41'51.960"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

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

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/04/16 End: 10/04/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	42"	0-2'		1' Concrete	**CONCRETE**	1	No Well Installed
					1-3' Tan/brown, fine to medium SAND and SILT, tightly packed, dry	**SAND/SILT**		
	0.0							
					3-5' Tan/orange banding, fine SAND and SILT, dry			
	0.0							
5		60"			5-8' Tan/brown fine SAND and SILT, some clay, dry			
	0.0							
	0.0				8-10' Brown CLAY and SILT, trace sand, moist	**CLAY/SILT**		
10	0.0	36"			10-12.5' Tan/orange, fine SAND, some CLAY, moist	**SAND**		
	0.0				12.5-15' Brown CLAY, some SILT, trace fine sand, wet	**CLAY/SILT**	2	
	0.0							
15					End of Boring at 15'			
20								
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-105 (0-2')
2. Groundwater encountered at 13 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'48.538"N, 72°41'51.950"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

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

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: End:
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	30"			0-1.5' Red/brown, fine to medium SAND and SILT, brick fragments	**SAND/SILT**		
					1.5-3' Concrete	**CONCRETE**		
	0.0							
					3-5' Tan, fine to medium SAND and SILT, dry	**SAND/SILT**	1	
	0.0		4-6'					
5		31"			5-10' Orange/tan, fine SILT and CLAY, dry, no odor			
	0.0					**SILT/CLAY**		
	0.0				Water at 8'		2	
								No Well Installed
10	0.0	42"			10-15' Orange/tan/brown, fine CLAY, trace silt, wet no odor			
	0.0							
	0.0					**CLAY**		
15		37"			15-17' Red/tan/orange, fine CLAY, wet			
	0.0							
					17-20' Gray CLAY, saturated at 17'			
	0.0							
20					End of Boring at 20'			
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-106 (4-6')
2. Groundwater encountered at 8 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'46.992"N, 72°41'52.596"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

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

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	31"			0-5' Fill, coarse brown SAND, dry, pebbles/cobbles, gravel, no odor			
	0.0							
	0.0							
5		39"			5-10' Fill, glass, fine brown/gray SAND, brick, tightly packed, pebbles/cobbles, dry, no odor	**FILL/SAND**		
	0.0		6-8'				1	No Well Installed
	0.0							
10	0.0	29"			10-12' Brown, fine SILT, damp, some CLAY	**SILT/CLAY**		
	0.0				12-15' Gray/tan CLAY, damp, no odor			
					Water at 13'	**CLAY**	2	
	0.0							
15					End of Boring at 15'			
20								
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-107 (6-8')
2. Groundwater encountered at 13 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'46.108"N, 72°41'53.691"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

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

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	N/A			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	30"			0-3' Medium to coarse brown SAND, pebbles/gravel, dry	**FILL/SAND**	1	No Well Installed
	0.0							
					3-5' Brown fine SAND/SILT, damp, coal, slight odor	**SAND/SILT**		
	0.0							
5		48"			5-10' Fill, coarse to medium dark brown/red cobbles, boulders, gray/brown SAND, dry	**FILL/SAND**		
	0.0							
	0.0							
10	0.0	26"			10-15' Dark brown fine SAND/SILT, tight, damp	**SAND/SILT**		
	0.0		12-14'					
	0.0				Brick at 15'			
15		4"			15-15.5' Brick, mulch, thin black paper layer over white concrete/stone. Refusal at 15.5'	**CONCRETE**		
					End of Boring at 15.5'			
20								
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-108 (12-14')
Groundwater not encountered during drilling operations

Coordinates of boring location: 41°45'45.600"N, 72°41'54.887"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Boring No. **B-109/MW-5**
Page 1 of 2
File No.
Checked by:

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	41"			0-5' Fill, dry, coarse to medium SAND, brown/red, cobbles, boulders	FILL/SAND		Native Fill and Sand
	0.0							
	0.0							
5		36"			5-10' Fill, brown SILT/SAND, tight, dry, no odor	SILT/SAND		
	0.0							
	0.0							
10	0.0	25"			10-12' Fill, brown coarse SAND, fine SILT, damp			
	0.0		12-14'		12-14' Fill, coarse SAND pea stone, concrete, wood, slight odor	SAND	1	2" PVC Riser
	0.0				14-15' Brown SAND, pebbles, fill			
15		2"			15-20' Little recovery, fine brown SILT and CLAY, wet, water at 15'	SILT/CLAY	2	
	0.0							
	0.0							
20	0.0	55"			15-20' Saturated light brown CLAY, fine, no odor	CLAY		
	0.0							
								Bentonite
25	0.0							
					End of Boring at 25'			10 Slot Screen / # 2 Sand
30								

Notes:
1. Sample submitted for laboratory analysis: B-109 (12-14')
2. Groundwater encountered at 15 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'45.522"N, 72°41'55.157"W
Monitoring well MW-5 installed on 10/7/16

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-109/MW-5**
Page 2 of 2
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
								10 Slot Screen / # 2 Sand
35					Bottom of Monitoring Well at 35'			
40								
45								
50								
55								
60								

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-110/MW-2**
Page 1 of 1
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	N/A			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	37"			0-5' Fine tan SAND/SILT, dry, no odor	SAND/SILT	1	2" PVC Riser; Native Fill and Sand
	0.0							
	0.0							
5		35"			5-7' Tan SILT and fine SAND, dry, no odor	SILT/SAND		
	0.0							
					7-9' Red fine SAND, pebbles, dry, no odor	SAND		
	0.0							
					9-10' Red tight SILT, dry	SILT		
10	0.0	39"			10-11' Concrete	CONCRETE		
			11-13'		11-13.5' Brown SILT, fine SAND, damp, slight odor, black plastic, wood	SILT/SAND		
	0.2							
					13.5-15' Red/black oil soaked wood, brick, tight SILT, odor	FILL/SILT		Bentonite
	1.0							
15		30"			15-17' Tan SAND/SILT, brick, oil soaked wood, strong odor, metal dust	FILL/SAND/SILT		10 Slot Screen; #2 Sand
	1.3				Refusal at 17'			
					End of Boring at 17'			
20								
25					Bottom of Monitoring Well at 25'			
30								

Notes:
1. Sample submitted for laboratory analysis: B-110 (11-13')
Groundwater was not encountered during drilling operations.

Coordinates of boring location: 41°45'46.653"N, 72°41'55.408"W
Monitoring well MW-2 installed on 10/6/17

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-111**
Page 1 of 1
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	32"			0-5' Fill, gravel, cobbles, black/brown/red coarse SAND, glass, dry			
	0.0							
	0.0					**FILL/SAND**		
5		37"			5-9' Fill, gravel, cobbles, black/brown/red coarse SAND, dry			
	0.0							
	0.0							
					9-10' Brown/red fine CLAY, damp, no odor, red/brown sand and cobbles on bottom	**FILL/CLAY**		No Well Installed
10	0.0	11"			10-12.5' Little recovery, fine brown SAND/SILT, pebbles, damp	**SAND/SILT**		
	0.0				12.5-15' Little recovery, Styrofoam, white			
						STYROFOAM		
	0.0							
15		30"			15-18' Fill, Styrofoam at 15', coarse to medium SAND, red/orange/black/brown, pebbles	**FILL/SAND**	1	
	0.0		16-18'					
					18-20' Gray/tan SILT, some CLAY, wet, water at 18'			
	0.0					**SILT/CLAY**	2	
20								
					End of Boring at 20'			
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-111 (16-18')
2. Groundwater encountered at 18 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'44.380"N, 72°41'57.070"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-112/MW-4**
Page 1 of 1
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	30"			0-2' Tan fine SAND, medium SAND, dry			
	0.0				2-5' Gray/black SAND, pebbles/cobbles, fill, dry, no odor	**FILL/SAND**		
	0.0							
5		38"			5-6' Tight brown SILT/SAND, dry	**SILT/SAND**		
	0.0				6-10' Brown medium SAND, black/tan, dry, no odor			
	0.0							
10	0.0	11"			10-15' Fill, coarse brown SAND, dry, pebbles, no odor			**2" PVC Riser**
	0.0							
	0.0							
15		29"			15-16' Brown damp SAND, pebbles	**FILL/SAND**		
	0.0				16-20' Styrofoam at 16', Fill, coarse red/brown/tan SAND, black SAND, pebbles, dry			
	0.0							
20	0.0	20"			20-24' Fill, dry brown/black SAND			
	0.0		22-24'				1	
	0.0				24-25' Water at 24', wet black SAND, coarse, oil odor		2	**10 Slot Screen**
25		27"			25-30' Saturated brown CLAY			
	0.0							
						CLAY		
	0.0							
30					End of Boring at 30', Bottom of Monitoring Well at 30'			

Native Fill and Sand

Bentonite

#2 Sand

Notes:
1. Sample submitted for laboratory analysis: B-112 (22-24')
2. Groundwater encountered at 24 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'44.530"N, 72°41'56.790"W
Monitoring well MW-3 installed on 10/7/16

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-113**
Page 1 of 1
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 1			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	40"			0-1' Fill, brick, coarse brown/black SAND, dry			
					1-5' Dry, tan/orange SAND, no odor			
	0.0							
						SAND		
	0.0							
5		48"			5-8' Dry brown/tan SAND, no odor			No Well Installed
	0.0							
	0.0				8-10' Damp brown SILT	**SILT**		
					Water at 10'			
10					End of Boring at 10'		1	
15								
20								
25								
30								

Notes:
No Sample submitted for laboratory analysis:
1. Groundwater encountered at 10 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'45.176"N, 72°41'59.025"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-114**
Page 1 of 1
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	23"			0-5' Dry, tan, fine SAND/SILT, no odor, some pebbles			
	0.0							
	0.0							
5		43"			5-10' Dry, tan/orange, SILT and fine SAND, no odor			
	0.0					**SILT/SAND**		
			7-9'				1	
	0.0							
10	0.0	36"			10-12' Tan SILT/SAND, dry			
	0.0				12-15' Brown coarse SAND, pebbles, boulders, gravel, asphalt at 13', dry			No Well Installed
						ASPHALT		
	0.0					**SAND**		
15		37"			15-20' Damp gray CLAY, no odor, tight, trace fine silt, brick at 18'			
	0.0							
	0.0							
20	0.0	31"			20-25' Damp brown/gray CLAY, trace silt, no odor	**CLAY**		
	0.0							
25	0.0				Water at 25'		2	
					End of Boring at 25'			
30								

Notes:
1. Sample submitted for laboratory analysis: B-114 (7-9')
2. Groundwater encountered at 25 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'45.399"N, 72°41'01.000"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-115/MW-6**
Page 1 of 2
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	27"			0-5' Tan SILT, fine SAND, dry, no odor	SILT/SAND	1	2" PVC Riser; Native Fill and Sand
	0.0							
	0.0							
5		42"			5-6' Tan, fine SILT/SAND, dry			
	0.0				6-6.5' Crushed concrete, 6.5-7' Asphalt, dry	CONCRETE / ASPHALT		
			7-9'		7-10' Brown damp CLAY, red brick at 9'	CLAY		
	0.0							
10	0.0	26"			10-15' Gray/brown CLAY, damp, no odor, tight			
	0.0							
	0.0							
15		35"			15-20' Gray/brown, damp CLAY, tight, no odor, clay appears reworked			
	0.0							
	0.0							
20	0.0	31"			No sample collected from 20-25'	UNKOWN		
	0.0							
								Bentonite
	0.0							
25		45"			25-30' Brown/gray CLAY, wet, coarse brown SAND at 29'		2	10 Slot Screen; # 2 Sand
	0.0					CLAY		
	0.0					SAND		
30					End of Boring at 30'	CLAY		

Notes:
1. Sample submitted for laboratory analysis: B-115 (7-9')
2. Groundwater encountered at 25 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'45.280"N, 72°41'1.490"W
Monitoring well MW-6 installed on 10/7/16

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-115/MW-6**
Page 2 of 2
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/05/16 End: 10/05/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
								10 Slot Screen / # 2 Sand
35					Bottom of Monitoring Well at 35'			
40								
45								
50								
55								
60								

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Boring No. **B-116/MW-7**
Page 1 of 1
File No.
Checked by:

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/06/16 End: 10/06/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	42"			0-1' Red/brown SAND, pebbles, dry	SAND		
			1-3'		1-5' Tan medium to fine SAND/SILT, dry, no odor			
	0.0					SAND/SILT		
	0.0							
5		37"			5-7' Tan/orange SILT, tight, dry, no odor	SILT		
	0.0							Native Fill and Sand
					7-10' Brown/gray CLAY, damp		1	2" PVC Riser
	0.0							
10	0.0	45"			10-13' Brown/gray CLAY, damp	CLAY		
	0.0							
					13-15' Wet brown/gray CLAY, no odor, water at 13'		2	Bentonite
	0.0							
15					End of Boring at 15'			
								10 Slot Screen
20								#2 Sand
25					Bottom of Monitoring Well at 25'			
30								

Notes:
1. Sample submitted for laboratory analysis: B-116 (1-3')
2. Groundwater encountered at 13 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'47.604"N, 72°41'0.047"W
Monitoring well MW-7 installed on 10/7/16

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-117**
Page 1 of 1
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/06/16 End: 10/06/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	52"			0-5' Tan, gray SILT/SAND, fill, asphalt, brick, no odor, oil soaked wood at 2'			
			2-4'				1	
	0.0					**SILT/SAND**		
	0.0							
5		47"			5-7' Damp brown SILT, no odor	**SILT**		
	0.0							
					7-10' Wet brown SILT/CLAY, water at 7'		2	No Well Installed
	0.0					**SILT/CLAY**		
10	0.0	54"			10-15' Wet brown CLAY, fine, no odor			
	0.0					**CLAY**		
	0.0							
15					End of Boring at 15'			
20								
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-117 (2-4')
2. Groundwater encountered at 7 ft below ground surface during drilling operations.

Coordinates of boring location: 41°45'46.918"N, 72°41'58.419"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-118**
Page 1 of 1
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/06/16 End: 10/06/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	N/A			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	45"			0-1' Fill, brick, brown SAND, dry	**FILL/SAND**		No Well Installed
					1-2' Concrete	**CONCRETE**		
	0.0				2-5' Fill, brown/red SAND, brick, pebbles, dry			
	0.0							
5		27"			5-10' Fill, red/brown/black SAND, coarse, dry no odor	**FILL/SAND**		
	0.0							
	0.0							
10	0.0	29"	10-12'		10-11' Fine white/tan SAND, red, dry	**SAND**	1	
					11-12' Damp, black stained SAND, stained, wood, oil odor			
	0.0				12' Concrete, refusal at 12'	**CONCRETE**		
					End of boring a 12'			
	0.0							
15								
20								
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-118 (10-12')
Groundwater was not encountered during drilling operations.

Coordinates of boring location: 41°45'46.623"N, 72°41'57.933"W

Tighe&Bond

Consulting Engineers
Middletown, Connecticut

Boring No. **B-119/MW-3**
Page 1 of 1
File No.
Checked by:

Project: Phase II ESA
Location: 85 Hawthorn Street, Hartford, CT
Client: City of Hartford

Drilling Co.: American Environmental Assessment Corp.
Foreman: Chris
T&B Rep.: Samantha Avis
Date Start: 10/06/16 End: 10/06/16
Location See Sample Location Plan
GS. Elev. Datum:

	Casing	Sampler
Type		
I.D./O.D.		
Hammer Wt.		
Hammer Fall		
Other		Macro

Groundwater Readings

Date	Time	Depth	Casing	Sta. Time
	See Note 2			

Depth (ft.)	PID PPM	Sample No. / Rec. (in)	Sample Depth (ft.)	Blow Counts Per 6"	Sample Description	General Stratigraphy	Notes	Well Construction
	0.0	7"			0-2' Coarse, gray, GRAVEL, dry	GRAVEL		2" PVC Riser; Native Fill and Sand
					2-4' Dry, brown/gray SAND, no odor			Bentonite
	0.0		2-4'			SAND	1	
5	0.0				4-5' Wet, gray CLAY, water at 5'			
		52"			5-10' Wet gray CLAY, fine, no odor, trace silt		2	
	0.0					CLAY		10 Slot Screen; # 2 Sand
	0.0							
10					End of Boring at 10'			
					Bottom of Monitoring Well at 12'			
15								
20								
25								
30								

Notes:
1. Sample submitted for laboratory analysis: B-119 (2-4')
2. Groundwater encountered at 5 ft below ground surface during drilling operations.

Coordinates of boring: 41°45'43.943"N, 72°41'58.583"W
Monitoring well MW-3 installed on 10/6/16

Tighe&Bond
Engineers | Environmental Specialists

C-107714 / 85 Hawthorn

C-107714 / 85 Hawthorn
85 Hawthorn Street
Hartford, CT

Test Pit No. **TP-1**
Page No. 1 of 1
Photo Log No.
Checked By:

T&B Rep.	Samantha Avis	Contractor	American Environmental Assessment Corp.			Date	10/03/16
		Operator	John (Cisco)			Ground Elev.	--
Weather	65°F Sunny	Make	Hitachi	Model	Zaxis	Time Started	1025
		Capacity	85 USB	Reach	12 ft.	Time Completed	1040

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulder Count/ Class	Note No.
0	Dry, light brown medium SAND, cobbles, no odor		0.0			
1'			0.0			
2'	Asphalt layer at 2'		0.0			
3'	Medium brown fine to medium SAND, dry		0.0			
4'	Native brown SAND/SILT, cobbles, dry, no odor		0.0			
5'			0.0			
6'			0.0			
7'			0.0			
8'		TP-1 (8.5')				
9'	End of Test Pit at 8.5' bgs					
10'						
11'						
12'						
13'						
14'						
15'						
16'						

Notes:
Collected sample TP-1 (8.5') at 1040

Location:
41°45'45.485"N
72°42'00.060"W

Test Pit Plan

5
2

Volume = _____ cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" +

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered

Elapsed Time to Reading (Hours)	Depth to Ground-water

Tighe&Bond
Engineers | Environmental Specialists

C-107714 / 85 Hawthorn

C-107714 / 85 Hawthorn
85 Hawthorn Street
Hartford, CT

Test Pit No. **TP-2**
Page No. 1 of 1
Photo Log No.
Checked By:

T&B Rep.	Samantha Avis	Contractor	American Environmental Assessment Corp.			Date	10/03/16
		Operator	John (Cisco)			Ground Elev.	--
Weather	65°F Sunny	Make	Hitachi	Model	Zaxis	Time Started	1045
		Capacity	85 USB	Reach	12 ft.	Time Completed	1110

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulder Count/ Class	Note No.
0	Medium brown SAND, dry, fill material - brick, wood, plastic, glass, crushed metal, slight odor, cobbles		0.0			
1'			0.0			
2'			0.0			
3'			0.0			
4'		TP-2 (4.5')	0.0			
5'	Concrete and asphalt		0.0			
6'			0.0			
7'	Foundation wall/concrete layer		0.0			
8'	Dark brown SAND, dry, fill material - brick, metal		0.0			
9'	Native dark brown SAND/SILT, dry, pebbles/cobbles		0.0			
10'			0.0			
11'	End of Test Pit at 11' bgs					
12'						
13'						
14'						
15'						
16'						

Notes:
Collected sample TP-2 (4.5') at 1050

Location:
41°45'46.326"N
72°41'58.287"W

Test Pit Plan

6
3

Volume = _____ cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" +

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered

Elapsed Time to Reading (Hours)	Depth to Ground-water

J:\C\C1077 CRCOG Brownfields\Sites\Hartford Sites\Hawthorn St\Reports\Phase II ESA\Appendix C - Soil Boring Logs and GW Data Sheets\Test Pits\[Test Pit Logs.xls]TP-2

Tighe&Bond
Engineers | Environmental Specialists

C-107714 / 85 Hawthorn

C-107714 / 85 Hawthorn
85 Hawthorn Street
Hartford, CT

Test Pit No. **TP-3**
Page No. 1 of 1
Photo Log No.
Checked By:

T&B Rep.	Samantha Avis	Contractor	American Environmental Assessment Corp.			Date	10/03/16
		Operator	John (Cisco)			Ground Elev.	--
Weather	65°F Sunny	Make	Hitachi	Model	Zaxis	Time Started	--
		Capacity	85 USB	Reach	12 ft.	Time Completed	--

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulder Count/ Class	Note No.
0	Top Soil, brown SAND, dry		0.0			
1'	Asphalt Layer		0.0			
2'	Light brown medium to fine SAND, some SILT, dry, pebbles/cobbles, some fill material, brick, dry		0.0			
3'			0.0			
4'	Native, tan fine SAND/SILT, trace CLAY, dry		0.0			
5'	SILT/CLAY, dry		0.0			
6'			0.0			
7'	Damp tan/brown CLAY		0.0			
8'	End of Test Pit at 8' bgs	TP-3 (8')				
9'						
10'						
11'						
12'						
13'						
14'						
15'						
16'						

Notes:
Collected sample TP-3 (8') at 1215

Location:
41°45'44.794"N
72°41'58.940"W

Test Pit Plan

5
2

Volume = _____ cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" +

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered

Elapsed Time to Reading (Hours)	Depth to Ground-water

J:\C\C1077 CRCOG Brownfields\Sites\Hartford Sites\Hawthorn St\Reports\Phase II ESA\Appendix C - Soil Boring Logs and GW Data Sheets\Test Pits\[Test Pit Logs.xls]TP-3

Tighe&Bond
Engineers | Environmental Specialists

C-107714 / 85 Hawthorn

C-107714 / 85 Hawthorn
85 Hawthorn Street
Hartford, CT

Test Pit No. **TP-4**
Page No. 1 of 1
Photo Log No.
Checked By:

T&B Rep.	Samantha Avis	Contractor	American Environmental Assessment Corp.			Date	10/03/16
		Operator	John (Cisco)			Ground Elev.	--
Weather	65°F Sunny	Make	Hitachi	Model	Zaxis	Time Started	1300
		Capacity	85 USB	Reach	12 ft.	Time Completed	1330

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulder Count/ Class	Note No.
0	Fill material - brick, asphalt, pebbles/cobbles, light brown/tan SAND, dry		0.0			
1'	Asphalt layer at 0.5'		0.0			
2'			0.0			
3'			0.0			
4'			0.0			
5'	Concrete foundation wall at 4.5' Native tan fine to medium SAND, cobbles, dry		0.0			
6'		TP-4 (6')	0.0			
7'			0.0			
8'	End of Test Pit at 8' bgs					
9'						
10'						
11'						
12'						
13'						
14'						
15'						
16'						

Notes:
Encountered concrete slab at 1' bgs, off-set to next to loading dock off of building footprint

Collected sample TP-4 (6') at 1315

Location:
41°45'48.790"N
72°41'50.589"W

Test Pit Plan

6
2

Volume = _____ cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" +

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered

Elapsed Time to Reading (Hours)	Depth to Ground-water

Tighe&Bond
Engineers | Environmental Specialists

C-107714 / 85 Hawthorn

C-107714 / 85 Hawthorn
85 Hawthorn Street
Hartford, CT

Test Pit No. **TP-5**
Page No. 1 of 1
Photo Log No.
Checked By:

T&B Rep.	Samantha Avis	Contractor	American Environmental Assessment Corp.			Date	10/03/16
		Operator	John (Cisco)			Ground Elev.	--
Weather	65°F Sunny	Make	Hitachi	Model	Zaxis	Time Started	1400
		Capacity	85 USB	Reach	12 ft.	Time Completed	1415

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulder Count/ Class	Note No.
0	Coarse to medium brown SAND, dry, pebbles/cobbles, no odor		0.0			
1'			0.0			
2'	Gravel, dark brown SAND, dry		0.0			
3'			0.0			
4'			0.0			
5'			0.0			
6'	Dark brown SAND, dry, slight creosote/oil odor, fill material - wood, plastic	TP-5 (6')	0.0			
7'			0.0			
8'			0.0			
9'	Fine dark brown SAND/SILT, dry, cobbles, boulders		0.0			
10'	Creosote wood, railroad bed, oil odor		0.0			
11'	End of Test Pit at 11' bgs					
12'						
13'						
14'						
15'						
16'						

Notes:
Encountered railroad bed gravel with creosote & wood

Collected sample TP-5 (6') at 1415

Location:
41°45'45.390"N
72°41'55.427"W

Test Pit Plan

6
2

Volume = _____ cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" +

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered

Elapsed Time to Reading (Hours)	Depth to Ground-water

J:\C\C1077 CRCOG Brownfields\Sites\Hartford Sites\Hawthorn St\Reports\Phase II ESA\Appendix C - Soil Boring Logs and GW Data Sheets\Test Pits\[Test Pit Logs.xls]TP-5

Tighe&Bond
Engineers | Environmental Specialists

C-107714 / 85 Hawthorn

C-107714 / 85 Hawthorn
85 Hawthorn Street
Hartford, CT

Test Pit No. **TP-6**
Page No. 1 of 1
Photo Log No.
Checked By:

T&B Rep.	Samantha Avis	Contractor	American Environmental Assessment Corp.			Date	08/04/16
		Operator	John (Cisco)			Ground Elev.	--
Weather	65°F Sunny	Make	Hitachi	Model	Zaxis	Time Started	1510
		Capacity	85 USB	Reach	12 ft.	Time Completed	1520

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulder Count/ Class	Note No.
0	Light brown/tan fine to medium SAND, dry, pebbles/cobbles, some SILT		0.0			
1'			0.0			
2'			0.0			
3'			0.0			
4'			0.0			
5'	Brown SILT/CLAY, dry, some fill material - concrete, brick		0.0			
6'			0.0			
7'	Fill material - concrete, rebar, boulders Concrete, solid at 7.5'	TP-6 (7')	0.0			
8'			0.0			
9'			0.0			
10'			0.0			
11'	End of Test Pit at 11' bgs					
12'						
13'						
14'						
15'						
16'						

Notes:
Collected sample TP-6 (7') at 1520

Location:
41°45'46.681"N
72°41'55.655"W

Test Pit Plan

5
3

Volume = _____ cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" +

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered

Elapsed Time to Reading (Hours)	Depth to Ground-water

J:\C\C1077 CRCOG Brownfields\Sites\Hartford Sites\Hawthorn St\Reports\Phase II ESA\Appendix C - Soil Boring Logs and GW Data Sheets\Test Pits\[Test Pit Logs.xls]TP-6

Tighe&Bond
Engineers | Environmental Specialists

C-107714 / 85 Hawthorn

C-107714 / 85 Hawthorn
85 Hawthorn Street
Hartford, CT

Test Pit No. **TP-7**
Page No. 1 of 1
Photo Log No.
Checked By:

T&B Rep.	Samantha Avis	Contractor	American Environmental Assessment Corp.			Date	10/04/16
		Operator	John (Cisco)			Ground Elev.	--
Weather	65°F Sunny	Make	Hitachi	Model	Zaxis	Time Started	1010
		Capacity	85 USB	Reach	12 ft.	Time Completed	1050

Depth	Soil Description	Sample No.	PID Reading (ppm)	Excav. Effort	Boulder Count/ Class	Note No.
0	Coarse brown SAND, dry, gravel, pebbles/cobbles, fill material - wood, brick		0.0			
1'			0.0			
2'	Fill material - concrete, boulders, gravel, tight/compact, dry		0.0			
3'			0.0			
4'			0.0			
5'			0.0			
6'	Dark brown SAND, gravel, oil odor, fill material - metal, wood, dry	TP-7 (6')	0.0			
7'			0.0			
8'	Fill material - brick, metal, crushed piping		0.0			
9'	Asphalt layer at 9' End of Test Pit at 9' bgs					
10'						
11'						
12'						
13'						
14'						
15'						
16'						

Notes:
Asphalt layer at 9' bgs

Collected sample TP-7 (6') at 1020

Location:
41°45'44.529"N
72°41'57.318"W

Test Pit Plan

8
3

Volume = _____ cu. yd.

Boulder Class

Letter Designation	Size Range Classification
A	6" - 17"
B	18" - 36"
C	36" +

Excavation Effort
E-----Easy
M-----Moderate
D-----Difficult

Proportions Used

TRACE (TR.)	0 - 10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 - 35%
AND	35 - 50%

Abbreviations
F = Fine
M = Medium
C = Coarse
V = Very
F/M = Fine to medium
F/C = Fine to coarse
GR = Gray
BN = Brown
YEL = Yellow

GROUNDWATER
( ) Encountered
(X) Not Encountered

Elapsed Time to Reading (Hours)	Depth to Ground-water

Low-Flow Data Sheet

Project Name: 85 Hawthorn St.
Project Number: 12107714
Static Depth to Water (ft): 20.41 #
Depth to Bottom (ft): 20
Screen interval: 10-20
Point of intake: ~ 18'

Well: MW-1
Date: 10/24/16
Sample time: 1420
Sampler: EHF
Purged (gal):

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%)
	no to flow data taken due to low water level and recharge							
	Grab Sample							

Analysis: VOCs / SVOCs / Metals / ETPH / Other- ~~PAH~~
Sample Containers: HCl voas ✓ 1L unpres Ambers ____ HNO3 Plastic ✓ Other ____
Pump: Bladder / Peristalic / Grunfos / Other-

Color: N/A
Odor: ✓
Sheen: ____

Turbidity: N/A
Well Condition: ✓
Repairs: ____

measured from top of PVC in stick up

Low-Flow Data Sheet

Project Name: 85 Hawthorn St.
Project Number: 12107714
Static Depth to Water (ft): 12.56 #
Depth to Bottom (ft): 12' PE
Screen interval: 2-10
Point of intake: ~ 11'

Well: MW-3
Date: 12/27/16
Sample time: 1705
Sampler: EKT
Purged (gal):

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%)
	NO Low flow		grab	sample	Release and water level			
	Low							

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

Color: ___
Odor: ___
Sheen: ___

Turbidity: ___
Well Condition: ___
Repairs: ___

measured from pre in setup

Low-Flow Data Sheet

Project Name: 85 Hawthorn St.
Project Number: 12107714
Static Depth to Water (ft): 21.92
Depth to Bottom (ft): 30.1
Screen interval: 20–30
Point of intake: MW

Well: MW-4
Date: 10/24/16
Sample time: 1041 1042
Sampler: EVF
Purged (gal):

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%)
0945 @	purge at		100 mL					
~~1000~~								
0955	100 mL	22.01	6.65	17.09	55.7	9.50	85.9	1.964
1000	" "	22.01	6.65	17.00	54.7	6.95	76.4	1.951
1005	" "	22.03	6.65	16.99	68.8	4.72	71.2	1.939
1010	" "	22.05	6.65	17.22	48.9	3.11	67.9	1.936
1015	" "	22.05	6.65	17.28	23.7	2.10	63.2	1.925
1020	" "	22.05	6.65	17.34	15.44	1.66	41.5	1.921
1025	" "	22.05	6.65	17.51	11.52	1.31	29.6	1.933
1030	" "	22.07	6.65	17.61	8.79	1.01	24.7	1.946
1035	" "	22.09	6.66	17.35	6.52	0.87	19.7	1.941
1040	" "	22.10	6.66	17.44	4.89	0.77	15.7	1.957
1041	sample collected							
1042	Dup							

Analysis: VOCs / SVOCs / Metals / ETPH / Other- PCB's PAH's
Sample Containers: HCl voas ✓ 1L unpres Ambers ✓ HNO3 Plastic ✓ Other _____
Pump: Bladder / Peristalic / Grunfos / Other-

Color: Clear/ slight
Odor: no
Sheen: no

Turbidity: 15.0
Well Condition: good
Repairs: no

Temp Δ due to sunlight

Low-Flow Data Sheet

Project Name: 85 Hawthorn St.
Project Number: 12107714
Static Depth to Water (ft): 21.43
Depth to Bottom (ft): 35'
Screen interval: ~~15~~ 25-35
Point of intake: ~27'

Well: MW-5
Date: 10/24/16
Sample time: 1246
Sampler: TEAM
Purged (gal):

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%)
start	purge @	1215 @		100mL				
1225	90	21.95	7.60	18.14	2.50	3.51	53.2	0.581
1230	90	22.30	7.46	18.07	2.65	3.81	56.1	0.571
1235	90	22.49	7.41	18.41	3.60	3.76	58.6	0.597
1240	90	22.70	7.37	18.85	2.56	3.65	61.2	0.590
1245	90	22.82	7.36	19.13	2.98	3.56	61.6	0.591
1246	collect	sample						

Analysis: VOCs / SVOCs / Metals / ETPH / Other- PCB, PAH
Sample Containers: HCl voas ✓ 1L unpres Ambers ___ HNO3 Plastic ✓ Other ___
Pump: Bladder / Peristalic / Grunfos / Other-

Color: NA
Odor:
Sheen:

Turbidity:
Well Condition:
Repairs:

Low-Flow Data Sheet

Project Name: 85 Hawthorn St.
Project Number: 12107714
Static Depth to Water (ft): 27.20
Depth to Bottom (ft): 35
Screen interval: 25-35
Point of intake:

Well: MW-6
Date: 10/24/16
Sample time: 1500
Sampler: EZT
Purged (gal):

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%)
1400	@	100mL/min						
1410	100	27.30	6.71	13.91	27.3	1.30	-28.1	0.547
1415	100	27.30	6.69	13.91	60.9	1.48	-31.0	0.555
1420	100	27.31	6.65	13.44	51.6	0.90	-31.7	0.548
1425	100	27.31	6.65	13.43	44.3	0.90	-33.0	0.549
1430	100	27.31	6.63	13.10	41.4	0.83	-32.2	0.543
1435	100	27.32	6.63	13.16	38.7	0.73	-32.8	0.542
1440	100	27.32	6.63	13.43	38.4	0.66	-33.2	0.547
1445	100	27.35	6.64	13.46	25.2	0.63	-34.2	0.547
1450	100	27.40	6.61	13.10	11.10	0.67	-33.1	0.542
1455	100	27.40	6.63	13.27	4.89	0.64	-34.9	0.544
1500	collect	samples						

Analysis: VOCs / SVOCs / Metals / ETPH / Other- PCB PAH
Sample Containers: HCl voas 3 1L unpres Ambers 2 HNO3 Plastic 1 Other
Pump: Bladder / Peristalic / Grunfos / Other-

Color: N
Odor:
Sheen:

Turbidity: N/A
Well Condition:
Repairs:

Low-Flow Data Sheet

Project Name: 85 Hawthorn St.
Project Number: 12107714
Static Depth to Water (ft): 22.40 #
Depth to Bottom (ft): 25
Screen interval: 15-25
Point of intake: ~ 23'

Well: MW-7
Date: 10/24/16
Sample time: 1550
Sampler: EGT
Purged (gal): ~

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%)
	NO Low Flow, Recharge and water level low							
	Grab Sample							

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

Color: NA
Odor: ✓
Sheen: ✓

Turbidity: NA
Well Condition: ✓
Repairs: ___

APPENDIX D

PHOENIX
Environmental Laboratories, Inc.

Wednesday, October 12, 2016

Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Project ID: 85 HAWTHORN
Sample ID#s: BV37254 - BV37267

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

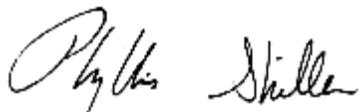
This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

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.

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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37254

Project ID: 85 HAWTHORN
Client ID: TP-1 8.5 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.37	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	2.44	0.74	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	39.6	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.46	0.29	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	< 0.37	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	16.7	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	13.2	0.37	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	< 0.03	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	13.0	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	5.75	0.37	mg/Kg	1	10/08/16	LK	SW6010C	B
Antimony	< 3.7	3.7	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.5	1.5	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.3	3.3	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	26.3	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	36.0	0.37	mg/Kg	1	10/08/16	LK	SW6010C	B
Percent Solid	85		%		10/05/16	W	SW846-%Solid	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	59	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	87		%	1	10/06/16	JRB	50 - 150 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

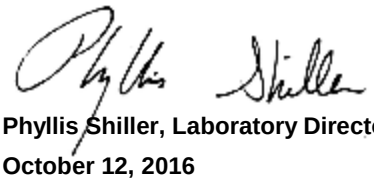
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37255

Project ID: 85 HAWTHORN
Client ID: TP-2 4.5 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	89		%		10/05/16	W	SW846-%Solid
Total Cyanide (SW9010C Distill.)	< 0.51	0.51	mg/Kg	1	10/06/16	D/B/E	SW9012B
Soil Extraction for PCB	Completed				10/05/16	JJ/V	SW3545A
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	56	mg/Kg	1	10/06/16	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	65		%	1	10/06/16	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	360	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1221	ND	360	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1232	ND	360	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1242	ND	360	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1248	ND	360	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1254	ND	360	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1260	ND	360	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1262	ND	360	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1268	ND	360	ug/Kg	10	10/07/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	94		%	10	10/07/16	AW	30 - 150 %
% TCMX	88		%	10	10/07/16	AW	30 - 150 %

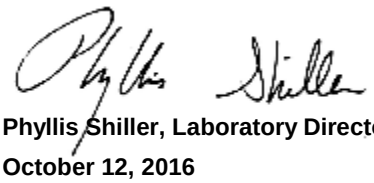
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37256

Project ID: 85 HAWTHORN
Client ID: TP-3 8 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	66		%		10/05/16	W	SW846-%Solid
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	75	mg/Kg	1	10/06/16	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	112		%	1	10/06/16	JRB	50 - 150 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37257

Project ID: 85 HAWTHORN
Client ID: TP-4 6 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		10/05/16	W	SW846-%Solid
Soil Extraction for SVOA	Completed				10/05/16	JJ/CKV	SW3545A
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A
Field Extraction	Completed				10/03/16		SW5035A
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	55	mg/Kg	1	10/06/16	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	95		%	1	10/06/16	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1,1-Trichloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.1	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2-Trichloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloropropene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromoethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: TP-4 6 FT

Phoenix I.D.: BV37257

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3,5-Trimethylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,4-Dichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
2,2-Dichloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
2-Chlorotoluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
2-Hexanone	ND	26	ug/Kg	1	10/06/16	HM	SW8260C
2-Isopropyltoluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
4-Chlorotoluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
4-Methyl-2-pentanone	ND	26	ug/Kg	1	10/06/16	HM	SW8260C
Acetone	ND	260	ug/Kg	1	10/06/16	HM	SW8260C
Acrylonitrile	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Benzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromochloromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromodichloromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromoform	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromomethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Carbon Disulfide	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Carbon tetrachloride	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Chlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Chloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Chloroform	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Chloromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Dibromochloromethane	ND	3.1	ug/Kg	1	10/06/16	HM	SW8260C
Dibromomethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Dichlorodifluoromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Ethylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Hexachlorobutadiene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Isopropylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
m&p-Xylene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Methyl Ethyl Ketone	ND	31	ug/Kg	1	10/06/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	10/06/16	HM	SW8260C
Methylene chloride	ND	10	ug/Kg	1	10/06/16	HM	SW8260C
Naphthalene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
n-Butylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
n-Propylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
o-Xylene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
p-Isopropyltoluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
sec-Butylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Styrene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
tert-Butylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Tetrachloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	10/06/16	HM	SW8260C
Toluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Total Xylenes	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	10/06/16	HM	SW8260C
Trichloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorofluoromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorotrifluoroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Vinyl chloride	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	10/06/16	HM	70 - 130 %
% Bromofluorobenzene	103		%	1	10/06/16	HM	70 - 130 %
% Dibromofluoromethane	105		%	1	10/06/16	HM	70 - 130 %
% Toluene-d8	88		%	1	10/06/16	HM	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Dichlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
1,3-Dichlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
1,4-Dichlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dichlorophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dimethylphenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrophenol	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrotoluene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,6-Dinitrotoluene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Chloronaphthalene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Chlorophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylnaphthalene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitroaniline	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitrophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
3-Nitroaniline	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloroaniline	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitroaniline	ND	580	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitrophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Acetophenone	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Aniline	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
Anthracene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benz(a)anthracene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzidine	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(a)pyrene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzo(b)fluoranthene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(ghi)perylene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(k)fluoranthene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzoic acid	ND	720	ug/Kg	1	10/06/16	DD	SW8270D
Benzyl butyl phthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Carbazole	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
Chrysene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Dibenzofuran	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Diethyl phthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Dimethylphthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-butylphthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-octylphthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Fluoranthene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Fluorene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobutadiene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Hexachloroethane	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Isophorone	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Naphthalene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Nitrobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodimethylamine	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
Pentachloronitrobenzene	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
Pentachlorophenol	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
Phenanthrene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Phenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Pyrene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Pyridine	ND	360	ug/Kg	1	10/06/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	77		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorobiphenyl	67		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorophenol	84		%	1	10/06/16	DD	30 - 130 %
% Nitrobenzene-d5	85		%	1	10/06/16	DD	30 - 130 %
% Phenol-d5	96		%	1	10/06/16	DD	30 - 130 %
% Terphenyl-d14	64		%	1	10/06/16	DD	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37258

Project ID: 85 HAWTHORN
Client ID: TP-5 6 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.42	0.42	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	7.84	0.83	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	282	0.42	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.54	0.33	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	1.30	0.42	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	28.8	0.42	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	120	0.42	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	0.44	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	24.4	0.42	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	691	4.2	mg/Kg	10	10/11/16	LK	SW6010C	B
Antimony	< 4.2	4.2	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.7	1.7	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.8	3.8	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	48.0	0.42	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	377	4.2	mg/Kg	10	10/11/16	LK	SW6010C	B
Percent Solid	81		%		10/05/16	W	SW846-%Solid	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
Field Extraction	Completed				10/03/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	300	mg/Kg	5	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	5	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	82		%	5	10/06/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: TP-5 6 FT

Phoenix I.D.: BV37258

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1,1-Trichloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.1	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2-Trichloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloropropene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromoethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
1,4-Dichlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
2,2-Dichloropropane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
2-Chlorotoluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
2-Hexanone	ND	26	ug/Kg	1	10/06/16	HM	SW8260C
2-Isopropyltoluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
4-Chlorotoluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
4-Methyl-2-pentanone	ND	26	ug/Kg	1	10/06/16	HM	SW8260C
Acetone	ND	260	ug/Kg	1	10/06/16	HM	SW8260C
Acrylonitrile	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Benzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromochloromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromodichloromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromoform	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromomethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Carbon Disulfide	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Carbon tetrachloride	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Chlorobenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Chloroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Chloroform	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Chloromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Dibromochloromethane	ND	3.1	ug/Kg	1	10/06/16	HM	SW8260C
Dibromomethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Dichlorodifluoromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Ethylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Hexachlorobutadiene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Isopropylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: TP-5 6 FT

Phoenix I.D.: BV37258

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
m&p-Xylene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Methyl Ethyl Ketone	50	31	ug/Kg	1	10/06/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	10/06/16	HM	SW8260C
Methylene chloride	ND	10	ug/Kg	1	10/06/16	HM	SW8260C
Naphthalene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
n-Butylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
n-Propylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
o-Xylene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
p-Isopropyltoluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
sec-Butylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Styrene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
tert-Butylbenzene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Tetrachloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	10/06/16	HM	SW8260C
Toluene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Total Xylenes	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	10/06/16	HM	SW8260C
Trichloroethene	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorofluoromethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorotrifluoroethane	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
Vinyl chloride	ND	5.2	ug/Kg	1	10/06/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	10/06/16	HM	70 - 130 %
% Bromofluorobenzene	88		%	1	10/06/16	HM	70 - 130 %
% Dibromofluoromethane	103		%	1	10/06/16	HM	70 - 130 %
% Toluene-d8	84		%	1	10/06/16	HM	70 - 130 %

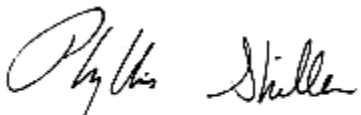
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

October 12, 2016

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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37259

Project ID: 85 HAWTHORN
Client ID: TP-6 7 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.37	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	3.38	0.74	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	98.5	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.55	0.29	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	< 0.37	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	23.8	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	29.3	0.37	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	< 0.03	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	21.5	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	20.2	0.37	mg/Kg	1	10/08/16	LK	SW6010C	B
Antimony	< 3.7	3.7	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.5	1.5	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.3	3.3	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	41.1	0.37	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	70.4	0.37	mg/Kg	1	10/08/16	LK	SW6010C	B
Percent Solid	87		%		10/05/16	W	SW846-%Solid	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	57	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	65		%	1	10/06/16	JRB	50 - 150 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

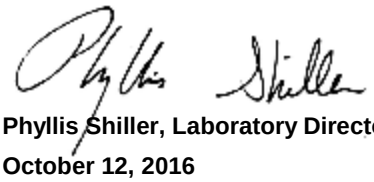
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37260

Project ID: 85 HAWTHORN
Client ID: TP-7 6 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.36	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	11.0	0.72	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	116	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.58	0.29	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	0.65	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	23.3	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	57.7	0.36	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	0.09	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	22.4	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	69.7	0.36	mg/Kg	1	10/08/16	LK	SW6010C	B
Antimony	< 3.6	3.6	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.4	1.4	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.2	3.2	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	39.8	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	103	0.36	mg/Kg	1	10/08/16	LK	SW6010C	B
Percent Solid	85		%		10/05/16	W	SW846-%Solid	
Soil Extraction for SVOA	Completed				10/05/16	JJ/CKV	SW3545A	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
Field Extraction	Completed				10/03/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	110	58	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	**		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	61		%	1	10/06/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: TP-7 6 FT

Phoenix I.D.: BV37260

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,1,1-Trichloroethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.3	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2-Trichloroethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloropropene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichloropropane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromoethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichlorobenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloroethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloropropane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichlorobenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichloropropane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
1,4-Dichlorobenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
2,2-Dichloropropane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
2-Chlorotoluene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
2-Hexanone	ND	28	ug/Kg	1	10/06/16	HM	SW8260C
2-Isopropyltoluene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
4-Chlorotoluene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
4-Methyl-2-pentanone	ND	28	ug/Kg	1	10/06/16	HM	SW8260C
Acetone	ND	280	ug/Kg	1	10/06/16	HM	SW8260C
Acrylonitrile	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Benzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Bromobenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Bromochloromethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Bromodichloromethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Bromoform	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Bromomethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Carbon Disulfide	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Carbon tetrachloride	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Chlorobenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Chloroethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Chloroform	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Chloromethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Dibromochloromethane	ND	3.3	ug/Kg	1	10/06/16	HM	SW8260C
Dibromomethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Dichlorodifluoromethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Ethylbenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Hexachlorobutadiene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Isopropylbenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
m&p-Xylene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Methyl Ethyl Ketone	ND	33	ug/Kg	1	10/06/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	10/06/16	HM	SW8260C
Methylene chloride	ND	11	ug/Kg	1	10/06/16	HM	SW8260C
Naphthalene	410	390	ug/Kg	50	10/07/16	HM	SW8260C
n-Butylbenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
n-Propylbenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
o-Xylene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
p-Isopropyltoluene	530	390	ug/Kg	50	10/07/16	HM	SW8260C
sec-Butylbenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Styrene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
tert-Butylbenzene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Tetrachloroethene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	10/06/16	HM	SW8260C
Toluene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Total Xylenes	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	10/06/16	HM	SW8260C
Trichloroethene	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorofluoromethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorotrifluoroethane	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
Vinyl chloride	ND	5.5	ug/Kg	1	10/06/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	90		%	1	10/06/16	HM	70 - 130 %
% Bromofluorobenzene	77		%	1	10/06/16	HM	70 - 130 %
% Dibromofluoromethane	104		%	1	10/06/16	HM	70 - 130 %
% Toluene-d8	84		%	1	10/06/16	HM	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
1,3-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,4-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dimethylphenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrophenol	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrotoluene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,6-Dinitrotoluene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylnaphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitroaniline	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	380	ug/Kg	1	10/06/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: TP-7 6 FT

Phoenix I.D.: BV37260

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
3,3'-Dichlorobenzidine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
3-Nitroaniline	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloroaniline	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitroaniline	ND	610	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitrophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthylene	540	270	ug/Kg	1	10/06/16	DD	SW8270D
Acetophenone	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Aniline	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Anthracene	440	270	ug/Kg	1	10/06/16	DD	SW8270D
Benz(a)anthracene	1300	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzidine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(a)pyrene	1200	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(b)fluoranthene	1500	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(ghi)perylene	750	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(k)fluoranthene	1300	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzoic acid	ND	760	ug/Kg	1	10/06/16	DD	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Carbazole	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Chrysene	1600	270	ug/Kg	1	10/06/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dibenzofuran	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dimethylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-butylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-octylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Fluoranthene	2400	270	ug/Kg	1	10/06/16	DD	SW8270D
Fluorene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobutadiene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	1100	270	ug/Kg	1	10/06/16	DD	SW8270D
Isophorone	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Naphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Nitrobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodimethylamine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Pentachloronitrobenzene	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Pentachlorophenol	ND	380	ug/Kg	1	10/06/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: TP-7 6 FT

Phoenix I.D.: BV37260

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	1200	270	ug/Kg	1	10/06/16	DD	SW8270D
Phenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Pyrene	2000	270	ug/Kg	1	10/06/16	DD	SW8270D
Pyridine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	85		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorobiphenyl	64		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorophenol	65		%	1	10/06/16	DD	30 - 130 %
% Nitrobenzene-d5	67		%	1	10/06/16	DD	30 - 130 %
% Phenol-d5	79		%	1	10/06/16	DD	30 - 130 %
% Terphenyl-d14	66		%	1	10/06/16	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37261

Project ID: 85 HAWTHORN
Client ID: B-101 0-2 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.40	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	3.09	0.81	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	79.5	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.62	0.32	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	< 0.40	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	20.6	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	18.8	0.40	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	0.07	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	16.1	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	14.6	0.40	mg/Kg	1	10/08/16	LK	SW6010C	B
Antimony	< 4.0	4.0	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.6	1.6	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.6	3.6	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	33.0	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	53.7	0.40	mg/Kg	1	10/08/16	LK	SW6010C	B
Percent Solid	87		%		10/05/16	W	SW846-%Solid	
Soil Extraction for SVOA	Completed				10/05/16	JJ/CKV	SW3545A	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
Field Extraction	Completed				10/03/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	56	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	90		%	1	10/06/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-101 0-2 FT

Phoenix I.D.: BV37261

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,1,1-Trichloroethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.9	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2-Trichloroethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloropropene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichloropropane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromoethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichlorobenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloroethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloropropane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichlorobenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichloropropane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
1,4-Dichlorobenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
2,2-Dichloropropane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
2-Chlorotoluene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
2-Hexanone	ND	24	ug/Kg	1	10/06/16	HM	SW8260C
2-Isopropyltoluene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
4-Chlorotoluene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
4-Methyl-2-pentanone	ND	24	ug/Kg	1	10/06/16	HM	SW8260C
Acetone	ND	240	ug/Kg	1	10/06/16	HM	SW8260C
Acrylonitrile	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Benzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Bromobenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Bromochloromethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Bromodichloromethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Bromoform	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Bromomethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Carbon Disulfide	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Carbon tetrachloride	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Chlorobenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Chloroethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Chloroform	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Chloromethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Dibromochloromethane	ND	2.9	ug/Kg	1	10/06/16	HM	SW8260C
Dibromomethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Dichlorodifluoromethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Ethylbenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Hexachlorobutadiene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Isopropylbenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
m&p-Xylene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Methyl Ethyl Ketone	ND	29	ug/Kg	1	10/06/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	9.5	ug/Kg	1	10/06/16	HM	SW8260C
Methylene chloride	ND	9.5	ug/Kg	1	10/06/16	HM	SW8260C
Naphthalene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
n-Butylbenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
n-Propylbenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
o-Xylene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
p-Isopropyltoluene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
sec-Butylbenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Styrene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
tert-Butylbenzene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Tetrachloroethene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	9.5	ug/Kg	1	10/06/16	HM	SW8260C
Toluene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Total Xylenes	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	9.5	ug/Kg	1	10/06/16	HM	SW8260C
Trichloroethene	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorofluoromethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorotrifluoroethane	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
Vinyl chloride	ND	4.8	ug/Kg	1	10/06/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	10/06/16	HM	70 - 130 %
% Bromofluorobenzene	101		%	1	10/06/16	HM	70 - 130 %
% Dibromofluoromethane	107		%	1	10/06/16	HM	70 - 130 %
% Toluene-d8	88		%	1	10/06/16	HM	70 - 130 %

Semivolatiles

1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
1,3-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,4-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dimethylphenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrophenol	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrotoluene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,6-Dinitrotoluene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylnaphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitroaniline	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	380	ug/Kg	1	10/06/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-101 0-2 FT

Phoenix I.D.: BV37261

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
3,3'-Dichlorobenzidine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
3-Nitroaniline	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloroaniline	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitroaniline	ND	610	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitrophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acetophenone	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Aniline	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benz(a)anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzidine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(a)pyrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(b)fluoranthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(ghi)perylene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(k)fluoranthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzoic acid	ND	760	ug/Kg	1	10/06/16	DD	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Carbazole	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Chrysene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dibenzofuran	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dimethylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-butylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-octylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Fluoranthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Fluorene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobutadiene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Isophorone	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Naphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Nitrobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodimethylamine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Pentachloronitrobenzene	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Pentachlorophenol	ND	380	ug/Kg	1	10/06/16	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phenanthrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Phenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Pyrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Pyridine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	81		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorobiphenyl	62		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorophenol	58		%	1	10/06/16	DD	30 - 130 %
% Nitrobenzene-d5	57		%	1	10/06/16	DD	30 - 130 %
% Phenol-d5	70		%	1	10/06/16	DD	30 - 130 %
% Terphenyl-d14	60		%	1	10/06/16	DD	30 - 130 %

B = Present in blank, no bias suspected.

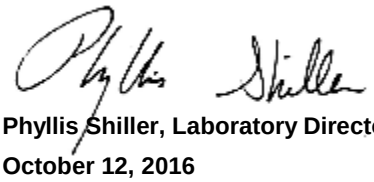
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37262

Project ID: 85 HAWTHORN
Client ID: B-102 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.35	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	2.49	0.71	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	50.0	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.50	0.28	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	< 0.35	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	17.3	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	60.0	0.35	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	< 0.03	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	15.5	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	10.4	0.35	mg/Kg	1	10/08/16	LK	SW6010C	B
Antimony	< 3.5	3.5	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.4	1.4	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.2	3.2	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	27.6	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	181	3.5	mg/Kg	10	10/11/16	LK	SW6010C	B
Percent Solid	93		%		10/05/16	W	SW846-%Solid	
Soil Extraction for PCB	Completed				10/05/16	JJ/V	SW3545A	
Soil Extraction for SVOA	Completed				10/05/16	JJ/CKV	SW3545A	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
Field Extraction	Completed				10/03/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	53	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	81		%	1	10/06/16	JRB	50 - 150 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	360	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1221	ND	360	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1232	ND	360	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1242	ND	360	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1248	ND	360	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1254	ND	360	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1260	ND	360	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1262	ND	360	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1268	ND	360	ug/Kg	10	10/06/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	86		%	10	10/06/16	AW	30 - 150 %
% TCMX	71		%	10	10/06/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,1,1-Trichloroethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.6	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2-Trichloroethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloropropene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichloropropane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromoethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichlorobenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloroethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloropropane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichlorobenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichloropropane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
1,4-Dichlorobenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
2,2-Dichloropropane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
2-Chlorotoluene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
2-Hexanone	ND	22	ug/Kg	1	10/06/16	HM	SW8260C
2-Isopropyltoluene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
4-Chlorotoluene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
4-Methyl-2-pentanone	ND	22	ug/Kg	1	10/06/16	HM	SW8260C
Acetone	ND	220	ug/Kg	1	10/06/16	HM	SW8260C
Acrylonitrile	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Benzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Bromobenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Bromochloromethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Bromodichloromethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Bromoform	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Bromomethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Carbon tetrachloride	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Chlorobenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Chloroethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Chloroform	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Chloromethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Dibromochloromethane	ND	2.6	ug/Kg	1	10/06/16	HM	SW8260C
Dibromomethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Dichlorodifluoromethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Ethylbenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Hexachlorobutadiene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Isopropylbenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
m&p-Xylene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Methyl Ethyl Ketone	ND	26	ug/Kg	1	10/06/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	8.6	ug/Kg	1	10/06/16	HM	SW8260C
Methylene chloride	ND	8.6	ug/Kg	1	10/06/16	HM	SW8260C
Naphthalene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
n-Butylbenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
n-Propylbenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
o-Xylene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
p-Isopropyltoluene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
sec-Butylbenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Styrene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
tert-Butylbenzene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Tetrachloroethene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	8.6	ug/Kg	1	10/06/16	HM	SW8260C
Toluene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Total Xylenes	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	8.6	ug/Kg	1	10/06/16	HM	SW8260C
Trichloroethene	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorofluoromethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorotrifluoroethane	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
Vinyl chloride	ND	4.3	ug/Kg	1	10/06/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	10/06/16	HM	70 - 130 %
% Bromofluorobenzene	102		%	1	10/06/16	HM	70 - 130 %
% Dibromofluoromethane	107		%	1	10/06/16	HM	70 - 130 %
% Toluene-d8	87		%	1	10/06/16	HM	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Dichlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
1,3-Dichlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
1,4-Dichlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-102 1-3 FT

Phoenix I.D.: BV37262

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,4,5-Trichlorophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dichlorophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dimethylphenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrophenol	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrotoluene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2,6-Dinitrotoluene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Chloronaphthalene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Chlorophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylnaphthalene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitroaniline	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitrophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
3-Nitroaniline	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloroaniline	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitroaniline	ND	560	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitrophenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Acetophenone	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Aniline	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
Anthracene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benz(a)anthracene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzidine	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(a)pyrene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(b)fluoranthene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(ghi)perylene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(k)fluoranthene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Benzoic acid	ND	700	ug/Kg	1	10/06/16	DD	SW8270D
Benzyl butyl phthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Carbazole	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
Chrysene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Dibenzofuran	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Diethyl phthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Dimethylphthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-butylphthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-octylphthalate	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Fluoranthene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-102 1-3 FT

Phoenix I.D.: BV37262

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Fluorene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobutadiene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Hexachloroethane	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Isophorone	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Naphthalene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Nitrobenzene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodimethylamine	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
Pentachloronitrobenzene	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
Pentachlorophenol	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
Phenanthrene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Phenol	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Pyrene	ND	250	ug/Kg	1	10/06/16	DD	SW8270D
Pyridine	ND	350	ug/Kg	1	10/06/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	75		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorobiphenyl	58		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorophenol	58		%	1	10/06/16	DD	30 - 130 %
% Nitrobenzene-d5	59		%	1	10/06/16	DD	30 - 130 %
% Phenol-d5	67		%	1	10/06/16	DD	30 - 130 %
% Terphenyl-d14	58		%	1	10/06/16	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37263

Project ID: 85 HAWTHORN
Client ID: B-103 1-3 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.40	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	4.92	0.79	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	152	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.78	0.32	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	0.45	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	34.5	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	33.6	0.40	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	< 0.03	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	34.0	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	7.91	0.40	mg/Kg	1	10/08/16	LK	SW6010C	B
Antimony	< 4.0	4.0	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.6	1.6	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.6	3.6	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	50.1	0.40	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	101	0.40	mg/Kg	1	10/08/16	LK	SW6010C	B
Percent Solid	84		%		10/05/16	W	SW846-%Solid	
Soil Extraction for PCB	Completed				10/05/16	JJ/V	SW3545A	
Soil Extraction for SVOA	Completed				10/05/16	JJ/CKV	SW3545A	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
Field Extraction	Completed				10/03/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	58	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	89		%	1	10/06/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-103 1-3 FT

Phoenix I.D.: BV37263

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	390	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1221	ND	390	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1232	ND	390	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1242	ND	390	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1248	ND	390	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1254	ND	390	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1260	ND	390	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1262	ND	390	ug/Kg	10	10/07/16	AW	SW8082A
PCB-1268	ND	390	ug/Kg	10	10/07/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	90		%	10	10/07/16	AW	30 - 150 %
% TCMX	73		%	10	10/07/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,1,1-Trichloroethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.8	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2-Trichloroethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloropropene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichloropropane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromoethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichlorobenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloroethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloropropane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichlorobenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichloropropane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
1,4-Dichlorobenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
2,2-Dichloropropane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
2-Chlorotoluene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
2-Hexanone	ND	24	ug/Kg	1	10/06/16	HM	SW8260C
2-Isopropyltoluene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
4-Chlorotoluene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
4-Methyl-2-pentanone	ND	24	ug/Kg	1	10/06/16	HM	SW8260C
Acetone	ND	240	ug/Kg	1	10/06/16	HM	SW8260C
Acrylonitrile	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Benzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Bromobenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Bromochloromethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Bromodichloromethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Bromoform	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Bromomethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Carbon tetrachloride	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Chlorobenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Chloroethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Chloroform	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Chloromethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Dibromochloromethane	ND	2.8	ug/Kg	1	10/06/16	HM	SW8260C
Dibromomethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Dichlorodifluoromethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Ethylbenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Hexachlorobutadiene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Isopropylbenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
m&p-Xylene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Methyl Ethyl Ketone	ND	28	ug/Kg	1	10/06/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	9.4	ug/Kg	1	10/06/16	HM	SW8260C
Methylene chloride	ND	9.4	ug/Kg	1	10/06/16	HM	SW8260C
Naphthalene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
n-Butylbenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
n-Propylbenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
o-Xylene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
p-Isopropyltoluene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
sec-Butylbenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Styrene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
tert-Butylbenzene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Tetrachloroethene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	9.4	ug/Kg	1	10/06/16	HM	SW8260C
Toluene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Total Xylenes	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	9.4	ug/Kg	1	10/06/16	HM	SW8260C
Trichloroethene	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorofluoromethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorotrifluoroethane	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
Vinyl chloride	ND	4.7	ug/Kg	1	10/06/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	10/06/16	HM	70 - 130 %
% Bromofluorobenzene	105		%	1	10/06/16	HM	70 - 130 %
% Dibromofluoromethane	103		%	1	10/06/16	HM	70 - 130 %
% Toluene-d8	88		%	1	10/06/16	HM	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
1,3-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,4-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-103 1-3 FT

Phoenix I.D.: BV37263

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,4,5-Trichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dimethylphenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrophenol	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrotoluene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,6-Dinitrotoluene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylnaphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitroaniline	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
3-Nitroaniline	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloroaniline	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitroaniline	ND	620	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitrophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acetophenone	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Aniline	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
Anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benz(a)anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzidine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(a)pyrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(b)fluoranthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(ghi)perylene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(k)fluoranthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzoic acid	ND	770	ug/Kg	1	10/06/16	DD	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Carbazole	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
Chrysene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dibenzofuran	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dimethylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-butylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-octylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Fluoranthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-103 1-3 FT

Phoenix I.D.: BV37263

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Fluorene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobutadiene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Isophorone	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Naphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Nitrobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodimethylamine	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
Pentachloronitrobenzene	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
Pentachlorophenol	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
Phenanthrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Phenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Pyrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Pyridine	ND	390	ug/Kg	1	10/06/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	78		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorobiphenyl	59		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorophenol	58		%	1	10/06/16	DD	30 - 130 %
% Nitrobenzene-d5	67		%	1	10/06/16	DD	30 - 130 %
% Phenol-d5	69		%	1	10/06/16	DD	30 - 130 %
% Terphenyl-d14	58		%	1	10/06/16	DD	30 - 130 %

B = Present in blank, no bias suspected.

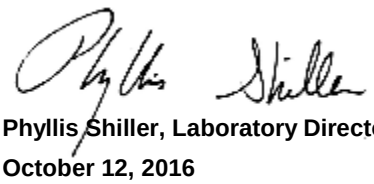
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37264

Project ID: 85 HAWTHORN
Client ID: B-105 0-2 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.38	0.38	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	2.38	0.75	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	52.1	0.38	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.54	0.30	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	< 0.38	0.38	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	18.7	0.38	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	46.6	0.38	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	< 0.03	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	16.9	0.38	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	88.6	0.38	mg/Kg	1	10/08/16	LK	SW6010C	B
Antimony	< 3.8	3.8	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.5	1.5	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.4	3.4	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	31.4	0.38	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	61.4	0.38	mg/Kg	1	10/08/16	LK	SW6010C	B
Percent Solid	91		%		10/05/16	W	SW846-%Solid	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
Field Extraction	Completed				10/03/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	54	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	72		%	1	10/06/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-105 0-2 FT

Phoenix I.D.: BV37264

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1,1-Trichloroethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	1.9	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2-Trichloroethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloropropene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichloropropane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromoethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichlorobenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloroethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloropropane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichlorobenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichloropropane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
1,4-Dichlorobenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
2,2-Dichloropropane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
2-Chlorotoluene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
2-Hexanone	ND	16	ug/Kg	1	10/06/16	HM	SW8260C
2-Isopropyltoluene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
4-Chlorotoluene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
4-Methyl-2-pentanone	ND	16	ug/Kg	1	10/06/16	HM	SW8260C
Acetone	ND	160	ug/Kg	1	10/06/16	HM	SW8260C
Acrylonitrile	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Benzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromobenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromochloromethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromodichloromethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromoform	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Bromomethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Carbon Disulfide	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Carbon tetrachloride	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Chlorobenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Chloroethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Chloroform	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Chloromethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Dibromochloromethane	ND	1.9	ug/Kg	1	10/06/16	HM	SW8260C
Dibromomethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Dichlorodifluoromethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Ethylbenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Hexachlorobutadiene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Isopropylbenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: B-105 0-2 FT

Phoenix I.D.: BV37264

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
m&p-Xylene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Methyl Ethyl Ketone	ND	19	ug/Kg	1	10/06/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.4	ug/Kg	1	10/06/16	HM	SW8260C
Methylene chloride	ND	6.4	ug/Kg	1	10/06/16	HM	SW8260C
Naphthalene	ND	360	ug/Kg	50	10/07/16	HM	SW8260C
n-Butylbenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
n-Propylbenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
o-Xylene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
p-Isopropyltoluene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
sec-Butylbenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Styrene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
tert-Butylbenzene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Tetrachloroethene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	6.4	ug/Kg	1	10/06/16	HM	SW8260C
Toluene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Total Xylenes	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	6.4	ug/Kg	1	10/06/16	HM	SW8260C
Trichloroethene	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorofluoromethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorotrifluoroethane	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
Vinyl chloride	ND	3.2	ug/Kg	1	10/06/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	93		%	1	10/06/16	HM	70 - 130 %
% Bromofluorobenzene	104		%	1	10/06/16	HM	70 - 130 %
% Dibromofluoromethane	105		%	1	10/06/16	HM	70 - 130 %
% Toluene-d8	87		%	1	10/06/16	HM	70 - 130 %

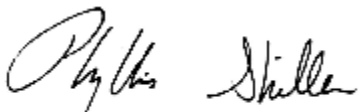
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director

October 12, 2016

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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37265

Project ID: 85 HAWTHORN
Client ID: B-104 3-5 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.35	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	1.77	0.69	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	26.9	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.38	0.28	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	< 0.35	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	12.2	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	14.0	0.35	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	< 0.03	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	11.4	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	2.72	0.35	mg/Kg	1	10/11/16	LK	SW6010C	B*
Antimony	< 3.5	3.5	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.4	1.4	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.1	3.1	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	21.2	0.35	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	24.4	0.35	mg/Kg	1	10/08/16	LK	SW6010C	B
Percent Solid	94		%		10/05/16	W	SW846-%Solid	
Soil Extraction for PCB	Completed				10/05/16	JJ/V	SW3545A	
Soil Extraction for Pesticide	Completed				10/05/16	JJ/V	SW3545A	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
Field Extraction	Completed				10/03/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	52	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	94		%	1	10/06/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-104 3-5 FT

Phoenix I.D.: BV37265

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	340	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1221	ND	340	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1232	ND	340	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1242	ND	340	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1248	ND	340	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1254	ND	340	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1260	ND	340	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1262	ND	340	ug/Kg	10	10/06/16	AW	SW8082A
PCB-1268	ND	340	ug/Kg	10	10/06/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	110		%	10	10/06/16	AW	30 - 150 %
% TCMX	89		%	10	10/06/16	AW	30 - 150 %
Pesticides							
4,4' -DDD	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
4,4' -DDE	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
4,4' -DDT	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
a-BHC	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Alachlor	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Aldrin	ND	3.4	ug/Kg	2	10/07/16	CE	SW8081B
b-BHC	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Chlordane	ND	34	ug/Kg	2	10/07/16	CE	SW8081B
d-BHC	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Dieldrin	ND	3.4	ug/Kg	2	10/07/16	CE	SW8081B
Endosulfan I	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Endosulfan II	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Endosulfan sulfate	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Endrin	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Endrin aldehyde	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Endrin ketone	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
g-BHC	ND	1.4	ug/Kg	2	10/07/16	CE	SW8081B
Heptachlor	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Heptachlor epoxide	ND	6.9	ug/Kg	2	10/07/16	CE	SW8081B
Methoxychlor	ND	34	ug/Kg	2	10/07/16	CE	SW8081B
Toxaphene	ND	140	ug/Kg	2	10/07/16	CE	SW8081B
QA/QC Surrogates							
% DCBP	88		%	2	10/07/16	CE	30 - 150 %
% TCMX	69		%	2	10/07/16	CE	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,1,1-Trichloroethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.6	ug/Kg	1	10/06/16	HM	SW8260C
1,1,2-Trichloroethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloroethene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,1-Dichloropropene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: B-104 3-5 FT

Phoenix I.D.: BV37265

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dibromoethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichlorobenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloroethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,2-Dichloropropane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichlorobenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,3-Dichloropropane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
1,4-Dichlorobenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
2,2-Dichloropropane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
2-Chlorotoluene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
2-Hexanone	ND	22	ug/Kg	1	10/06/16	HM	SW8260C
2-Isopropyltoluene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
4-Chlorotoluene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
4-Methyl-2-pentanone	ND	22	ug/Kg	1	10/06/16	HM	SW8260C
Acetone	ND	220	ug/Kg	1	10/06/16	HM	SW8260C
Acrylonitrile	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Benzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Bromobenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Bromochloromethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Bromodichloromethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Bromoform	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Bromomethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Carbon Disulfide	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Carbon tetrachloride	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Chlorobenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Chloroethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Chloroform	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Chloromethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Dibromochloromethane	ND	2.6	ug/Kg	1	10/06/16	HM	SW8260C
Dibromomethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Dichlorodifluoromethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Ethylbenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Hexachlorobutadiene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Isopropylbenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
m&p-Xylene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Methyl Ethyl Ketone	ND	26	ug/Kg	1	10/06/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	8.8	ug/Kg	1	10/06/16	HM	SW8260C
Methylene chloride	ND	8.8	ug/Kg	1	10/06/16	HM	SW8260C
Naphthalene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
n-Butylbenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
n-Propylbenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
o-Xylene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
p-Isopropyltoluene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: B-104 3-5 FT

Phoenix I.D.: BV37265

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
sec-Butylbenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Styrene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
tert-Butylbenzene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Tetrachloroethene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	8.8	ug/Kg	1	10/06/16	HM	SW8260C
Toluene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Total Xylenes	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	8.8	ug/Kg	1	10/06/16	HM	SW8260C
Trichloroethene	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorofluoromethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Trichlorotrifluoroethane	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
Vinyl chloride	ND	4.4	ug/Kg	1	10/06/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	10/06/16	HM	70 - 130 %
% Bromofluorobenzene	103		%	1	10/06/16	HM	70 - 130 %
% Dibromofluoromethane	105		%	1	10/06/16	HM	70 - 130 %
% Toluene-d8	87		%	1	10/06/16	HM	70 - 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
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37266

Project ID: 85 HAWTHORN
Client ID: B-106 4-6 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.41	0.41	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	2.85	0.82	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	61.9	0.41	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.55	0.33	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	< 0.41	0.41	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	18.4	0.41	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	26.3	0.41	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	< 0.03	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	15.9	0.41	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	9.47	0.41	mg/Kg	1	10/08/16	LK	SW6010C	B
Antimony	< 4.1	4.1	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.6	1.6	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.7	3.7	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	32.0	0.41	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	47.4	0.41	mg/Kg	1	10/08/16	LK	SW6010C	B
Percent Solid	80		%		10/05/16	W	SW846-%Solid	
Soil Extraction for SVOA	Completed				10/05/16	JJ/CKV	SW3545A	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	62	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	83		%	1	10/06/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-106 4-6 FT

Phoenix I.D.: BV37266

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
1,2-Dichlorobenzene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
1,3-Dichlorobenzene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
1,4-Dichlorobenzene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2,4-Dichlorophenol	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2,4-Dimethylphenol	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2,4-Dinitrophenol	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
2,4-Dinitrotoluene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2,6-Dinitrotoluene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2-Chloronaphthalene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2-Chlorophenol	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2-Methylnaphthalene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
2-Nitroaniline	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
2-Nitrophenol	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
3-Nitroaniline	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
4-Chloroaniline	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
4-Nitroaniline	ND	660	ug/Kg	1	10/05/16	DD	SW8270D
4-Nitrophenol	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Acenaphthene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Acenaphthylene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Acetophenone	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Aniline	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
Anthracene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Benz(a)anthracene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Benzidine	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Benzo(a)pyrene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Benzo(b)fluoranthene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Benzo(ghi)perylene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Benzo(k)fluoranthene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Benzoic acid	ND	830	ug/Kg	1	10/05/16	DD	SW8270D
Benzyl butyl phthalate	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Carbazole	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
Chrysene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-106 4-6 FT

Phoenix I.D.: BV37266

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dibenz(a,h)anthracene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Dibenzofuran	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Diethyl phthalate	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Dimethylphthalate	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Di-n-butylphthalate	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Di-n-octylphthalate	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Fluoranthene	570	290	ug/Kg	1	10/05/16	DD	SW8270D
Fluorene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Hexachlorobenzene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Hexachlorobutadiene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Hexachloroethane	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Isophorone	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Naphthalene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Nitrobenzene	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
N-Nitrosodimethylamine	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
Pentachloronitrobenzene	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
Pentachlorophenol	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
Phenanthrene	480	290	ug/Kg	1	10/05/16	DD	SW8270D
Phenol	ND	290	ug/Kg	1	10/05/16	DD	SW8270D
Pyrene	410	290	ug/Kg	1	10/05/16	DD	SW8270D
Pyridine	ND	420	ug/Kg	1	10/05/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	64		%	1	10/05/16	DD	30 - 130 %
% 2-Fluorobiphenyl	58		%	1	10/05/16	DD	30 - 130 %
% 2-Fluorophenol	51		%	1	10/05/16	DD	30 - 130 %
% Nitrobenzene-d5	52		%	1	10/05/16	DD	30 - 130 %
% Phenol-d5	59		%	1	10/05/16	DD	30 - 130 %
% Terphenyl-d14	66		%	1	10/05/16	DD	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 12, 2016
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

October 12, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/03/16	10:40
Location Code:	TIGHE	Received by:	LB	10/05/16	10:59
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBV37254
Phoenix ID: BV37267

Project ID: 85 HAWTHORN
Client ID: B-DUP

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.36	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Arsenic	2.52	0.72	mg/Kg	1	10/08/16	LK	SW6010C	
Barium	48.3	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Beryllium	0.50	0.29	mg/Kg	1	10/08/16	LK	SW6010C	
Cadmium	< 0.36	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Chromium	16.4	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Copper	48.2	0.36	mg/kg	1	10/08/16	LK	SW6010C	
Mercury	< 0.03	0.03	mg/Kg	1	10/06/16	MA	SW7471B	
Nickel	13.4	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Lead	40.5	0.36	mg/Kg	1	10/08/16	LK	SW6010C	B
Antimony	< 3.6	3.6	mg/Kg	1	10/08/16	LK	SW6010C	
Selenium	< 1.4	1.4	mg/Kg	1	10/08/16	LK	SW6010C	
Thallium	< 3.2	3.2	mg/Kg	1	10/08/16	LK	SW6010C	
Vanadium	27.6	0.36	mg/Kg	1	10/08/16	LK	SW6010C	
Zinc	57.9	0.36	mg/Kg	1	10/08/16	LK	SW6010C	B
Percent Solid	86		%		10/05/16	W	SW846-%Solid	
Soil Extraction for SVOA	Completed				10/05/16	JJ/CKV	SW3545A	
Extraction of CT ETPH	Completed				10/05/16	JJ/CKV	SW3545A	
Mercury Digestion	Completed				10/06/16	W/W	SW7471B	
Total Metals Digest	Completed				10/05/16	X/AG	SW3050B	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	57	mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/06/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	82		%	1	10/06/16	JRB	50 - 150 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
1,3-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
1,4-Dichlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dichlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dimethylphenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrophenol	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
2,4-Dinitrotoluene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2,6-Dinitrotoluene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylnaphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitroaniline	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
3-Nitroaniline	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Chloroaniline	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitroaniline	ND	610	ug/Kg	1	10/06/16	DD	SW8270D
4-Nitrophenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Acetophenone	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Aniline	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benz(a)anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzidine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(a)pyrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(b)fluoranthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(ghi)perylene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzo(k)fluoranthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Benzoic acid	ND	760	ug/Kg	1	10/06/16	DD	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Carbazole	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Chrysene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dibenzofuran	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Dimethylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-butylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Di-n-octylphthalate	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Fluoranthene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Fluorene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorobutadiene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Isophorone	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Naphthalene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Nitrobenzene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodimethylamine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Pentachloronitrobenzene	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Pentachlorophenol	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
Phenanthrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Phenol	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Pyrene	ND	270	ug/Kg	1	10/06/16	DD	SW8270D
Pyridine	ND	380	ug/Kg	1	10/06/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	74		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorobiphenyl	59		%	1	10/06/16	DD	30 - 130 %
% 2-Fluorophenol	57		%	1	10/06/16	DD	30 - 130 %
% Nitrobenzene-d5	56		%	1	10/06/16	DD	30 - 130 %
% Phenol-d5	68		%	1	10/06/16	DD	30 - 130 %
% Terphenyl-d14	56		%	1	10/06/16	DD	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 12, 2016
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

QA/QC Report

October 12, 2016

QA/QC Data

SDG I.D.: GBV37254

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 361671 (mg/kg), QC Sample No: BV35181 (BV37254, BV37258, BV37259, BV37260, BV37261, BV37262)													
Mercury - Soil	BRL	0.03	0.03	<0.03	NC	103	92.9	10.3	96.5			70 - 130	30
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													
QA/QC Batch 361567 (mg/kg), QC Sample No: BV37254 (BV37254, BV37258, BV37259, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265, BV37266, BV37267)													
ICP Metals - Soil													
Antimony	BRL	3.3	<3.7	<3.7	NC	116			86.6			75 - 125	30
Arsenic	BRL	0.66	2.44	2.10	NC	101			92.7			75 - 125	30
Barium	BRL	0.33	39.6	39.1	1.30	100			103			75 - 125	30
Beryllium	BRL	0.26	0.46	0.44	NC	105			100			75 - 125	30
Cadmium	BRL	0.33	<0.37	<0.37	NC	103			98.3			75 - 125	30
Chromium	BRL	0.33	16.7	16.2	3.00	108			102			75 - 125	30
Copper	BRL	0.33	13.2	12.4	6.20	99.9			110			75 - 125	30
Lead	0.41	0.33	5.75	5.43	5.70	103			98.7			75 - 125	30
Nickel	BRL	0.33	13.0	12.5	3.90	108			99.4			75 - 125	30
Selenium	BRL	1.3	<1.5	<1.5	NC	82.8			78.1			75 - 125	30
Silver	BRL	0.33	<0.37	<0.37	NC	105			102			75 - 125	30
Thallium	BRL	3.0	<3.3	<3.3	NC	109			102			75 - 125	30
Vanadium	BRL	0.33	26.3	25.8	1.90	114			102			75 - 125	30
Zinc	0.56	0.33	36.0	36.2	0.60	104			97.4			75 - 125	30
QA/QC Batch 361672 (mg/kg), QC Sample No: BV37263 (BV37263, BV37264, BV37265, BV37266, BV37267)													
Mercury - Soil	BRL	0.03	<0.03	<0.03	NC	89.3	87.9	1.6	105			70 - 130	30
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													

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

QA/QC Report

October 12, 2016

QA/QC Data

SDG I.D.: GBV37254

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 361637 (mg/Kg), QC Sample No: BV38721 50X (BV37255)													
Total Cyanide (SW9010C Distill.)	BRL	0.50	<0.49	<0.49	NC	93.3			97.5			80 - 120	30

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

QA/QC Report

October 12, 2016

QA/QC Data

SDG I.D.: GBV37254

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 361386 (ug/Kg), QC Sample No: BV36858 2X (BV37265)										
Pesticides - Soil										
4,4' -DDD	ND	1.7	102	90	12.5	69	80	14.8	40 - 140	30
4,4' -DDE	ND	1.7	95	84	12.3	66	75	12.8	40 - 140	30
4,4' -DDT	ND	1.7	104	91	13.3	72	82	13.0	40 - 140	30
a-BHC	ND	1.0	96	85	12.2	58	67	14.4	40 - 140	30
a-Chlordane	ND	3.3	97	86	12.0	67	74	9.9	40 - 140	30
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30
Aldrin	ND	1.0	94	83	12.4	61	69	12.3	40 - 140	30
b-BHC	ND	1.0	92	83	10.3	67	70	4.4	40 - 140	30
Chlordane	ND	33	101	87	14.9	69	72	4.3	40 - 140	30
d-BHC	ND	3.3	99	88	11.8	65	73	11.6	40 - 140	30
Dieldrin	ND	1.0	102	89	13.6	67	77	13.9	40 - 140	30
Endosulfan I	ND	3.3	103	90	13.5	69	76	9.7	40 - 140	30
Endosulfan II	ND	3.3	108	94	13.9	71	82	14.4	40 - 140	30
Endosulfan sulfate	ND	3.3	101	87	14.9	66	76	14.1	40 - 140	30
Endrin	ND	3.3	103	91	12.4	70	81	14.6	40 - 140	30
Endrin aldehyde	ND	3.3	82	74	10.3	51	64	22.6	40 - 140	30
Endrin ketone	ND	3.3	105	91	14.3	67	78	15.2	40 - 140	30
g-BHC	ND	1.0	99	88	11.8	65	72	10.2	40 - 140	30
g-Chlordane	ND	3.3	101	87	14.9	69	72	4.3	40 - 140	30
Heptachlor	ND	3.3	97	86	12.0	64	72	11.8	40 - 140	30
Heptachlor epoxide	ND	3.3	99	92	7.3	67	73	8.6	40 - 140	30
Methoxychlor	ND	3.3	110	94	15.7	73	86	16.4	40 - 140	30
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30
% DCBP	80	%	95	81	15.9	63	66	4.7	30 - 150	30
% TCMX	66	%	68	68	0.0	48	50	4.1	30 - 150	30
QA/QC Batch 361387 (ug/Kg), QC Sample No: BV36858 2X (BV37255, BV37262, BV37263, BV37265)										
Polychlorinated Biphenyls - Soil										
PCB-1016	ND	33	68	74	8.5	81	83	2.4	40 - 140	30
PCB-1221	ND	33							40 - 140	30
PCB-1232	ND	33							40 - 140	30
PCB-1242	ND	33							40 - 140	30
PCB-1248	ND	33							40 - 140	30
PCB-1254	ND	33							40 - 140	30
PCB-1260	ND	33	77	85	9.9	88	89	1.1	40 - 140	30
PCB-1262	ND	33							40 - 140	30
PCB-1268	ND	33							40 - 140	30
% DCBP (Surrogate Rec)	89	%	93	100	7.3	103	104	1.0	30 - 150	30
% TCMX (Surrogate Rec)	79	%	79	83	4.9	91	90	1.1	30 - 150	30

QA/QC Data

SDG I.D.: GBV37254

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 361355 (ug/Kg), QC Sample No: BV37021 (BV37257, BV37260, BV37261, BV37262)											
Semivolatiles - Soil											
1,2,4,5-Tetrachlorobenzene	ND	230	65	69	6.0	72	60	18.2	30 - 130	30	
1,2,4-Trichlorobenzene	ND	230	60	66	9.5	66	57	14.6	30 - 130	30	
1,2-Dichlorobenzene	ND	180	55	60	8.7	61	56	8.5	30 - 130	30	
1,2-Diphenylhydrazine	ND	230	63	68	7.6	67	56	17.9	30 - 130	30	
1,3-Dichlorobenzene	ND	230	50	56	11.3	55	49	11.5	30 - 130	30	
1,4-Dichlorobenzene	ND	230	53	57	7.3	57	54	5.4	30 - 130	30	
2,4,5-Trichlorophenol	ND	230	59	63	6.6	66	54	20.0	30 - 130	30	
2,4,6-Trichlorophenol	ND	130	59	65	9.7	63	56	11.8	30 - 130	30	
2,4-Dichlorophenol	ND	130	67	73	8.6	74	62	17.6	30 - 130	30	
2,4-Dimethylphenol	ND	230	67	71	5.8	66	57	14.6	30 - 130	30	
2,4-Dinitrophenol	ND	230	<10	<10	NC	61	44	32.4	30 - 130	30	l,r
2,4-Dinitrotoluene	ND	130	66	70	5.9	67	57	16.1	30 - 130	30	
2,6-Dinitrotoluene	ND	130	61	67	9.4	61	51	17.9	30 - 130	30	
2-Chloronaphthalene	ND	230	63	69	9.1	66	57	14.6	30 - 130	30	
2-Chlorophenol	ND	230	56	59	5.2	61	57	6.8	30 - 130	30	
2-Methylnaphthalene	ND	230	66	71	7.3	75	56	29.0	30 - 130	30	
2-Methylphenol (o-cresol)	ND	230	62	65	4.7	66	67	1.5	30 - 130	30	
2-Nitroaniline	ND	330	50	55	9.5	55	47	15.7	30 - 130	30	
2-Nitrophenol	ND	230	60	66	9.5	63	58	8.3	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230	58	59	1.7	59	57	3.4	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	58	60	3.4	32	26	20.7	30 - 130	30	m
3-Nitroaniline	ND	330	56	61	8.5	54	45	18.2	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	230	<10	12	NC	70	46	41.4	30 - 130	30	l,r
4-Bromophenyl phenyl ether	ND	230	64	68	6.1	65	56	14.9	30 - 130	30	
4-Chloro-3-methylphenol	ND	230	68	72	5.7	73	61	17.9	30 - 130	30	
4-Chloroaniline	ND	230	67	69	2.9	59	52	12.6	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	56	60	6.9	56	49	13.3	30 - 130	30	
4-Nitroaniline	ND	230	65	72	10.2	66	56	16.4	30 - 130	30	
4-Nitrophenol	ND	230	63	67	6.2	66	55	18.2	30 - 130	30	
Acenaphthene	ND	230	62	68	9.2	59	33	56.5	30 - 130	30	r
Acenaphthylene	ND	130	62	67	7.8	55	38	36.6	30 - 130	30	r
Acetophenone	ND	230	55	58	5.3	63	59	6.6	30 - 130	30	
Aniline	ND	330	47	45	4.3	42	39	7.4	30 - 130	30	
Anthracene	ND	230	65	71	8.8	NC	NC	NC	30 - 130	30	
Benz(a)anthracene	ND	230	67	70	4.4	NC	NC	NC	30 - 130	30	
Benzidine	ND	330	10	11	9.5	<10	<10	NC	30 - 130	30	l,m
Benzo(a)pyrene	ND	130	64	67	4.6	NC	NC	NC	30 - 130	30	
Benzo(b)fluoranthene	ND	160	76	74	2.7	NC	NC	NC	30 - 130	30	
Benzo(ghi)perylene	ND	230	66	71	7.3	NC	NC	NC	30 - 130	30	
Benzo(k)fluoranthene	ND	230	56	63	11.8	21	<10	NC	30 - 130	30	m
Benzoic Acid	ND	330	<10	<10	NC	44	55	22.2	30 - 130	30	l
Benzyl butyl phthalate	ND	230	71	74	4.1	69	59	15.6	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	67	74	9.9	71	62	13.5	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	57	62	8.4	62	56	10.2	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	57	60	5.1	63	59	6.6	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	74	79	6.5	76	64	17.1	30 - 130	30	
Carbazole	ND	230	67	70	4.4	53	38	33.0	30 - 130	30	r
Chrysene	ND	230	66	70	5.9	NC	NC	NC	30 - 130	30	
Dibenz(a,h)anthracene	ND	130	66	71	7.3	15	10	40.0	30 - 130	30	m,r
Dibenzofuran	ND	230	60	66	9.5	49	35	33.3	30 - 130	30	r

QA/QC Data

SDG I.D.: GBV37254

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Diethyl phthalate	ND	230	61	65	6.3	59	51	14.5	30 - 130	30	
Dimethylphthalate	ND	230	61	66	7.9	61	53	14.0	30 - 130	30	
Di-n-butylphthalate	ND	230	71	74	4.1	61	53	14.0	30 - 130	30	
Di-n-octylphthalate	ND	230	72	75	4.1	72	61	16.5	30 - 130	30	
Fluoranthene	ND	230	67	70	4.4	NC	NC	NC	30 - 130	30	
Fluorene	ND	230	66	71	7.3	42	<10	NC	30 - 130	30	m
Hexachlorobenzene	ND	130	68	73	7.1	68	59	14.2	30 - 130	30	
Hexachlorobutadiene	ND	230	62	65	4.7	66	55	18.2	30 - 130	30	
Hexachlorocyclopentadiene	ND	230	60	65	8.0	39	29	29.4	30 - 130	30	m
Hexachloroethane	ND	130	57	60	5.1	58	52	10.9	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230	67	72	7.2	NC	NC	NC	30 - 130	30	
Isophorone	ND	130	57	60	5.1	60	53	12.4	30 - 130	30	
Naphthalene	ND	230	65	71	8.8	68	56	19.4	30 - 130	30	
Nitrobenzene	ND	130	56	60	6.9	65	61	6.3	30 - 130	30	
N-Nitrosodimethylamine	ND	230	47	53	12.0	51	51	0.0	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	130	64	66	3.1	70	66	5.9	30 - 130	30	
N-Nitrosodiphenylamine	ND	130	69	73	5.6	70	58	18.8	30 - 130	30	
Pentachloronitrobenzene	ND	230	69	74	7.0	64	52	20.7	30 - 130	30	
Pentachlorophenol	ND	230	25	29	14.8	54	49	9.7	30 - 130	30	l
Phenanthrene	ND	130	65	71	8.8	NC	NC	NC	30 - 130	30	
Phenol	ND	230	62	64	3.2	67	63	6.2	30 - 130	30	
Pyrene	ND	230	68	72	5.7	NC	NC	NC	30 - 130	30	
Pyridine	ND	230	36	48	28.6	39	38	2.6	30 - 130	30	
% 2,4,6-Tribromophenol	65	%	60	64	6.5	65	56	14.9	30 - 130	30	
% 2-Fluorobiphenyl	65	%	57	62	8.4	59	51	14.5	30 - 130	30	
% 2-Fluorophenol	53	%	51	54	5.7	52	51	1.9	30 - 130	30	
% Nitrobenzene-d5	63	%	56	58	3.5	62	59	5.0	30 - 130	30	
% Phenol-d5	60	%	58	60	3.4	59	56	5.2	30 - 130	30	
% Terphenyl-d14	67	%	62	65	4.7	54	46	16.0	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 361396 (mg/Kg), QC Sample No: BV37102 (BV37254, BV37255, BV37256, BV37257, BV37258, BV37259, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265, BV37266, BV37267)

TPH by GC (Extractable Products) - Soil

Ext. Petroleum H.C.	ND	50	73	72	1.4	72	83	14.2	60 - 120	30	
% n-Pentacosane	79	%	79	77	2.6	78	85	8.6	50 - 150	30	

Comment:

Additional criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%.

QA/QC Batch 361885 (ug/kg), QC Sample No: BV37265 (BV37257, BV37258, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	5.0	106	109	2.8	98	100	2.0	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	100	106	5.8	93	94	1.1	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	109	111	1.8	97	98	1.0	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	105	104	1.0	97	96	1.0	70 - 130	30	
1,1-Dichloroethane	ND	5.0	104	108	3.8	98	97	1.0	70 - 130	30	
1,1-Dichloroethene	ND	5.0	107	110	2.8	97	99	2.0	70 - 130	30	
1,1-Dichloropropene	ND	5.0	96	99	3.1	93	94	1.1	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	109	109	0.0	76	78	2.6	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	102	103	1.0	91	91	0.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	100	102	2.0	72	72	0.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBV37254

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2,4-Trimethylbenzene	ND	1.0	99	99	0.0	88	89	1.1	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	119	120	0.8	102	100	2.0	70 - 130	30
1,2-Dibromoethane	ND	5.0	100	105	4.9	93	93	0.0	70 - 130	30
1,2-Dichlorobenzene	ND	5.0	107	107	0.0	89	90	1.1	70 - 130	30
1,2-Dichloroethane	ND	5.0	107	108	0.9	98	99	1.0	70 - 130	30
1,2-Dichloropropane	ND	5.0	105	109	3.7	102	103	1.0	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	98	100	2.0	89	91	2.2	70 - 130	30
1,3-Dichlorobenzene	ND	5.0	101	102	1.0	85	85	0.0	70 - 130	30
1,3-Dichloropropane	ND	5.0	99	104	4.9	93	93	0.0	70 - 130	30
1,4-Dichlorobenzene	ND	5.0	105	107	1.9	87	87	0.0	70 - 130	30
2,2-Dichloropropane	ND	5.0	103	106	2.9	93	96	3.2	70 - 130	30
2-Chlorotoluene	ND	5.0	105	107	1.9	93	96	3.2	70 - 130	30
2-Hexanone	ND	25	87	91	4.5	78	80	2.5	70 - 130	30
2-Isopropyltoluene	ND	5.0	101	102	1.0	90	94	4.3	70 - 130	30
4-Chlorotoluene	ND	5.0	99	99	0.0	86	87	1.2	70 - 130	30
4-Methyl-2-pentanone	ND	25	100	102	2.0	93	93	0.0	70 - 130	30
Acetone	ND	10	76	78	2.6	119	116	2.6	70 - 130	30
Acrylonitrile	ND	5.0	103	109	5.7	93	93	0.0	70 - 130	30
Benzene	ND	1.0	100	103	3.0	96	96	0.0	70 - 130	30
Bromobenzene	ND	5.0	108	109	0.9	96	98	2.1	70 - 130	30
Bromochloromethane	ND	5.0	104	107	2.8	95	94	1.1	70 - 130	30
Bromodichloromethane	ND	5.0	109	113	3.6	102	104	1.9	70 - 130	30
Bromoform	ND	5.0	115	118	2.6	94	101	7.2	70 - 130	30
Bromomethane	ND	5.0	105	108	2.8	104	103	1.0	70 - 130	30
Carbon Disulfide	ND	5.0	112	112	0.0	99	99	0.0	70 - 130	30
Carbon tetrachloride	ND	5.0	109	114	4.5	97	101	4.0	70 - 130	30
Chlorobenzene	ND	5.0	99	102	3.0	92	91	1.1	70 - 130	30
Chloroethane	ND	5.0	102	107	4.8	94	95	1.1	70 - 130	30
Chloroform	ND	5.0	98	103	5.0	92	93	1.1	70 - 130	30
Chloromethane	ND	5.0	103	106	2.9	89	89	0.0	70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	103	107	3.8	97	98	1.0	70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	106	107	0.9	96	96	0.0	70 - 130	30
Dibromochloromethane	ND	3.0	118	124	5.0	104	108	3.8	70 - 130	30
Dibromomethane	ND	5.0	107	111	3.7	101	101	0.0	70 - 130	30
Dichlorodifluoromethane	ND	5.0	110	114	3.6	89	91	2.2	70 - 130	30
Ethylbenzene	ND	1.0	97	98	1.0	92	93	1.1	70 - 130	30
Hexachlorobutadiene	ND	5.0	104	104	0.0	82	86	4.8	70 - 130	30
Isopropylbenzene	ND	1.0	102	104	1.9	95	98	3.1	70 - 130	30
m&p-Xylene	ND	2.0	94	96	2.1	88	89	1.1	70 - 130	30
Methyl ethyl ketone	ND	5.0	93	94	1.1	77	78	1.3	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	104	107	2.8	96	96	0.0	70 - 130	30
Methylene chloride	ND	5.0	102	103	1.0	96	98	2.1	70 - 130	30
Naphthalene	ND	5.0	108	111	2.7	86	86	0.0	70 - 130	30
n-Butylbenzene	ND	1.0	106	106	0.0	89	91	2.2	70 - 130	30
n-Propylbenzene	ND	1.0	102	102	0.0	92	92	0.0	70 - 130	30
o-Xylene	ND	2.0	98	100	2.0	91	93	2.2	70 - 130	30
p-Isopropyltoluene	ND	1.0	101	102	1.0	90	92	2.2	70 - 130	30
sec-Butylbenzene	ND	1.0	106	107	0.9	96	99	3.1	70 - 130	30
Styrene	ND	5.0	95	98	3.1	87	86	1.2	70 - 130	30
tert-Butylbenzene	ND	1.0	101	103	2.0	94	98	4.2	70 - 130	30
Tetrachloroethene	ND	5.0	104	106	1.9	97	98	1.0	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	99	104	4.9	91	90	1.1	70 - 130	30
Toluene	ND	1.0	104	106	1.9	99	100	1.0	70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
trans-1,2-Dichloroethene	ND	5.0	109	111	1.8	98	99	1.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	105	106	0.9	93	93	0.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	113	113	0.0	87	91	4.5	70 - 130	30	
Trichloroethene	ND	5.0	101	103	2.0	98	100	2.0	70 - 130	30	
Trichlorofluoromethane	ND	5.0	99	102	3.0	92	91	1.1	70 - 130	30	
Trichlorotrifluoroethane	ND	5.0	102	106	3.8	97	97	0.0	70 - 130	30	
Vinyl chloride	ND	5.0	107	109	1.9	96	99	3.1	70 - 130	30	
% 1,2-dichlorobenzene-d4	95	%	104	104	0.0	102	103	1.0	70 - 130	30	
% Bromofluorobenzene	104	%	97	101	4.0	100	98	2.0	70 - 130	30	
% Dibromofluoromethane	107	%	102	100	2.0	95	95	0.0	70 - 130	30	
% Toluene-d8	86	%	101	103	2.0	103	103	0.0	70 - 130	30	

Comment:

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

QA/QC Batch 361619 (ug/Kg), QC Sample No: BV37266 (BV37263, BV37266, BV37267)

Semivolatiles - Soil

1,2,4,5-Tetrachlorobenzene	ND	230	68	66	3.0	70			30 - 130	30	
1,2,4-Trichlorobenzene	ND	230	71	66	7.3	62			30 - 130	30	
1,2-Dichlorobenzene	ND	180	62	61	1.6	66			30 - 130	30	
1,2-Diphenylhydrazine	ND	230	72	69	4.3	73			30 - 130	30	
1,3-Dichlorobenzene	ND	230	61	59	3.3	60			30 - 130	30	
1,4-Dichlorobenzene	ND	230	63	62	1.6	62			30 - 130	30	
2,4,5-Trichlorophenol	ND	230	78	73	6.6	87			30 - 130	30	
2,4,6-Trichlorophenol	ND	130	76	71	6.8	82			30 - 130	30	
2,4-Dichlorophenol	ND	130	71	70	1.4	97			30 - 130	30	
2,4-Dimethylphenol	ND	230	69	67	2.9	90			30 - 130	30	
2,4-Dinitrophenol	ND	230	15	20	28.6	82			30 - 130	30	l
2,4-Dinitrotoluene	ND	130	83	81	2.4	87			30 - 130	30	
2,6-Dinitrotoluene	ND	130	85	80	6.1	91			30 - 130	30	
2-Chloronaphthalene	ND	230	76	71	6.8	73			30 - 130	30	
2-Chlorophenol	ND	230	64	65	1.6	107			30 - 130	30	
2-Methylnaphthalene	ND	230	68	67	1.5	77			30 - 130	30	
2-Methylphenol (o-cresol)	ND	230	61	63	3.2	120			30 - 130	30	
2-Nitroaniline	ND	330	62	59	5.0	86			30 - 130	30	
2-Nitrophenol	ND	230	65	64	1.6	92			30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230	68	72	5.7	134			30 - 130	30	m
3,3'-Dichlorobenzidine	ND	130	63	60	4.9	74			30 - 130	30	
3-Nitroaniline	ND	330	63	61	3.2	93			30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	230	49	55	11.5	80			30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	78	74	5.3	77			30 - 130	30	
4-Chloro-3-methylphenol	ND	230	71	72	1.4	110			30 - 130	30	
4-Chloroaniline	ND	230	55	55	0.0	101			30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	79	75	5.2	76			30 - 130	30	
4-Nitroaniline	ND	230	79	75	5.2	101			30 - 130	30	
4-Nitrophenol	ND	230	72	70	2.8	90			30 - 130	30	
Acenaphthene	ND	230	76	72	5.4	74			30 - 130	30	
Acenaphthylene	ND	130	73	69	5.6	75			30 - 130	30	
Acetophenone	ND	230	61	64	4.8	100			30 - 130	30	
Aniline	ND	330	40	42	4.9	95			30 - 130	30	
Anthracene	ND	230	75	72	4.1	72			30 - 130	30	
Benz(a)anthracene	ND	230	74	71	4.1	72			30 - 130	30	
Benzidine	ND	330	18	14	25.0	20			30 - 130	30	l,m
Benzo(a)pyrene	ND	130	70	67	4.4	72			30 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzo(b)fluoranthene	ND	160	72	69	4.3	72			30 - 130	30	
Benzo(ghi)perylene	ND	230	76	72	5.4	78			30 - 130	30	
Benzo(k)fluoranthene	ND	230	76	73	4.0	72			30 - 130	30	
Benzoic Acid	ND	330	<10	13	NC	54			30 - 130	30	l
Benzyl butyl phthalate	ND	230	75	72	4.1	87			30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	73	70	4.2	90			30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	62	61	1.6	78			30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	55	57	3.6	74			30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	77	74	4.0	91			30 - 130	30	
Carbazole	ND	230	74	69	7.0	70			30 - 130	30	
Chrysene	ND	230	80	76	5.1	72			30 - 130	30	
Dibenz(a,h)anthracene	ND	130	76	72	5.4	81			30 - 130	30	
Dibenzofuran	ND	230	76	71	6.8	73			30 - 130	30	
Diethyl phthalate	ND	230	78	73	6.6	82			30 - 130	30	
Dimethylphthalate	ND	230	77	72	6.7	86			30 - 130	30	
Di-n-butylphthalate	ND	230	77	74	4.0	73			30 - 130	30	
Di-n-octylphthalate	ND	230	74	73	1.4	92			30 - 130	30	
Fluoranthene	ND	230	75	71	5.5	52			30 - 130	30	
Fluorene	ND	230	77	72	6.7	75			30 - 130	30	
Hexachlorobenzene	ND	130	73	69	5.6	71			30 - 130	30	
Hexachlorobutadiene	ND	230	70	65	7.4	55			30 - 130	30	
Hexachlorocyclopentadiene	ND	230	70	67	4.4	64			30 - 130	30	
Hexachloroethane	ND	130	60	58	3.4	60			30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230	73	70	4.2	77			30 - 130	30	
Isophorone	ND	130	65	64	1.6	85			30 - 130	30	
Naphthalene	ND	230	70	67	4.4	70			30 - 130	30	
Nitrobenzene	ND	130	63	67	6.2	104			30 - 130	30	
N-Nitrosodimethylamine	ND	230	60	58	3.4	85			30 - 130	30	
N-Nitrosodi-n-propylamine	ND	130	66	69	4.4	116			30 - 130	30	
N-Nitrosodiphenylamine	ND	130	84	79	6.1	79			30 - 130	30	
Pentachloronitrobenzene	ND	230	77	74	4.0	72			30 - 130	30	
Pentachlorophenol	ND	230	72	70	2.8	77			30 - 130	30	
Phenanthrene	ND	130	76	71	6.8	61			30 - 130	30	
Phenol	ND	230	63	65	3.1	132			30 - 130	30	m
Pyrene	ND	230	77	73	5.3	57			30 - 130	30	
Pyridine	ND	230	46	42	9.1	51			30 - 130	30	
% 2,4,6-Tribromophenol	67	%	74	71	4.1	81			30 - 130	30	
% 2-Fluorobiphenyl	68	%	73	67	8.6	68			30 - 130	30	
% 2-Fluorophenol	64	%	63	64	1.6	104			30 - 130	30	
% Nitrobenzene-d5	64	%	62	65	4.7	98			30 - 130	30	
% Phenol-d5	69	%	65	68	4.5	133			30 - 130	30	m
% Terphenyl-d14	73	%	75	72	4.1	62			30 - 130	30	

Comment:

MSD not reported for this batch.

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 362165 (ug/kg), QC Sample No: BV39793 (BV37260 (50X) , BV37264 (50X))

Volatiles - Soil

Naphthalene	ND	5.0	101	102	1.0	102	104	1.9	70 - 130	30	
p-Isopropyltoluene	ND	1.0	100	101	1.0	95	99	4.1	70 - 130	30	

Comment:

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

QA/QC Data

SDG I.D.: GBV37254

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
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
October 12, 2016

Sample Criteria Exceedences Report

GBV37254 - TIGHE

Criteria: None

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

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

Project Location: 85 HAWTHORN ***Project Number:***

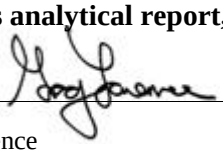
Laboratory Sample ID(s): BV37254-BV37267 ***Sampling Date(s):*** 10/3/2016

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 7470/7471, 8081, 8082, 8260, 8270, ETPH, 9010/9012

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	***VPH and EPH 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: ICP Narration, SVOA Narration.**	☐ Yes ☑ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?** **b) Were these reporting limits met?**	☐ Yes ☑ No ☑ Yes ☐ No
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
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #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". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge 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:  **Position:** Assistant Lab Director

Printed Name: Greg Lawrence **Date:** Wednesday, October 12, 2016

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

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

October 12, 2016

SDG I.D.: GBV37254

Cyanide Narration

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

Instrument:

LACHAT 10/06/16-1 Dina Montagna, Chemist 10/06/16

BV37255

The samples were distilled in accordance with the method.
The initial calibration met criteria.

The calibration check standards (ICV,CCV) were within 15% of true value and were analyzed at a frequencey of one per ten samples.
The continuing calibration blanks (ICB,CCB) had concentrations less than the reporting level.

The method blank, laboratory control sample (LCS), and matrix spike were distilled with the samples.

QC (Batch Specific):

Batch 361637 (BV38721)

BV37255

All LCS recoveries were within 80 - 120 with the following exceptions: None.

ETPH Narration

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

Instrument:

AU-FID1 10/06/16-1 Jeff Bucko, Chemist 10/06/16

BV37255, BV37260

The initial calibration (ETPHO05I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID1 10/06/16-2 Jeff Bucko, Chemist 10/06/16

BV37258

The initial calibration (ETPHO05I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID11 10/06/16-1 Jeff Bucko, Chemist 10/06/16

BV37254, BV37256, BV37257, BV37259

The initial calibration (ETPH926I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID11 10/06/16-2 Jeff Bucko, Chemist 10/06/16

BV37261, BV37262, BV37263, BV37264, BV37265, BV37266, BV37267

The initial calibration (ETPH926I) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run and contained the following outliers: C36 21.5%L (20%)
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

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

October 12, 2016

SDG I.D.: GBV37254

ETPH Narration

Batch 361396 (BV37102)

BV37254, BV37255, BV37256, BV37257, BV37258, BV37259, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265, BV37266, BV37267

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.

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 10/06/16 09:27 Mike Arsenault, Chemist 10/06/16

BV37254, BV37258, BV37259, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265, BV37266, BV37267

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 interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 361671 (BV35181)

BV37254, BV37258, BV37259, BV37260, BV37261, BV37262

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 30% with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

QC (Site Specific):

Batch 361672 (BV37263)

BV37263, BV37264, BV37265, BV37266, BV37267

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 30% with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

ICP Metals Narration

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

NY # 11301

Certification Report

October 12, 2016

SDG I.D.: GBV37254

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? No.

QC Batch 361567 (Samples: BV37254, BV37258, BV37259, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265, BV37266, BV37267): -----

A trace amount of an analyte was found in blank. Due to the concentration in the blank relative to the samples, no bias is suspected. (Soil- Lead(BV37254, BV37258, BV37259, BV37260, BV37261, BV37262, BV37263, BV37264, BV37266, BV37267), Zinc(BV37254, BV37258, BV37259, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265, BV37266, BV37267))

A trace amount of an analyte was found in blank. A high bias is suspected. (Soil- Lead(BV37265))

Instrument:

ARCOS 10/08/16 01:56 Laura Kinnin, Chemist 10/08/16

BV37254, BV37258, BV37259, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265, BV37266, BV37267

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

ARCOS 10/10/16 06:00 Laura Kinnin, Chemist 10/10/16

BV37258, BV37262, BV37265

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Site Specific):

Batch 361567 (BV37254)

BV37254, BV37258, BV37259, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265, BV37266, BV37267

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

PCB Narration

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

Instrument:

AU-ECD29 10/06/16-1 Adam Werner, Chemist 10/06/16

BV37255, BV37262, BV37263, BV37265

The initial calibration (PC0823AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC0823BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

QC (Batch Specific):

Batch 361387 (BV36858)

BV37255, BV37262, BV37263, BV37265

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

October 12, 2016

SDG I.D.: GBV37254

PCB Narration

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

PEST Narration

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

Instrument:

AU-ECD35 10/06/16-1 Carol Eddy, Chemist 10/06/16

BV37265

8081 Narration:
Endrin and DDT breakdown was evaluated and does not exceed 15%.

The initial calibration (PSO06AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PSO06BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:
Samples: BV37265
Preceding CC O06A040 - Endosulfan II -16%L (15%)
Succeeding CC O06A052 - None.
A low "1A" standard was run after the samples to demonstrate capability to detect any compounds outside of the CC acceptance criteria. All reported samples were ND for the affected compounds.

QC (Batch Specific):

Batch 361386 (BV36858)

BV37265

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

SVOA Narration

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

October 12, 2016

SDG I.D.: GBV37254

SVOA Narration

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

QC Batch 361355 (Samples: BV37257, BV37260, BV37261, BV37262): -----

The LCS/LCSD recovey for one or more analytes is below the method criteria. A low bias for these analytes is likely. (2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, Benzoic Acid)

The LCS/LCSD recovey for one analyte is below the lower range but within the method criteria. A low bias for this analyte is possible. (Pentachlorophenol)

The MS/MSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, Acenaphthene, Acenaphthylene, Carbazole, Dibenz(a,h)anthracene, Dibenzofuran)

The QC recoveries for one analyte is below the method criteria. A slight low bias is likely. (Benzidine)

QC Batch 361619 (Samples: BV37263, BV37266, BV37267): -----

The LCS/LCSD recovery for one or more analytes is below the lower range but within the method criteria. A low bias for these analytes is possible. (2,4-Dinitrophenol, Benzidine)

The LCS/LCSD recovery for one analyte is below the method criteria. A low bias for this analyte is possible. (Benzoic Acid)

The MS recovery for one of the surrogates is slightly above the upper range.outside of criteria. (% Phenol-d5)

The MS and/or the MSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (3&4-Methylphenol (m&p-cresol), Phenol)

Instrument:

CHEM05 10/05/16-1 Damien Drobinski, Chemist 10/05/16

BV37257, BV37260, BV37261, BV37262, BV37263, BV37266, BV37267

Initial Calibration Verification (CHEM05/SV_1003):
92% of target compounds met criteria.
The following compounds had %RSDs >20%: 2,4-Dinitrophenol 34% (20%), 3,3'-Dichlorobenzidine 21% (20%), 4,6-Dinitro-2-methylphenol 21% (20%), Benzidine 22% (20%), Carbazole 22% (20%)
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.052 (0.1), Hexachlorobenzene 0.090 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM05/1005_04-SV_1003):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: 2,4-Dinitrophenol 31%L (30%)
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.052 (0.1), Hexachlorobenzene 0.086 (0.1)
The following compounds did not meet minimum response factors: None.

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

October 12, 2016

SDG I.D.: GBV37254

SVOA Narration

QC (Batch Specific):

Batch 361355 (BV37021)

BV37257, BV37260, BV37261, BV37262

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 4,6-Dinitro-2-methylphenol(<10%), Benzidine(10%), Benzoic Acid(<10%), Pentachlorophenol(25%)
All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 4,6-Dinitro-2-methylphenol(12%), Benzidine(11%), Benzoic Acid(<10%), Pentachlorophenol(29%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

QC (Site Specific):

Batch 361619 (BV37266)

BV37263, BV37266, BV37267

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(15%), Benzidine(18%), Benzoic Acid(<10%)
All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(20%), Benzidine(14%), Benzoic Acid(13%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 30 - 130 with the following exceptions: % Phenol-d5(133%), 3&4-Methylphenol (m&p-cresol)(134%), Benzidine(20%), Phenol(132%)
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.
MSD not reported for this batch.

VOA Narration

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

Instrument:

CHEM18 10/06/16-1 Harry Mullin, Chemist 10/06/16

BV37257, BV37258, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265

Initial Calibration Verification (CHEM18/VT-M1006):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 28% (20%), Methyl Ethyl Ketone 26% (20%)
The following compounds did not meet recommended response factors: Bromoform 0.073 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM18/1006M12-VT-M1006):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
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: Bromoform 0.070 (0.1)
The following compounds did not meet minimum response factors: None.

CHEM18 10/07/16-1 Harry Mullin, Chemist 10/07/16

BV37260, BV37264

Initial Calibration Verification (CHEM18/VT-M1006):

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

October 12, 2016

SDG I.D.: GBV37254

VOA Narration

98% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM18/1007M02-VT-M1006):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
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.

QC (Batch Specific):

Batch 362165 (BV39793)

BV37260, BV37264

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 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QC (Site Specific):

Batch 361885 (BV37265)

BV37257, BV37258, BV37260, BV37261, BV37262, BV37263, BV37264, BV37265

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 30% with the following exceptions: None.
All MS recoveries were within 70 - 130 with the following exceptions: None.
All MSD recoveries were within 70 - 130 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Temperature Narration

The samples were received at 5C with cooling initiated.
(Note acceptance criteria is above freezing up to 6°C)

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] 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 5 °C Pg 1 of 2

Data Delivery:
[ ] Fax #:
[X] Email: Smavis@tighebond.com

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

Project: 85 Hawthorn
Report to: Samantha Avis
Invoice to: Tighe + Bond
Phone #: 908-294-1381
Fax #:

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Sam A Date: 10/4/16

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	RCP Metals	SVOCs	VOCs	Cyanide	PCBs	Lead	Pesticides	Soil VOA Vials [ ] methanol [X] H2O	GL Soil container (8) oz ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ]250ml [ ]500ml [ ]1000ml	PL H2SO4 [ ]250ml [ ]500ml [ ]500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria (as is)	Bacteria (w/thio)
37254	TP-1 (8.5')	S	10/3/16	1040	X	X								1								
37255	TP-2 (4.5')	S	10/3/16	1050	X				X	X				3	1							
37256	TP-3 (8')	S	10/3/16	1215	X										1							
37257	TP-4 (6')	S	10/3/16	1315	X		X	X						3	1							
37258	TP-5 (6')	S	10/3/16	1415	X	X		X						3	1							
37259	TP-6 (7')	S	10/3/16	1520	X	X									1							
37260	TP-7 (6')	S	10/4/16	1020	X	X	X	X			X			3	2							
37261	B-101 (0-2')	S	10/4/16	0920	X	X	X	X						3	2							
37262	B-102 (1-3')	S	10/4/16	1020	X	X	X	X		X				3	2							
37263	B-103 (1-3')	S	10/4/16	1105	X	X	X	X		X				3	2							
37264	B-105 (0-2')	S	10/4/16	1215	X	X		X						3	2							
37265	B-104 (3-5')	S	10/4/16	1205	X	X		X		X		X		3	2							

Relinquished by:	Accepted by:	Date:	Time:
Sam A	T+B Fridge	10/4/16	1630
		10/5/16	1000
	Caradine	10/5/16	1054

Comments, Special Requirements or Regulations:

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

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

CT
[X] RCP Cert
[ ] GW Protection
[ ] 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*
[ ] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] 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 5 °C Pg 1 of 1

Data Delivery:
[ ] Fax #:
[X] Email: ~~Sam~~ Smavis@tighebond.com

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

Project: 85 Hawthorn
Report to: Samantha Avis
Invoice to: Tighe + Bond
Phone #: 908-294-1381
Fax #:

Project P.O: 12107714

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Sam Avis Date: 10/4/16

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	RCP metals	SVOCs	VOCs	Cyanide	PCBs	Soil VOA Vials [ ] methanol [X] H2O	GL Soil container (8) oz ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ]250ml [ ]500ml [ ]1000ml	PL H2SO4 [ ]250ml [ ]500ml [ ]500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria (as is)	Bacteria (w/thio)
372606	B-106 (4-6')	S	10/4/16	1250	X	X	X					1								
372607	B-DUP	S	10/4/16	1251	X	X	X					1								

Relinquished by:	Accepted by:	Date:	Time:
Sam Avis	T+B Fridge	10/4/16	1630
		10/5/16	1008
	CParadine	10/5/16	1059

Comments, Special Requirements or Regulations:

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

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

CT
[X] RCP Cert
[ ] GW Protection
[ ] 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*
[ ] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, October 20, 2016

Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Project ID: 85 HAWTHORN
Sample ID#s: BV41729 - BV41741

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.

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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/05/16	9:00
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41729

Project ID: 85 HAWTHORN
Client ID: B-107 6-8`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.35	0.35	mg/Kg	1	10/09/16	LK	SW6010C	
Arsenic	7.00	0.71	mg/Kg	1	10/09/16	LK	SW6010C	
Barium	95.1	0.35	mg/Kg	1	10/09/16	LK	SW6010C	
Beryllium	0.54	0.28	mg/Kg	1	10/09/16	LK	SW6010C	
Cadmium	0.70	0.35	mg/Kg	1	10/09/16	LK	SW6010C	
Chromium	25.7	0.35	mg/Kg	1	10/09/16	LK	SW6010C	
Copper	57.9	0.35	mg/kg	1	10/09/16	LK	SW6010C	
Mercury	0.06	0.03	mg/Kg	1	10/10/16	RS	SW7471B	
Nickel	20.9	0.35	mg/Kg	1	10/09/16	LK	SW6010C	
Lead	64.6	0.35	mg/Kg	1	10/09/16	LK	SW6010C	B
Antimony	< 3.5	3.5	mg/Kg	1	10/09/16	LK	SW6010C	
Selenium	< 1.4	1.4	mg/Kg	1	10/09/16	LK	SW6010C	
Thallium	< 3.2	3.2	mg/Kg	1	10/09/16	LK	SW6010C	
Vanadium	39.1	0.35	mg/Kg	1	10/09/16	LK	SW6010C	
Zinc	133	0.35	mg/Kg	1	10/09/16	LK	SW6010C	
Percent Solid	87		%		10/08/16	W	SW846-%Solid	
Total Cyanide (SW9010C Distill.)	< 0.52	0.52	mg/Kg	1	10/10/16	EG	SW9012B	
Soil Extraction for PCB	Completed				10/07/16	JC/BT	SW3545A	
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A	
Mercury Digestion	Completed				10/10/16	W/W	SW7471B	
Total Metals Digest	Completed				10/07/16	X/AG	SW3050B	
Field Extraction	Completed				10/05/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	62	56	mg/Kg	1	10/13/16	JRB	CTETPH 8015D	
Identification	**		mg/Kg	1	10/13/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	83		%	1	10/13/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-107 6-8`

Phoenix I.D.: BV41729

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1221	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1232	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1242	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1248	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1254	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1260	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1262	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1268	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	110		%	10	10/11/16	AW	30 - 150 %
% TCMX	97		%	10	10/11/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,1,1-Trichloroethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.9	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2-Trichloroethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloropropene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichloropropane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromoethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichlorobenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloroethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloropropane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichlorobenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichloropropane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
1,4-Dichlorobenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
2,2-Dichloropropane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
2-Chlorotoluene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
2-Hexanone	ND	24	ug/Kg	1	10/08/16	HM	SW8260C
2-Isopropyltoluene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
4-Chlorotoluene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
4-Methyl-2-pentanone	ND	24	ug/Kg	1	10/08/16	HM	SW8260C
Acetone	ND	240	ug/Kg	1	10/08/16	HM	SW8260C
Acrylonitrile	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Benzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Bromobenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Bromochloromethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Bromodichloromethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Bromoform	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Bromomethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: B-107 6-8`

Phoenix I.D.: BV41729

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Carbon tetrachloride	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Chlorobenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Chloroethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Chloroform	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Chloromethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Dibromochloromethane	ND	2.9	ug/Kg	1	10/08/16	HM	SW8260C
Dibromomethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Dichlorodifluoromethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Ethylbenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Hexachlorobutadiene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Isopropylbenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
m&p-Xylene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Methyl Ethyl Ketone	ND	29	ug/Kg	1	10/08/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	9.8	ug/Kg	1	10/08/16	HM	SW8260C
Methylene chloride	ND	9.8	ug/Kg	1	10/08/16	HM	SW8260C
Naphthalene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
n-Butylbenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
n-Propylbenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
o-Xylene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
p-Isopropyltoluene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
sec-Butylbenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Styrene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
tert-Butylbenzene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Tetrachloroethene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	9.8	ug/Kg	1	10/08/16	HM	SW8260C
Toluene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Total Xylenes	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	9.8	ug/Kg	1	10/08/16	HM	SW8260C
Trichloroethene	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorofluoromethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorotrifluoroethane	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
Vinyl chloride	ND	4.9	ug/Kg	1	10/08/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	10/08/16	HM	70 - 130 %
% Bromofluorobenzene	86		%	1	10/08/16	HM	70 - 130 %
% Dibromofluoromethane	102		%	1	10/08/16	HM	70 - 130 %
% Toluene-d8	86		%	1	10/08/16	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B = Present in blank, no bias suspected.

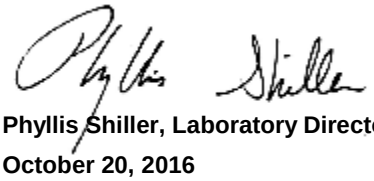
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/05/16	10:00
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41730

Project ID: 85 HAWTHORN
Client ID: B-108 12-14`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.44	0.44	mg/Kg	1	10/09/16	LK	SW6010C	
Arsenic	6.67	0.88	mg/Kg	1	10/09/16	LK	SW6010C	
Barium	293	0.44	mg/Kg	1	10/09/16	LK	SW6010C	
Beryllium	0.53	0.35	mg/Kg	1	10/09/16	LK	SW6010C	
Cadmium	0.94	0.44	mg/Kg	1	10/09/16	LK	SW6010C	
Chromium	26.1	0.44	mg/Kg	1	10/09/16	LK	SW6010C	
Copper	101	0.44	mg/kg	1	10/09/16	LK	SW6010C	
Mercury	0.54	0.03	mg/Kg	1	10/10/16	RS	SW7471B	
Nickel	22.1	0.44	mg/Kg	1	10/09/16	LK	SW6010C	
Lead	545	4.4	mg/Kg	10	10/11/16	LK	SW6010C	B
Antimony	< 4.4	4.4	mg/Kg	1	10/09/16	LK	SW6010C	
Selenium	< 1.8	1.8	mg/Kg	1	10/09/16	LK	SW6010C	
Thallium	< 3.9	3.9	mg/Kg	1	10/09/16	LK	SW6010C	
Vanadium	44.8	0.44	mg/Kg	1	10/09/16	LK	SW6010C	
Zinc	303	4.4	mg/Kg	10	10/11/16	LK	SW6010C	
Percent Solid	76		%		10/08/16	W	SW846-%Solid	
Soil Extraction for Pesticide	Completed				10/07/16	JC/BT	SW3545A	
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A	
Mercury Digestion	Completed				10/10/16	W/W	SW7471B	
Total Metals Digest	Completed				10/07/16	X/AG	SW3050B	
Field Extraction	Completed				10/05/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	320	mg/Kg	5	10/11/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	5	10/11/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	81		%	5	10/11/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-108 12-14`

Phoenix I.D.: BV41730

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Pesticides							
4,4' -DDD	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
4,4' -DDE	26	8.7	ug/Kg	2	10/10/16	CE	SW8081B
4,4' -DDT	32	8.7	ug/Kg	2	10/10/16	CE	SW8081B
a-BHC	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Alachlor	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Aldrin	ND	4.3	ug/Kg	2	10/10/16	CE	SW8081B
b-BHC	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Chlordane	ND	43	ug/Kg	2	10/10/16	CE	SW8081B
d-BHC	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Dieldrin	ND	4.3	ug/Kg	2	10/10/16	CE	SW8081B
Endosulfan I	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Endosulfan II	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Endosulfan sulfate	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Endrin	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Endrin aldehyde	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Endrin ketone	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
g-BHC	ND	1.7	ug/Kg	2	10/10/16	CE	SW8081B
Heptachlor	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Heptachlor epoxide	ND	8.7	ug/Kg	2	10/10/16	CE	SW8081B
Methoxychlor	ND	43	ug/Kg	2	10/10/16	CE	SW8081B
Toxaphene	ND	170	ug/Kg	2	10/10/16	CE	SW8081B
QA/QC Surrogates							
% DCBP	98		%	2	10/10/16	CE	30 - 150 %
% TCMX	79		%	2	10/10/16	CE	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,1,1-Trichloroethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.0	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2-Trichloroethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloropropene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichloropropane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromoethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichlorobenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloroethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloropropane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichlorobenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichloropropane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,4-Dichlorobenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
2,2-Dichloropropane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
2-Chlorotoluene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: B-108 12-14`

Phoenix I.D.: BV41730

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	16	ug/Kg	1	10/08/16	HM	SW8260C
2-Isopropyltoluene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
4-Chlorotoluene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
4-Methyl-2-pentanone	ND	16	ug/Kg	1	10/08/16	HM	SW8260C
Acetone	ND	160	ug/Kg	1	10/08/16	HM	SW8260C
Acrylonitrile	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Benzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Bromobenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Bromochloromethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Bromodichloromethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Bromoform	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Bromomethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Carbon Disulfide	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Carbon tetrachloride	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Chlorobenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Chloroethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Chloroform	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Chloromethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Dibromochloromethane	ND	2.0	ug/Kg	1	10/08/16	HM	SW8260C
Dibromomethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Dichlorodifluoromethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Ethylbenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Hexachlorobutadiene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Isopropylbenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
m&p-Xylene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Methyl Ethyl Ketone	ND	20	ug/Kg	1	10/08/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.6	ug/Kg	1	10/08/16	HM	SW8260C
Methylene chloride	ND	6.6	ug/Kg	1	10/08/16	HM	SW8260C
Naphthalene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
n-Butylbenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
n-Propylbenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
o-Xylene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
p-Isopropyltoluene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
sec-Butylbenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Styrene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
tert-Butylbenzene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Tetrachloroethene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	6.6	ug/Kg	1	10/08/16	HM	SW8260C
Toluene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Total Xylenes	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	6.6	ug/Kg	1	10/08/16	HM	SW8260C
Trichloroethene	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorofluoromethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorotrifluoroethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Vinyl chloride	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: B-108 12-14`

Phoenix I.D.: BV41730

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	10/08/16	HM	70 - 130 %
% Bromofluorobenzene	98		%	1	10/08/16	HM	70 - 130 %
% Dibromofluoromethane	98		%	1	10/08/16	HM	70 - 130 %
% Toluene-d8	87		%	1	10/08/16	HM	70 - 130 %

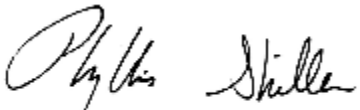
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/05/16	10:25
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41731

Project ID: 85 HAWTHORN
Client ID: B-109 12-14`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.41	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Arsenic	8.05	0.83	mg/Kg	1	10/09/16	LK	SW6010C	
Barium	134	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Beryllium	0.55	0.33	mg/Kg	1	10/09/16	LK	SW6010C	
Cadmium	0.60	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Chromium	24.7	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Copper	192	4.1	mg/kg	10	10/11/16	LK	SW6010C	
Mercury	0.19	0.03	mg/Kg	1	10/10/16	RS	SW7471B	
Nickel	21.6	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Lead	152	4.1	mg/Kg	10	10/11/16	LK	SW6010C	B
Antimony	< 4.1	4.1	mg/Kg	1	10/09/16	LK	SW6010C	
Selenium	< 1.7	1.7	mg/Kg	1	10/09/16	LK	SW6010C	
Thallium	< 3.7	3.7	mg/Kg	1	10/09/16	LK	SW6010C	
Vanadium	39.0	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Zinc	184	4.1	mg/Kg	10	10/11/16	LK	SW6010C	
Percent Solid	84		%		10/08/16	W	SW846-%Solid	
Total Cyanide (SW9010C Distill.)	< 0.54	0.54	mg/Kg	1	10/10/16	EG	SW9012B	
Soil Extraction for PCB	Completed				10/07/16	JC/BT	SW3545A	
Soil Extraction for SVOA	Completed				10/07/16	NJ/CK	SW3545A	
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A	
Mercury Digestion	Completed				10/10/16	W/W	SW7471B	
Total Metals Digest	Completed				10/07/16	X/AG	SW3050B	
Field Extraction	Completed				10/05/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	91	59	mg/Kg	1	10/13/16	JRB	CTETPH 8015D	
Identification	**		mg/Kg	1	10/13/16	JRB	CTETPH 8015D	
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% n-Pentacosane	89		%	1	10/13/16	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1221	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1232	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1242	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1248	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1254	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1260	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1262	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1268	ND	380	ug/Kg	10	10/11/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	117		%	10	10/11/16	AW	30 - 150 %
% TCMX	103		%	10	10/11/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,1,1-Trichloroethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2-Trichloroethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloropropene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichloropropane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromoethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichlorobenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloroethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloropropane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichlorobenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichloropropane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
1,4-Dichlorobenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
2,2-Dichloropropane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
2-Chlorotoluene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
2-Hexanone	ND	27	ug/Kg	1	10/08/16	HM	SW8260C
2-Isopropyltoluene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
4-Chlorotoluene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
4-Methyl-2-pentanone	ND	27	ug/Kg	1	10/08/16	HM	SW8260C
Acetone	ND	270	ug/Kg	1	10/08/16	HM	SW8260C
Acrylonitrile	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Benzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Bromobenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Bromochloromethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Bromodichloromethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Bromoform	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Bromomethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Carbon Disulfide	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Carbon tetrachloride	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Chlorobenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Chloroethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Chloroform	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Chloromethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Dibromochloromethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Dibromomethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Dichlorodifluoromethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Ethylbenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Hexachlorobutadiene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Isopropylbenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
m&p-Xylene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Methyl Ethyl Ketone	ND	33	ug/Kg	1	10/08/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Methylene chloride	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Naphthalene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
n-Butylbenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
n-Propylbenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
o-Xylene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
p-Isopropyltoluene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
sec-Butylbenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Styrene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
tert-Butylbenzene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Tetrachloroethene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Toluene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Total Xylenes	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Trichloroethene	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorofluoromethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorotrifluoroethane	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
Vinyl chloride	ND	5.4	ug/Kg	1	10/08/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/08/16	HM	70 - 130 %
% Bromofluorobenzene	89		%	1	10/08/16	HM	70 - 130 %
% Dibromofluoromethane	97		%	1	10/08/16	HM	70 - 130 %
% Toluene-d8	84		%	1	10/08/16	HM	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
1,2-Dichlorobenzene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
1,3-Dichlorobenzene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-109 12-14`

Phoenix I.D.: BV41731

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,4-Dichlorobenzene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dichlorophenol	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dimethylphenol	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dinitrophenol	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dinitrotoluene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2,6-Dinitrotoluene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2-Methylnaphthalene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
2-Nitroaniline	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
3-Nitroaniline	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloroaniline	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitroaniline	ND	620	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitrophenol	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Acetophenone	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Aniline	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
Anthracene	420	270	ug/Kg	1	10/08/16	DD	SW8270D
Benz(a)anthracene	960	270	ug/Kg	1	10/08/16	DD	SW8270D
Benzidine	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(a)pyrene	790	270	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(b)fluoranthene	960	270	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(ghi)perylene	420	270	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(k)fluoranthene	890	270	ug/Kg	1	10/08/16	DD	SW8270D
Benzoic acid	ND	770	ug/Kg	1	10/08/16	DD	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Carbazole	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
Chrysene	1100	270	ug/Kg	1	10/08/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Dibenzofuran	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Dimethylphthalate	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-butylphthalate	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-octylphthalate	ND	270	ug/Kg	1	10/08/16	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Fluoranthene	2200	270	ug/Kg	1	10/08/16	DD	SW8270D
Fluorene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobutadiene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	590	270	ug/Kg	1	10/08/16	DD	SW8270D
Isophorone	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Naphthalene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Nitrobenzene	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodimethylamine	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
Pentachloronitrobenzene	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
Pentachlorophenol	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
Phenanthrene	1400	270	ug/Kg	1	10/08/16	DD	SW8270D
Phenol	ND	270	ug/Kg	1	10/08/16	DD	SW8270D
Pyrene	1800	270	ug/Kg	1	10/08/16	DD	SW8270D
Pyridine	ND	380	ug/Kg	1	10/08/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	81		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorobiphenyl	67		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorophenol	45		%	1	10/08/16	DD	30 - 130 %
% Nitrobenzene-d5	65		%	1	10/08/16	DD	30 - 130 %
% Phenol-d5	56		%	1	10/08/16	DD	30 - 130 %
% Terphenyl-d14	65		%	1	10/08/16	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/05/16	11:15
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41732

Project ID: 85 HAWTHORN
Client ID: B-110 11-13`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.41	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Arsenic	4.78	0.82	mg/Kg	1	10/09/16	LK	SW6010C	
Barium	214	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Beryllium	0.90	0.33	mg/Kg	1	10/09/16	LK	SW6010C	
Cadmium	0.68	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Chromium	46.4	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Copper	320	4.1	mg/kg	10	10/11/16	LK	SW6010C	
Mercury	0.55	0.03	mg/Kg	1	10/10/16	RS	SW7471B	
Nickel	36.5	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Lead	103	0.41	mg/Kg	1	10/09/16	LK	SW6010C	B
Antimony	< 4.1	4.1	mg/Kg	1	10/09/16	LK	SW6010C	
Selenium	< 1.6	1.6	mg/Kg	1	10/09/16	LK	SW6010C	
Thallium	< 3.7	3.7	mg/Kg	1	10/09/16	LK	SW6010C	
Vanadium	58.5	0.41	mg/Kg	1	10/09/16	LK	SW6010C	
Zinc	192	4.1	mg/Kg	10	10/11/16	LK	SW6010C	
Percent Solid	81		%		10/08/16	W	SW846-%Solid	
Soil Extraction for PCB	Completed				10/07/16	JC/BT	SW3545A	
Soil Extraction for SVOA	Completed				10/07/16	NJ/CK	SW3545A	
Extraction of CT ETPH	Completed				10/12/16	QJ/CKV	SW3545A	
Mercury Digestion	Completed				10/10/16	W/W	SW7471B	
Total Metals Digest	Completed				10/07/16	X/AG	SW3050B	
Field Extraction	Completed				10/05/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	300	mg/Kg	5	10/13/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	5	10/13/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	83		%	5	10/13/16	JRB	50 - 150 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	400	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1221	ND	400	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1232	ND	400	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1242	ND	400	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1248	ND	400	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1254	ND	400	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1260	ND	400	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1262	ND	400	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1268	ND	400	ug/Kg	10	10/11/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	109		%	10	10/11/16	AW	30 - 150 %
% TCMX	102		%	10	10/11/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,1,1-Trichloroethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.1	ug/Kg	1	10/09/16	HM	SW8260C
1,1,2-Trichloroethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,1-Dichloroethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,1-Dichloroethene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,1-Dichloropropene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,2,3-Trichloropropane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,2-Dibromoethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,2-Dichlorobenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,2-Dichloroethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,2-Dichloropropane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,3-Dichlorobenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,3-Dichloropropane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
1,4-Dichlorobenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
2,2-Dichloropropane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
2-Chlorotoluene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
2-Hexanone	ND	26	ug/Kg	1	10/09/16	HM	SW8260C
2-Isopropyltoluene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
4-Chlorotoluene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
4-Methyl-2-pentanone	ND	26	ug/Kg	1	10/09/16	HM	SW8260C
Acetone	ND	260	ug/Kg	1	10/09/16	HM	SW8260C
Acrylonitrile	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Benzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Bromobenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Bromochloromethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Bromodichloromethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Bromoform	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Bromomethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Carbon tetrachloride	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Chlorobenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Chloroethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Chloroform	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Chloromethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Dibromochloromethane	ND	3.1	ug/Kg	1	10/09/16	HM	SW8260C
Dibromomethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Dichlorodifluoromethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Ethylbenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Hexachlorobutadiene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Isopropylbenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
m&p-Xylene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Methyl Ethyl Ketone	ND	31	ug/Kg	1	10/09/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	10/09/16	HM	SW8260C
Methylene chloride	ND	10	ug/Kg	1	10/09/16	HM	SW8260C
Naphthalene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
n-Butylbenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
n-Propylbenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
o-Xylene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
p-Isopropyltoluene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
sec-Butylbenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Styrene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
tert-Butylbenzene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Tetrachloroethene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	10/09/16	HM	SW8260C
Toluene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Total Xylenes	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	10/09/16	HM	SW8260C
Trichloroethene	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Trichlorofluoromethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Trichlorotrifluoroethane	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
Vinyl chloride	ND	5.2	ug/Kg	1	10/09/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/09/16	HM	70 - 130 %
% Bromofluorobenzene	102		%	1	10/09/16	HM	70 - 130 %
% Dibromofluoromethane	98		%	1	10/09/16	HM	70 - 130 %
% Toluene-d8	99		%	1	10/09/16	HM	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
1,2-Dichlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
1,3-Dichlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
1,4-Dichlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-110 11-13`

Phoenix I.D.: BV41732

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,4,5-Trichlorophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dichlorophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dimethylphenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dinitrophenol	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dinitrotoluene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,6-Dinitrotoluene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Chloronaphthalene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Chlorophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Methylnaphthalene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Nitroaniline	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
2-Nitrophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
3-Nitroaniline	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloroaniline	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitroaniline	ND	650	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitrophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthylene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Acetophenone	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Aniline	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
Anthracene	490	280	ug/Kg	1	10/08/16	DD	SW8270D
Benz(a)anthracene	1100	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzidine	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(a)pyrene	1000	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(b)fluoranthene	960	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(ghi)perylene	560	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(k)fluoranthene	980	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzoic acid	ND	810	ug/Kg	1	10/08/16	DD	SW8270D
Benzyl butyl phthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Carbazole	600	400	ug/Kg	1	10/08/16	DD	SW8270D
Chrysene	1300	280	ug/Kg	1	10/08/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Dibenzofuran	490	280	ug/Kg	1	10/08/16	DD	SW8270D
Diethyl phthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Dimethylphthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-butylphthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-octylphthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Fluoranthene	2700	280	ug/Kg	1	10/08/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-110 11-13`

Phoenix I.D.: BV41732

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Fluorene	860	280	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobutadiene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Hexachloroethane	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	670	280	ug/Kg	1	10/08/16	DD	SW8270D
Isophorone	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Naphthalene	840	280	ug/Kg	1	10/08/16	DD	SW8270D
Nitrobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodimethylamine	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
Pentachloronitrobenzene	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
Pentachlorophenol	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
Phenanthrene	3100	280	ug/Kg	1	10/08/16	DD	SW8270D
Phenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Pyrene	2200	280	ug/Kg	1	10/08/16	DD	SW8270D
Pyridine	ND	400	ug/Kg	1	10/08/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	91		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorobiphenyl	73		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorophenol	58		%	1	10/08/16	DD	30 - 130 %
% Nitrobenzene-d5	77		%	1	10/08/16	DD	30 - 130 %
% Phenol-d5	65		%	1	10/08/16	DD	30 - 130 %
% Terphenyl-d14	72		%	1	10/08/16	DD	30 - 130 %

B = Present in blank, no bias suspected.

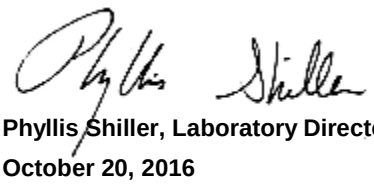
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/05/16	12:00
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41733

Project ID: 85 HAWTHORN
Client ID: B-111 16-18`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Lead	621	4.2	mg/Kg	10	10/11/16	LK	SW6010C	B
Percent Solid	77		%		10/08/16	W	SW846-%Solid	
Soil Extraction for SVOA	Completed				10/07/16	NJ/CK	SW3545A	
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A	
Total Metals Digest	Completed				10/07/16	X/AG	SW3050B	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	880	310	mg/Kg	5	10/11/16	JRB	CTETPH 8015D	
Identification	**		mg/Kg	5	10/11/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	84		%	5	10/11/16	JRB	50 - 150 %	
Semivolatiles								
1,2,4,5-Tetrachlorobenzene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
1,2,4-Trichlorobenzene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
1,2-Dichlorobenzene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
1,2-Diphenylhydrazine	ND	430	ug/Kg	1	10/08/16	DD	SW8270D	
1,3-Dichlorobenzene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
1,4-Dichlorobenzene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
2,4,5-Trichlorophenol	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
2,4,6-Trichlorophenol	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
2,4-Dichlorophenol	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
2,4-Dimethylphenol	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
2,4-Dinitrophenol	ND	430	ug/Kg	1	10/08/16	DD	SW8270D	
2,4-Dinitrotoluene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
2,6-Dinitrotoluene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
2-Chloronaphthalene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	
2-Chlorophenol	ND	300	ug/Kg	1	10/08/16	DD	SW8270D	

Project ID: 85 HAWTHORN
Client ID: B-111 16-18`

Phoenix I.D.: BV41733

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Methylnaphthalene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
2-Nitroaniline	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
2-Nitrophenol	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
3-Nitroaniline	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloroaniline	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitroaniline	ND	680	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitrophenol	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthylene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Acetophenone	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Aniline	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
Anthracene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Benz(a)anthracene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Benzidine	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(a)pyrene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(b)fluoranthene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(ghi)perylene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(k)fluoranthene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Benzoic acid	ND	850	ug/Kg	1	10/08/16	DD	SW8270D
Benzyl butyl phthalate	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Carbazole	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
Chrysene	320	300	ug/Kg	1	10/08/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Dibenzofuran	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Diethyl phthalate	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Dimethylphthalate	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-butylphthalate	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-octylphthalate	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Fluoranthene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Fluorene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobenzene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobutadiene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Hexachloroethane	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Isophorone	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Naphthalene	510	300	ug/Kg	1	10/08/16	DD	SW8270D
Nitrobenzene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
N-Nitrosodimethylamine	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
Pentachloronitrobenzene	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
Pentachlorophenol	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
Phenanthrene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Phenol	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Pyrene	ND	300	ug/Kg	1	10/08/16	DD	SW8270D
Pyridine	ND	430	ug/Kg	1	10/08/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	78		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorobiphenyl	64		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorophenol	43		%	1	10/08/16	DD	30 - 130 %
% Nitrobenzene-d5	62		%	1	10/08/16	DD	30 - 130 %
% Phenol-d5	54		%	1	10/08/16	DD	30 - 130 %
% Terphenyl-d14	66		%	1	10/08/16	DD	30 - 130 %

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C14 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/05/16	13:20
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41734

Project ID: 85 HAWTHORN
Client ID: B-112 22-24`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.38	0.38	mg/Kg	1	10/09/16	LK	SW6010C	
Arsenic	25.7	0.76	mg/Kg	1	10/09/16	LK	SW6010C	
Barium	102	0.38	mg/Kg	1	10/09/16	LK	SW6010C	
Beryllium	0.41	0.31	mg/Kg	1	10/09/16	LK	SW6010C	
Cadmium	1.74	0.38	mg/Kg	1	10/09/16	LK	SW6010C	
Chromium	64.9	0.38	mg/Kg	1	10/09/16	LK	SW6010C	
Copper	305	3.8	mg/kg	10	10/11/16	LK	SW6010C	
Mercury	0.10	0.03	mg/Kg	1	10/10/16	RS	SW7471B	
Nickel	37.1	0.38	mg/Kg	1	10/09/16	LK	SW6010C	
Lead	275	3.8	mg/Kg	10	10/11/16	LK	SW6010C	B
Antimony	5.8	3.8	mg/Kg	1	10/09/16	LK	SW6010C	
Selenium	< 1.5	1.5	mg/Kg	1	10/09/16	LK	SW6010C	
Thallium	< 3.4	3.4	mg/Kg	1	10/09/16	LK	SW6010C	
Vanadium	52.4	0.38	mg/Kg	1	10/09/16	LK	SW6010C	
Zinc	220	3.8	mg/Kg	10	10/11/16	LK	SW6010C	
Percent Solid	84		%		10/08/16	W	SW846-%Solid	
Soil Extraction for PCB	Completed				10/07/16	JC/BT	SW3545A	
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A	
Mercury Digestion	Completed				10/10/16	W/W	SW7471B	
Total Metals Digest	Completed				10/07/16	X/AG	SW3050B	
Field Extraction	Completed				10/05/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	59	mg/Kg	1	10/11/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/11/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	87		%	1	10/11/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-112 22-24`

Phoenix I.D.: BV41734

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	390	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1221	ND	390	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1232	ND	390	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1242	ND	390	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1248	ND	390	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1254	ND	390	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1260	ND	390	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1262	ND	390	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1268	ND	390	ug/Kg	10	10/11/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	108		%	10	10/11/16	AW	30 - 150 %
% TCMX	92		%	10	10/11/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,1,1-Trichloroethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.8	ug/Kg	1	10/11/16	JLI	SW8260C
1,1,2-Trichloroethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,1-Dichloroethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,1-Dichloroethene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,1-Dichloropropene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,2,3-Trichloropropane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,2-Dibromoethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,2-Dichloroethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,2-Dichloropropane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,3-Dichloropropane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
2,2-Dichloropropane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
2-Chlorotoluene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
2-Hexanone	ND	31	ug/Kg	1	10/11/16	JLI	SW8260C
2-Isopropyltoluene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
4-Chlorotoluene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
4-Methyl-2-pentanone	ND	31	ug/Kg	1	10/11/16	JLI	SW8260C
Acetone	ND	310	ug/Kg	1	10/11/16	JLI	SW8260C
Acrylonitrile	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Benzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Bromobenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Bromochloromethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Bromodichloromethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Bromoform	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Bromomethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C

Project ID: 85 HAWTHORN
Client ID: B-112 22-24`

Phoenix I.D.: BV41734

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Carbon tetrachloride	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Chlorobenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Chloroethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Chloroform	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Chloromethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
cis-1,2-Dichloroethene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Dibromochloromethane	ND	3.8	ug/Kg	1	10/11/16	JLI	SW8260C
Dibromomethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Dichlorodifluoromethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Ethylbenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Hexachlorobutadiene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Isopropylbenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
m&p-Xylene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Methyl Ethyl Ketone	ND	38	ug/Kg	1	10/11/16	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	13	ug/Kg	1	10/11/16	JLI	SW8260C
Methylene chloride	ND	13	ug/Kg	1	10/11/16	JLI	SW8260C
Naphthalene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
n-Butylbenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
n-Propylbenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
o-Xylene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
p-Isopropyltoluene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
sec-Butylbenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Styrene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
tert-Butylbenzene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Tetrachloroethene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/Kg	1	10/11/16	JLI	SW8260C
Toluene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Total Xylenes	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	13	ug/Kg	1	10/11/16	JLI	SW8260C
Trichloroethene	610	530	ug/Kg	50	10/08/16	JLI	SW8260C
Trichlorofluoromethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Trichlorotrifluoroethane	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
Vinyl chloride	ND	6.3	ug/Kg	1	10/11/16	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	113		%	1	10/11/16	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	10/11/16	JLI	70 - 130 %
% Dibromofluoromethane	102		%	1	10/11/16	JLI	70 - 130 %
% Toluene-d8	96		%	1	10/11/16	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

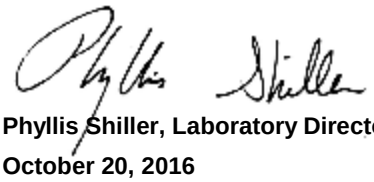
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/05/16	14:30
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41735

Project ID: 85 HAWTHORN
Client ID: B-114 7-9`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	97		%		10/08/16	W	SW846-%Solid
Soil Extraction for SVOA	Completed				10/07/16	NJ/CK	SW3545A
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	51	mg/Kg	1	10/11/16	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	10/11/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	84		%	1	10/11/16	JRB	50 - 150 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
1,2-Dichlorobenzene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
1,3-Dichlorobenzene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
1,4-Dichlorobenzene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dichlorophenol	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dimethylphenol	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dinitrophenol	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dinitrotoluene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2,6-Dinitrotoluene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2-Chloronaphthalene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2-Chlorophenol	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2-Methylnaphthalene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	230	ug/Kg	1	10/08/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-114 7-9`

Phoenix I.D.: BV41735

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Nitroaniline	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
2-Nitrophenol	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
3-Nitroaniline	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloroaniline	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitroaniline	ND	530	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitrophenol	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthylene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Acetophenone	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Aniline	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
Anthracene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Benz(a)anthracene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Benzidine	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(a)pyrene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(b)fluoranthene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(ghi)perylene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(k)fluoranthene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Benzoic acid	ND	670	ug/Kg	1	10/08/16	DD	SW8270D
Benzyl butyl phthalate	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Carbazole	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
Chrysene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Dibenzofuran	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Diethyl phthalate	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Dimethylphthalate	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-butylphthalate	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-octylphthalate	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Fluoranthene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Fluorene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobenzene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobutadiene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Hexachloroethane	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Isophorone	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Naphthalene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Nitrobenzene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodimethylamine	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	230	ug/Kg	1	10/08/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-114 7-9`

Phoenix I.D.: BV41735

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
N-Nitrosodiphenylamine	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
Pentachloronitrobenzene	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
Pentachlorophenol	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
Phenanthrene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Phenol	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Pyrene	ND	230	ug/Kg	1	10/08/16	DD	SW8270D
Pyridine	ND	330	ug/Kg	1	10/08/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	56		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorobiphenyl	60		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorophenol	34		%	1	10/08/16	DD	30 - 130 %
% Nitrobenzene-d5	59		%	1	10/08/16	DD	30 - 130 %
% Phenol-d5	48		%	1	10/08/16	DD	30 - 130 %
% Terphenyl-d14	61		%	1	10/08/16	DD	30 - 130 %

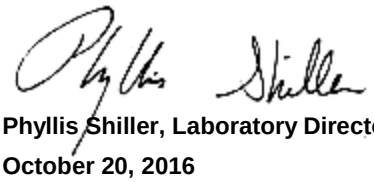
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/05/16	15:00
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41736

Project ID: 85 HAWTHORN
Client ID: B-115 7-9`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.39	0.39	mg/Kg	1	10/09/16	LK	SW6010C	
Arsenic	5.34	0.78	mg/Kg	1	10/09/16	LK	SW6010C	
Barium	147	0.39	mg/Kg	1	10/09/16	LK	SW6010C	
Beryllium	0.72	0.31	mg/Kg	1	10/09/16	LK	SW6010C	
Cadmium	0.53	0.39	mg/Kg	1	10/09/16	LK	SW6010C	
Chromium	29.0	0.39	mg/Kg	1	10/09/16	LK	SW6010C	
Copper	41.0	0.39	mg/kg	1	10/09/16	LK	SW6010C	
Mercury	0.04	0.03	mg/Kg	1	10/10/16	RS	SW7471B	
Nickel	26.6	0.39	mg/Kg	1	10/09/16	LK	SW6010C	
Lead	93.3	0.39	mg/Kg	1	10/09/16	LK	SW6010C	B
Antimony	< 3.9	3.9	mg/Kg	1	10/09/16	LK	SW6010C	
Selenium	< 1.6	1.6	mg/Kg	1	10/09/16	LK	SW6010C	
Thallium	< 3.5	3.5	mg/Kg	1	10/09/16	LK	SW6010C	
Vanadium	49.2	0.39	mg/Kg	1	10/09/16	LK	SW6010C	
Zinc	107	0.39	mg/Kg	1	10/09/16	LK	SW6010C	
Percent Solid	82		%		10/08/16	W	SW846-%Solid	
Soil Extraction for Pesticide	Completed				10/07/16	JC/BT	SW3545A	
Soil Extraction for SVOA	Completed				10/07/16	NJ/CK	SW3545A	
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A	
Mercury Digestion	Completed				10/10/16	W/W	SW7471B	
Total Metals Digest	Completed				10/07/16	X/AG	SW3050B	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	61	mg/Kg	1	10/11/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/11/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	64		%	1	10/11/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-115 7-9`

Phoenix I.D.: BV41736

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Pesticides							
4,4' -DDD	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
4,4' -DDE	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
4,4' -DDT	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
a-BHC	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Alachlor	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Aldrin	ND	4.0	ug/Kg	2	10/10/16	CE	SW8081B
b-BHC	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Chlordane	ND	40	ug/Kg	2	10/10/16	CE	SW8081B
d-BHC	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Dieldrin	ND	4.0	ug/Kg	2	10/10/16	CE	SW8081B
Endosulfan I	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Endosulfan II	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Endosulfan sulfate	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Endrin	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Endrin aldehyde	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Endrin ketone	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
g-BHC	ND	1.6	ug/Kg	2	10/10/16	CE	SW8081B
Heptachlor	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Heptachlor epoxide	ND	8.1	ug/Kg	2	10/10/16	CE	SW8081B
Methoxychlor	ND	40	ug/Kg	2	10/10/16	CE	SW8081B
Toxaphene	ND	160	ug/Kg	2	10/10/16	CE	SW8081B
QA/QC Surrogates							
% DCBP	102		%	2	10/10/16	CE	30 - 150 %
% TCMX	79		%	2	10/10/16	CE	30 - 150 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
1,2-Dichlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
1,3-Dichlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
1,4-Dichlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dichlorophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dimethylphenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dinitrophenol	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
2,4-Dinitrotoluene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2,6-Dinitrotoluene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Chloronaphthalene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Chlorophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Methylnaphthalene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
2-Nitroaniline	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
2-Nitrophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
3-Nitroaniline	ND	410	ug/Kg	1	10/08/16	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4,6-Dinitro-2-methylphenol	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
4-Chloroaniline	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitroaniline	ND	650	ug/Kg	1	10/08/16	DD	SW8270D
4-Nitrophenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Acenaphthylene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Acetophenone	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Aniline	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
Anthracene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Benz(a)anthracene	520	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzidine	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(a)pyrene	610	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(b)fluoranthene	500	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(ghi)perylene	330	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzo(k)fluoranthene	480	280	ug/Kg	1	10/08/16	DD	SW8270D
Benzoic acid	ND	810	ug/Kg	1	10/08/16	DD	SW8270D
Benzyl butyl phthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Carbazole	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
Chrysene	670	280	ug/Kg	1	10/08/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Dibenzofuran	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Diethyl phthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Dimethylphthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-butylphthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Di-n-octylphthalate	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Fluoranthene	880	280	ug/Kg	1	10/08/16	DD	SW8270D
Fluorene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorobutadiene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Hexachloroethane	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	330	280	ug/Kg	1	10/08/16	DD	SW8270D
Isophorone	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Naphthalene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Nitrobenzene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodimethylamine	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
Pentachloronitrobenzene	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
Pentachlorophenol	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
Phenanthrene	ND	280	ug/Kg	1	10/08/16	DD	SW8270D
Phenol	ND	280	ug/Kg	1	10/08/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-115 7-9`

Phoenix I.D.: BV41736

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Pyrene	1000	280	ug/Kg	1	10/08/16	DD	SW8270D
Pyridine	ND	410	ug/Kg	1	10/08/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	90		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorobiphenyl	70		%	1	10/08/16	DD	30 - 130 %
% 2-Fluorophenol	51		%	1	10/08/16	DD	30 - 130 %
% Nitrobenzene-d5	65		%	1	10/08/16	DD	30 - 130 %
% Phenol-d5	59		%	1	10/08/16	DD	30 - 130 %
% Terphenyl-d14	66		%	1	10/08/16	DD	30 - 130 %

B = Present in blank, no bias suspected.

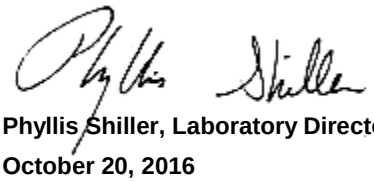
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/05/16	12:01
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41737

Project ID: 85 HAWTHORN
Client ID: B-DUP

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	81		%		10/08/16	W	SW846-%Solid
Soil Extraction for SVOA	Completed				10/10/16	JJ/CKV	SW3545A
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum HC	480	310	mg/Kg	5	10/12/16	JRB	CTETPH 8015D
Identification	**		mg/Kg	5	10/12/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	74		%	5	10/12/16	JRB	50 - 150 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
1,2-Dichlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
1,3-Dichlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
1,4-Dichlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dichlorophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dimethylphenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dinitrophenol	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dinitrotoluene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,6-Dinitrotoluene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2-Chloronaphthalene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2-Chlorophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2-Methylnaphthalene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	290	ug/Kg	1	10/11/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-DUP

Phoenix I.D.: BV41737

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Nitroaniline	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
2-Nitrophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
3-Nitroaniline	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
4-Chloroaniline	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
4-Nitroaniline	ND	650	ug/Kg	1	10/11/16	DD	SW8270D
4-Nitrophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Acenaphthene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Acenaphthylene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Acetophenone	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Aniline	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Anthracene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Benz(a)anthracene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzidine	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(a)pyrene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(b)fluoranthene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(ghi)perylene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(k)fluoranthene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzoic acid	ND	810	ug/Kg	1	10/11/16	DD	SW8270D
Benzyl butyl phthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Carbazole	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Chrysene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Dibenzofuran	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Diethyl phthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Dimethylphthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Di-n-butylphthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Di-n-octylphthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Fluoranthene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Fluorene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Hexachlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Hexachlorobutadiene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Hexachloroethane	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Isophorone	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Naphthalene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Nitrobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
N-Nitrosodimethylamine	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	290	ug/Kg	1	10/11/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-DUP

Phoenix I.D.: BV41737

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
N-Nitrosodiphenylamine	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Pentachloronitrobenzene	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Pentachlorophenol	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Phenanthrene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Phenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Pyrene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Pyridine	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	90		%	1	10/11/16	DD	30 - 130 %
% 2-Fluorobiphenyl	76		%	1	10/11/16	DD	30 - 130 %
% 2-Fluorophenol	56		%	1	10/11/16	DD	30 - 130 %
% Nitrobenzene-d5	81		%	1	10/11/16	DD	30 - 130 %
% Phenol-d5	66		%	1	10/11/16	DD	30 - 130 %
% Terphenyl-d14	72		%	1	10/11/16	DD	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

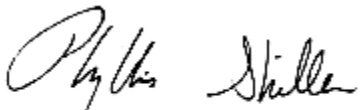
Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C14 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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

October 20, 2016

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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/06/16	13:30
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41738

Project ID: 85 HAWTHORN
Client ID: B-116 1-3`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.33	0.33	mg/Kg	1	10/09/16	LK	SW6010C	
Arsenic	1.96	0.67	mg/Kg	1	10/09/16	LK	SW6010C	
Barium	24.7	0.33	mg/Kg	1	10/09/16	LK	SW6010C	
Beryllium	0.37	0.27	mg/Kg	1	10/09/16	LK	SW6010C	
Cadmium	< 0.33	0.33	mg/Kg	1	10/09/16	LK	SW6010C	
Chromium	12.2	0.33	mg/Kg	1	10/09/16	LK	SW6010C	
Copper	10.1	0.33	mg/kg	1	10/09/16	LK	SW6010C	
Mercury	< 0.03	0.03	mg/Kg	1	10/10/16	RS	SW7471B	
Nickel	10.2	0.33	mg/Kg	1	10/09/16	LK	SW6010C	
Lead	5.15	0.33	mg/Kg	1	10/09/16	LK	SW6010C	B
Antimony	< 3.3	3.3	mg/Kg	1	10/09/16	LK	SW6010C	
Selenium	< 1.3	1.3	mg/Kg	1	10/09/16	LK	SW6010C	
Thallium	< 3.0	3.0	mg/Kg	1	10/09/16	LK	SW6010C	
Vanadium	19.5	0.33	mg/Kg	1	10/09/16	LK	SW6010C	
Zinc	28.0	0.33	mg/Kg	1	10/09/16	LK	SW6010C	
Percent Solid	95		%		10/08/16	W	SW846-%Solid	
Soil Extraction for PCB	Completed				10/07/16	JC/BT	SW3545A	
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A	
Mercury Digestion	Completed				10/10/16	W/W	SW7471B	
Total Metals Digest	Completed				10/07/16	X/AG	SW3050B	
Field Extraction	Completed				10/06/16		SW5035A	
TPH by GC (Extractable Products)								
Ext. Petroleum HC	ND	52	mg/Kg	1	10/11/16	JRB	CTETPH 8015D	
Identification	ND		mg/Kg	1	10/11/16	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	79		%	1	10/11/16	JRB	50 - 150 %	

Project ID: 85 HAWTHORN
Client ID: B-116 1-3`

Phoenix I.D.: BV41738

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	350	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1221	ND	350	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1232	ND	350	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1242	ND	350	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1248	ND	350	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1254	ND	350	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1260	ND	350	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1262	ND	350	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1268	ND	350	ug/Kg	10	10/11/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	114		%	10	10/11/16	AW	30 - 150 %
% TCMX	100		%	10	10/11/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,1,1-Trichloroethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.4	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2-Trichloroethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloropropene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichloropropane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromoethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichlorobenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloroethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloropropane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichlorobenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichloropropane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
1,4-Dichlorobenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
2,2-Dichloropropane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
2-Chlorotoluene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
2-Hexanone	ND	28	ug/Kg	1	10/08/16	HM	SW8260C
2-Isopropyltoluene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
4-Chlorotoluene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
4-Methyl-2-pentanone	ND	28	ug/Kg	1	10/08/16	HM	SW8260C
Acetone	ND	280	ug/Kg	1	10/08/16	HM	SW8260C
Acrylonitrile	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Benzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Bromobenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Bromochloromethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Bromodichloromethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Bromoform	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Bromomethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: B-116 1-3`

Phoenix I.D.: BV41738

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Carbon tetrachloride	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Chlorobenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Chloroethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Chloroform	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Chloromethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Dibromochloromethane	ND	3.4	ug/Kg	1	10/08/16	HM	SW8260C
Dibromomethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Dichlorodifluoromethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Ethylbenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Hexachlorobutadiene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Isopropylbenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
m&p-Xylene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Methyl Ethyl Ketone	ND	34	ug/Kg	1	10/08/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Methylene chloride	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Naphthalene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
n-Butylbenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
n-Propylbenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
o-Xylene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
p-Isopropyltoluene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
sec-Butylbenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Styrene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
tert-Butylbenzene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Tetrachloroethene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Toluene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Total Xylenes	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Trichloroethene	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorofluoromethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorotrifluoroethane	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
Vinyl chloride	ND	5.7	ug/Kg	1	10/08/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	10/08/16	HM	70 - 130 %
% Bromofluorobenzene	102		%	1	10/08/16	HM	70 - 130 %
% Dibromofluoromethane	105		%	1	10/08/16	HM	70 - 130 %
% Toluene-d8	87		%	1	10/08/16	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

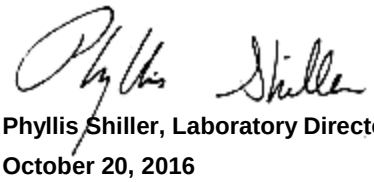
B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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.
This report must not be reproduced except in full as defined by the attached chain of custody.



Phyllis Shiller, Laboratory Director
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/06/16	13:50
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41739

Project ID: 85 HAWTHORN
Client ID: B-117 2-4`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.36	0.36	mg/Kg	1	10/13/16	TH	SW6010C
Arsenic	3.54	0.71	mg/Kg	1	10/13/16	TH	SW6010C
Barium	101	0.36	mg/Kg	1	10/13/16	TH	SW6010C
Beryllium	0.58	0.28	mg/Kg	1	10/13/16	TH	SW6010C
Cadmium	0.51	0.36	mg/Kg	1	10/13/16	TH	SW6010C
Chromium	25.9	0.36	mg/Kg	1	10/13/16	TH	SW6010C
Copper	129	0.36	mg/kg	1	10/13/16	TH	SW6010C
Mercury	< 0.03	0.03	mg/Kg	1	10/10/16	RS	SW7471B
Nickel	17.3	0.36	mg/Kg	1	10/13/16	TH	SW6010C
Lead	28.7	0.36	mg/Kg	1	10/13/16	TH	SW6010C
Antimony	< 3.6	3.6	mg/Kg	1	10/13/16	TH	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	10/13/16	LK	SW6010C
Thallium	< 3.2	3.2	mg/Kg	1	10/13/16	TH	SW6010C
Vanadium	39.3	0.36	mg/Kg	1	10/13/16	TH	SW6010C
Zinc	68.0	0.36	mg/Kg	1	10/13/16	TH	SW6010C
Percent Solid	89		%		10/08/16	W	SW846-%Solid
Soil Extraction for PCB	Completed				10/07/16	JC/BT	SW3545A
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A
Mercury Digestion	Completed				10/10/16	W/W	SW7471B
Total Metals Digest	Completed				10/10/16	X/AG	SW3050B
Field Extraction	Completed				10/06/16		SW5035A
TPH by GC (Extractable Products)							
Ext. Petroleum HC	260	55	mg/Kg	1	10/12/16	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	10/12/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	90		%	1	10/12/16	JRB	50 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	370	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1221	ND	370	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1232	ND	370	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1242	ND	370	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1248	ND	370	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1254	ND	370	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1260	ND	370	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1262	ND	370	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1268	ND	370	ug/Kg	10	10/11/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	109		%	10	10/11/16	AW	30 - 150 %
% TCMX	106		%	10	10/11/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,1,1-Trichloroethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
1,1,2-Trichloroethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloroethene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,1-Dichloropropene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,2,3-Trichloropropane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dibromoethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichlorobenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloroethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,2-Dichloropropane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichlorobenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,3-Dichloropropane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
1,4-Dichlorobenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
2,2-Dichloropropane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
2-Chlorotoluene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
2-Hexanone	ND	28	ug/Kg	1	10/08/16	HM	SW8260C
2-Isopropyltoluene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
4-Chlorotoluene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
4-Methyl-2-pentanone	ND	28	ug/Kg	1	10/08/16	HM	SW8260C
Acetone	ND	280	ug/Kg	1	10/08/16	HM	SW8260C
Acrylonitrile	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Benzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Bromobenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Bromochloromethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Bromodichloromethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Bromoform	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Bromomethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C

Project ID: 85 HAWTHORN
Client ID: B-117 2-4`

Phoenix I.D.: BV41739

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Carbon tetrachloride	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Chlorobenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Chloroethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Chloroform	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Chloromethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Dibromochloromethane	ND	3.3	ug/Kg	1	10/08/16	HM	SW8260C
Dibromomethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Dichlorodifluoromethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Ethylbenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Hexachlorobutadiene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Isopropylbenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
m&p-Xylene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Methyl Ethyl Ketone	ND	33	ug/Kg	1	10/08/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Methylene chloride	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Naphthalene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
n-Butylbenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
n-Propylbenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
o-Xylene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
p-Isopropyltoluene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
sec-Butylbenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Styrene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
tert-Butylbenzene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Tetrachloroethene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Toluene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Total Xylenes	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	10/08/16	HM	SW8260C
Trichloroethene	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorofluoromethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Trichlorotrifluoroethane	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
Vinyl chloride	ND	5.6	ug/Kg	1	10/08/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	10/08/16	HM	70 - 130 %
% Bromofluorobenzene	97		%	1	10/08/16	HM	70 - 130 %
% Dibromofluoromethane	73		%	1	10/08/16	HM	70 - 130 %
% Toluene-d8	86		%	1	10/08/16	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

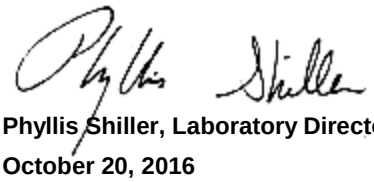
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C14 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/06/16	14:15
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41740

Project ID: 85 HAWTHORN
Client ID: B-118 10-12`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	1.28	0.40	mg/Kg	1	10/12/16	LK	SW6010C
Arsenic	7.33	0.79	mg/Kg	1	10/12/16	EK	SW6010C
Barium	476	0.40	mg/Kg	1	10/12/16	EK	SW6010C
Beryllium	0.36	0.32	mg/Kg	1	10/12/16	EK	SW6010C
Cadmium	1.30	0.40	mg/Kg	1	10/12/16	EK	SW6010C
Chromium	65.0	0.40	mg/Kg	1	10/12/16	EK	SW6010C
Copper	651	4.0	mg/kg	10	10/14/16	EK	SW6010C
Mercury	< 0.03	0.03	mg/Kg	1	10/10/16	RS	SW7471B
Nickel	52.9	0.40	mg/Kg	1	10/12/16	EK	SW6010C
Lead	259	4.0	mg/Kg	10	10/14/16	EK	SW6010C
Antimony	4.6	4.0	mg/Kg	1	10/12/16	LK	SW6010C
Selenium	< 1.6	1.6	mg/Kg	1	10/12/16	LK	SW6010C
Thallium	< 3.6	3.6	mg/Kg	1	10/12/16	EK	SW6010C
Vanadium	38.1	0.40	mg/Kg	1	10/12/16	EK	SW6010C
Zinc	334	4.0	mg/Kg	10	10/14/16	EK	SW6010C
Percent Solid	79		%		10/08/16	W	SW846-%Solid
Total Cyanide (SW9010C Distill.)	< 0.63	0.63	mg/Kg	1	10/10/16	EG	SW9012B
Soil Extraction for PCB	Completed				10/07/16	JC/BT	SW3545A
Soil Extraction for SVOA	Completed				10/10/16	JJ/CKV	SW3545A
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A
Mercury Digestion	Completed				10/10/16	W/W	SW7471B
Total Metals Digest	Completed				10/10/16	X/AG	SW3050B
Field Extraction	Completed				10/06/16		SW5035A
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	320	mg/Kg	5	10/12/16	JRB	CTETPH 8015D
Identification	ND		mg/Kg	5	10/12/16	JRB	CTETPH 8015D
QA/QC Surrogates							

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% n-Pentacosane	90		%	5	10/12/16	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	420	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1221	ND	420	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1232	ND	420	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1242	ND	420	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1248	ND	420	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1254	ND	420	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1260	ND	420	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1262	ND	420	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1268	ND	420	ug/Kg	10	10/11/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	104		%	10	10/11/16	AW	30 - 150 %
% TCMX	96		%	10	10/11/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,1,1-Trichloroethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	310	ug/Kg	50	10/09/16	HM	SW8260C
1,1,2-Trichloroethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,1-Dichloroethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,1-Dichloroethene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,1-Dichloropropene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,2,3-Trichlorobenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,2,3-Trichloropropane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,2,4-Trichlorobenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,2,4-Trimethylbenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,2-Dibromoethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,2-Dichlorobenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,2-Dichloroethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,2-Dichloropropane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,3,5-Trimethylbenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,3-Dichlorobenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,3-Dichloropropane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
1,4-Dichlorobenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
2,2-Dichloropropane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
2-Chlorotoluene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
2-Hexanone	ND	2600	ug/Kg	50	10/09/16	HM	SW8260C
2-Isopropyltoluene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
4-Chlorotoluene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
4-Methyl-2-pentanone	ND	2600	ug/Kg	50	10/09/16	HM	SW8260C
Acetone	ND	26000	ug/Kg	50	10/09/16	HM	SW8260C
Acrylonitrile	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Benzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Bromobenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Bromochloromethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Bromodichloromethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Bromoform	ND	520	ug/Kg	50	10/09/16	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Bromomethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Carbon Disulfide	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Carbon tetrachloride	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Chlorobenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Chloroethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Chloroform	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Chloromethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
cis-1,2-Dichloroethene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
cis-1,3-Dichloropropene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Dibromochloromethane	ND	310	ug/Kg	50	10/09/16	HM	SW8260C
Dibromomethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Dichlorodifluoromethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Ethylbenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Hexachlorobutadiene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Isopropylbenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
m&p-Xylene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Methyl Ethyl Ketone	ND	3100	ug/Kg	50	10/09/16	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1000	ug/Kg	50	10/09/16	HM	SW8260C
Methylene chloride	ND	1000	ug/Kg	50	10/09/16	HM	SW8260C
Naphthalene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
n-Butylbenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
n-Propylbenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
o-Xylene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
p-Isopropyltoluene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
sec-Butylbenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Styrene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
tert-Butylbenzene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Tetrachloroethene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Tetrahydrofuran (THF)	ND	1000	ug/Kg	50	10/09/16	HM	SW8260C
Toluene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Total Xylenes	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
trans-1,2-Dichloroethene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
trans-1,3-Dichloropropene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	1000	ug/Kg	50	10/09/16	HM	SW8260C
Trichloroethene	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Trichlorofluoromethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Trichlorotrifluoroethane	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
Vinyl chloride	ND	520	ug/Kg	50	10/09/16	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	50	10/09/16	HM	70 - 130 %
% Bromofluorobenzene	99		%	50	10/09/16	HM	70 - 130 %
% Dibromofluoromethane	98		%	50	10/09/16	HM	70 - 130 %
% Toluene-d8	97		%	50	10/09/16	HM	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
1,2-Dichlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
1,3-Dichlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-118 10-12`

Phoenix I.D.: BV41740

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,4-Dichlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dichlorophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dimethylphenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dinitrophenol	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dinitrotoluene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2,6-Dinitrotoluene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2-Chloronaphthalene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2-Chlorophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2-Methylnaphthalene	550	290	ug/Kg	1	10/11/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
2-Nitroaniline	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
2-Nitrophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
3-Nitroaniline	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
4-Chloroaniline	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
4-Nitroaniline	ND	660	ug/Kg	1	10/11/16	DD	SW8270D
4-Nitrophenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Acenaphthene	940	290	ug/Kg	1	10/11/16	DD	SW8270D
Acenaphthylene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Acetophenone	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Aniline	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Anthracene	1500	290	ug/Kg	1	10/11/16	DD	SW8270D
Benz(a)anthracene	2900	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzidine	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(a)pyrene	2600	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(b)fluoranthene	2900	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(ghi)perylene	1500	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(k)fluoranthene	2500	290	ug/Kg	1	10/11/16	DD	SW8270D
Benzoic acid	ND	830	ug/Kg	1	10/11/16	DD	SW8270D
Benzyl butyl phthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Carbazole	730	410	ug/Kg	1	10/11/16	DD	SW8270D
Chrysene	3100	290	ug/Kg	1	10/11/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Dibenzofuran	800	290	ug/Kg	1	10/11/16	DD	SW8270D
Diethyl phthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Dimethylphthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Di-n-butylphthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Di-n-octylphthalate	ND	290	ug/Kg	1	10/11/16	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Fluoranthene	7200	290	ug/Kg	1	10/11/16	DD	SW8270D
Fluorene	770	290	ug/Kg	1	10/11/16	DD	SW8270D
Hexachlorobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Hexachlorobutadiene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Hexachloroethane	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	1700	290	ug/Kg	1	10/11/16	DD	SW8270D
Isophorone	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Naphthalene	950	290	ug/Kg	1	10/11/16	DD	SW8270D
Nitrobenzene	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
N-Nitrosodimethylamine	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Pentachloronitrobenzene	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Pentachlorophenol	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
Phenanthrene	6600	290	ug/Kg	1	10/11/16	DD	SW8270D
Phenol	ND	290	ug/Kg	1	10/11/16	DD	SW8270D
Pyrene	5900	290	ug/Kg	1	10/11/16	DD	SW8270D
Pyridine	ND	410	ug/Kg	1	10/11/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	60		%	1	10/11/16	DD	30 - 130 %
% 2-Fluorobiphenyl	57		%	1	10/11/16	DD	30 - 130 %
% 2-Fluorophenol	37		%	1	10/11/16	DD	30 - 130 %
% Nitrobenzene-d5	62		%	1	10/11/16	DD	30 - 130 %
% Phenol-d5	57		%	1	10/11/16	DD	30 - 130 %
% Terphenyl-d14	47		%	1	10/11/16	DD	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

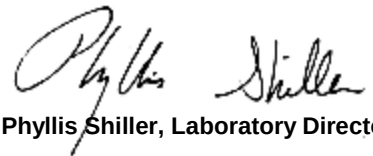
Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Volatile Comment:
Elevated reporting limits for volatiles due to dilution for sample matrix. Low-level samples were analyzed with poor internal standard response.

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
October 20, 2016
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

October 20, 2016

FOR: Attn: Ms. Samantha Avis
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	SA	10/06/16	15:00
Location Code:	TIGHE	Received by:	B	10/07/16	16:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12107714				

Laboratory Data

SDG ID: GBV41729
Phoenix ID: BV41741

Project ID: 85 HAWTHORN
Client ID: B-119 2-4`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	65		%		10/08/16	W	SW846-%Solid
Soil Extraction for PCB	Completed				10/07/16	JC/BT	SW3545A
Soil Extraction for SVOA	Completed				10/10/16	JJ/CKV	SW3545A
Extraction of CT ETPH	Completed				10/10/16	BJ/CKV	SW3545A
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	76	mg/Kg	1	10/11/16	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	10/11/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	78		%	1	10/11/16	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	500	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1221	ND	500	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1232	ND	500	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1242	ND	500	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1248	ND	500	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1254	ND	500	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1260	ND	500	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1262	ND	500	ug/Kg	10	10/11/16	AW	SW8082A
PCB-1268	ND	500	ug/Kg	10	10/11/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	103		%	10	10/11/16	AW	30 - 150 %
% TCMX	99		%	10	10/11/16	AW	30 - 150 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
1,2,4-Trichlorobenzene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-119 2-4`

Phoenix I.D.: BV41741

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichlorobenzene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
1,2-Diphenylhydrazine	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
1,3-Dichlorobenzene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
1,4-Dichlorobenzene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2,4,5-Trichlorophenol	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2,4,6-Trichlorophenol	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dichlorophenol	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dimethylphenol	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dinitrophenol	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
2,4-Dinitrotoluene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2,6-Dinitrotoluene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2-Chloronaphthalene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2-Chlorophenol	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2-Methylnaphthalene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2-Methylphenol (o-cresol)	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
2-Nitroaniline	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
2-Nitrophenol	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
3,3'-Dichlorobenzidine	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
3-Nitroaniline	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
4-Bromophenyl phenyl ether	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
4-Chloro-3-methylphenol	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
4-Chloroaniline	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
4-Nitroaniline	ND	800	ug/Kg	1	10/11/16	DD	SW8270D
4-Nitrophenol	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Acenaphthene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Acenaphthylene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Acetophenone	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Aniline	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
Anthracene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Benz(a)anthracene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Benzidine	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(a)pyrene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(b)fluoranthene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(ghi)perylene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Benzo(k)fluoranthene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Benzoic acid	ND	990	ug/Kg	1	10/11/16	DD	SW8270D
Benzyl butyl phthalate	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-chloroethyl)ether	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Carbazole	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
Chrysene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Dibenz(a,h)anthracene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Dibenzofuran	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Diethyl phthalate	ND	350	ug/Kg	1	10/11/16	DD	SW8270D

Project ID: 85 HAWTHORN
Client ID: B-119 2-4`

Phoenix I.D.: BV41741

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dimethylphthalate	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Di-n-butylphthalate	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Di-n-octylphthalate	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Fluoranthene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Fluorene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Hexachlorobenzene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Hexachlorobutadiene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Hexachlorocyclopentadiene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Hexachloroethane	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Isophorone	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Naphthalene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Nitrobenzene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
N-Nitrosodimethylamine	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
N-Nitrosodiphenylamine	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
Pentachloronitrobenzene	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
Pentachlorophenol	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
Phenanthrene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Phenol	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Pyrene	ND	350	ug/Kg	1	10/11/16	DD	SW8270D
Pyridine	ND	500	ug/Kg	1	10/11/16	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	91		%	1	10/11/16	DD	30 - 130 %
% 2-Fluorobiphenyl	67		%	1	10/11/16	DD	30 - 130 %
% 2-Fluorophenol	50		%	1	10/11/16	DD	30 - 130 %
% Nitrobenzene-d5	64		%	1	10/11/16	DD	30 - 130 %
% Phenol-d5	58		%	1	10/11/16	DD	30 - 130 %
% Terphenyl-d14	71		%	1	10/11/16	DD	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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
October 20, 2016
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

QA/QC Report

October 20, 2016

QA/QC Data

SDG I.D.: GBV41729

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 362164 (mg/kg), QC Sample No: BV41700 (BV41729, BV41730, BV41731, BV41732, BV41734, BV41736, BV41738, BV41739, BV41740)														
Mercury - Soil	BRL	0.03	<0.03	<0.03	NC	100	104	3.9	96.6			70 - 130	30	
Comment:														
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.														
QA/QC Batch 362230 (mg/kg), QC Sample No: BV42125 (BV41739, BV41740)														
ICP Metals - Soil														
Antimony	BRL	3.3	<3.4	<3.3	NC	99.8			95.8			75 - 125	30	
Arsenic	BRL	0.66	0.96	1.28	NC	94.1			90.2			75 - 125	30	
Barium	BRL	0.33	3.39	4.05	17.7	98.0			100			75 - 125	30	
Beryllium	BRL	0.26	<0.27	<0.26	NC	99.3			98.8			75 - 125	30	
Cadmium	BRL	0.33	<0.34	<0.33	NC	92.9			94.0			75 - 125	30	
Chromium	BRL	0.33	1.44	2.21	NC	101			100			75 - 125	30	
Copper	BRL	0.33	1.32	1.74	NC	91.8			105			75 - 125	30	
Lead	BRL	0.33	1.29	0.72	NC	96.7			96.1			75 - 125	30	
Nickel	BRL	0.33	1.39	1.68	NC	101			98.5			75 - 125	30	
Selenium	BRL	1.3	<1.4	<1.3	NC	79.0			76.9			75 - 125	30	
Silver	BRL	0.33	<0.34	<0.33	NC	97.3			95.7			75 - 125	30	
Thallium	BRL	3.0	<3.0	<2.9	NC	101			95.4			75 - 125	30	
Vanadium	BRL	0.33	2.25	3.01	28.9	106			98.2			75 - 125	30	
Zinc	BRL	0.33	5.39	6.62	20.5	97.0			95.4			75 - 125	30	
QA/QC Batch 362038 (mg/kg), QC Sample No: BV42417 (BV41729, BV41730, BV41731, BV41732, BV41733, BV41734, BV41736, BV41738)														
ICP Metals - Soil														
Antimony	BRL	3.3	<1.9	<3.8	NC	113			109			75 - 125	30	
Arsenic	BRL	0.67	4.25	3.99	6.30	102			104			75 - 125	30	
Barium	BRL	0.33	50.5	54.2	7.10	92.9			114			75 - 125	30	
Beryllium	BRL	0.27	0.37	0.38	NC	98.2			99.2			75 - 125	30	
Cadmium	BRL	0.33	<0.38	0.55	NC	105			107			75 - 125	30	
Chromium	BRL	0.33	9.70	10.6	8.90	100			103			75 - 125	30	
Copper	BRL	0.33	11.5	11.9	3.40	93.2			117			75 - 125	30	
Lead	0.33	0.33	11.1	20.0	57.2	99.7			105			75 - 125	30	r
Nickel	BRL	0.33	10.0	9.18	8.60	103			104			75 - 125	30	
Selenium	BRL	1.3	<1.5	<1.5	NC	86.9			89.3			75 - 125	30	
Silver	BRL	0.33	<0.38	<0.38	NC	95.3			104			75 - 125	30	
Thallium	BRL	3.0	<1.5	<3.4	NC	111			112			75 - 125	30	
Vanadium	BRL	0.33	13.1	13.3	1.50	103			106			75 - 125	30	
Zinc	BRL	0.33	47.5	47.1	0.80	104			108			75 - 125	30	

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

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

QA/QC Report

October 20, 2016

QA/QC Data

SDG I.D.: GBV41729

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 362136 (mg/Kg), QC Sample No: BV42409 50X (BV41729, BV41731, BV41740)													
Total Cyanide (SW9010C Distill.)	BRL	0.50	<0.57	<0.57	NC	88.3			95.0			80 - 120	30

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

QA/QC Report

October 20, 2016

QA/QC Data

SDG I.D.: GBV41729

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 362158 (ug/kg), QC Sample No: BV40748 (BV41732)											
Volatiles - Soil											
1,1,1,2-Tetrachloroethane	ND	5.0	118	121	2.5	116	112	3.5	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	119	117	1.7	114	111	2.7	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	116	115	0.9	107	107	0.0	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	113	116	2.6	111	110	0.9	70 - 130	30	
1,1-Dichloroethane	ND	5.0	114	116	1.7	114	111	2.7	70 - 130	30	
1,1-Dichloroethene	ND	5.0	106	105	0.9	102	101	1.0	70 - 130	30	
1,1-Dichloropropene	ND	5.0	110	112	1.8	116	112	3.5	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	116	111	4.4	108	110	1.8	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	111	108	2.7	110	102	7.5	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	113	106	6.4	107	107	0.0	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	118	114	3.4	121	119	1.7	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	115	101	13.0	90	93	3.3	70 - 130	30	
1,2-Dibromoethane	ND	5.0	119	115	3.4	113	110	2.7	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	113	111	1.8	115	112	2.6	70 - 130	30	
1,2-Dichloroethane	ND	5.0	108	109	0.9	109	104	4.7	70 - 130	30	
1,2-Dichloropropane	ND	5.0	113	117	3.5	114	112	1.8	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	120	118	1.7	123	120	2.5	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	113	110	2.7	113	112	0.9	70 - 130	30	
1,3-Dichloropropane	ND	5.0	114	113	0.9	113	107	5.5	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	112	108	3.6	112	110	1.8	70 - 130	30	
2,2-Dichloropropane	ND	5.0	119	115	3.4	108	106	1.9	70 - 130	30	
2-Chlorotoluene	ND	5.0	119	114	4.3	117	116	0.9	70 - 130	30	
2-Hexanone	ND	25	78	75	3.9	68	63	7.6	70 - 130	30	m
2-Isopropyltoluene	ND	5.0	109	107	1.9	111	109	1.8	70 - 130	30	
4-Chlorotoluene	ND	5.0	111	110	0.9	114	111	2.7	70 - 130	30	
4-Methyl-2-pentanone	ND	25	87	86	1.2	78	75	3.9	70 - 130	30	
Acetone	ND	10	78	68	13.7	64	61	4.8	70 - 130	30	l,m
Acrylonitrile	ND	5.0	98	98	0.0	90	85	5.7	70 - 130	30	
Benzene	ND	1.0	115	119	3.4	120	118	1.7	70 - 130	30	
Bromobenzene	ND	5.0	118	114	3.4	113	111	1.8	70 - 130	30	
Bromochloromethane	ND	5.0	117	121	3.4	121	115	5.1	70 - 130	30	
Bromodichloromethane	ND	5.0	119	122	2.5	110	110	0.0	70 - 130	30	
Bromoform	ND	5.0	110	111	0.9	95	91	4.3	70 - 130	30	
Bromomethane	ND	5.0	86	86	0.0	54	55	1.8	70 - 130	30	m
Carbon Disulfide	ND	5.0	102	102	0.0	99	96	3.1	70 - 130	30	
Carbon tetrachloride	ND	5.0	128	131	2.3	111	113	1.8	70 - 130	30	l
Chlorobenzene	ND	5.0	114	114	0.0	118	114	3.4	70 - 130	30	
Chloroethane	ND	5.0	87	87	0.0	21	21	0.0	70 - 130	30	m
Chloroform	ND	5.0	118	116	1.7	112	112	0.0	70 - 130	30	
Chloromethane	ND	5.0	85	84	1.2	79	76	3.9	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	125	123	1.6	122	119	2.5	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
cis-1,3-Dichloropropene	ND	5.0	114	116	1.7	110	109	0.9	70 - 130	30	
Dibromochloromethane	ND	3.0	127	127	0.0	114	110	3.6	70 - 130	30	
Dibromomethane	ND	5.0	114	115	0.9	108	109	0.9	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	88	87	1.1	78	77	1.3	70 - 130	30	
Ethylbenzene	ND	1.0	117	115	1.7	120	116	3.4	70 - 130	30	
Hexachlorobutadiene	ND	5.0	118	114	3.4	116	114	1.7	70 - 130	30	
Isopropylbenzene	ND	1.0	121	120	0.8	119	117	1.7	70 - 130	30	
m&p-Xylene	ND	2.0	117	116	0.9	124	118	5.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	80	79	1.3	70	68	2.9	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	1.0	106	104	1.9	105	105	0.0	70 - 130	30	
Methylene chloride	ND	5.0	104	101	2.9	100	98	2.0	70 - 130	30	
Naphthalene	ND	5.0	120	117	2.5	108	109	0.9	70 - 130	30	
n-Butylbenzene	ND	1.0	120	115	4.3	122	118	3.3	70 - 130	30	
n-Propylbenzene	ND	1.0	116	113	2.6	116	113	2.6	70 - 130	30	
o-Xylene	ND	2.0	119	119	0.0	122	118	3.3	70 - 130	30	
p-Isopropyltoluene	ND	1.0	119	115	3.4	121	118	2.5	70 - 130	30	
sec-Butylbenzene	ND	1.0	128	124	3.2	128	126	1.6	70 - 130	30	
Styrene	ND	5.0	116	116	0.0	121	116	4.2	70 - 130	30	
tert-Butylbenzene	ND	1.0	121	120	0.8	122	120	1.7	70 - 130	30	
Tetrachloroethene	ND	5.0	110	112	1.8	112	111	0.9	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	91	86	5.6	79	76	3.9	70 - 130	30	
Toluene	ND	1.0	116	120	3.4	124	117	5.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	125	124	0.8	123	120	2.5	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	112	112	0.0	104	104	0.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	98	94	4.2	80	82	2.5	70 - 130	30	
Trichloroethene	ND	5.0	115	119	3.4	121	120	0.8	70 - 130	30	
Trichlorofluoromethane	ND	5.0	90	90	0.0	51	46	10.3	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0	102	100	2.0	99	97	2.0	70 - 130	30	
Vinyl chloride	ND	5.0	86	87	1.2	75	73	2.7	70 - 130	30	
% 1,2-dichlorobenzene-d4	100	%	102	100	2.0	102	100	2.0	70 - 130	30	
% Bromofluorobenzene	100	%	104	104	0.0	101	101	0.0	70 - 130	30	
% Dibromofluoromethane	96	%	98	97	1.0	94	96	2.1	70 - 130	30	
% Toluene-d8	99	%	101	104	2.9	102	102	0.0	70 - 130	30	

Comment:

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

QA/QC Batch 362016 (ug/Kg), QC Sample No: BV40786 2X (BV41729, BV41731, BV41732, BV41734, BV41738, BV41739, BV41740, BV41741)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	33	80	78	2.5	88			40 - 140	30	
PCB-1221	ND	33							40 - 140	30	
PCB-1232	ND	33							40 - 140	30	
PCB-1242	ND	33							40 - 140	30	
PCB-1248	ND	33							40 - 140	30	
PCB-1254	ND	33							40 - 140	30	
PCB-1260	ND	33	77	77	0.0	86			40 - 140	30	
PCB-1262	ND	33							40 - 140	30	
PCB-1268	ND	33							40 - 140	30	
% DCBP (Surrogate Rec)	84	%	94	99	5.2	104			30 - 150	30	
% TCMX (Surrogate Rec)	85	%	83	82	1.2	99			30 - 150	30	

Comment:

MSD could not be reported for this batch.

QA/QC Data

SDG I.D.: GBV41729

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 362238 (mg/Kg), QC Sample No: BV41738 (BV41731, BV41732, BV41733, BV41734, BV41735, BV41736, BV41737, BV41738, BV41739, BV41740, BV41741)											
TPH by GC (Extractable Products) - Soil											
Ext. Petroleum H.C.	ND	50	64			100	67	39.5	60 - 120	30	r
% n-Pentacosane	69	%	78			104	85	20.1	50 - 150	30	
Comment:											
Additional criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%.											
QA/QC Batch 362056 (mg/Kg), QC Sample No: BV41757 (BV41729, BV41730)											
TPH by GC (Extractable Products) - Soil											
Ext. Petroleum H.C.	ND	50	66	69	4.4	76	65	15.6	60 - 120	30	
% n-Pentacosane	72	%	72	74	2.7	80	69	14.8	50 - 150	30	
Comment:											
Additional criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%.											
QA/QC Batch 362025 (ug/kg), QC Sample No: BV42057 (BV41731, BV41732, BV41733, BV41735, BV41736)											
Semivolatiles - Soil											
1,2,4,5-Tetrachlorobenzene	ND	230	65	67	3.0	68	64	6.1	30 - 130	30	
1,2,4-Trichlorobenzene	ND	230	56	55	1.8	64	56	13.3	30 - 130	30	
1,2-Dichlorobenzene	ND	180	47	49	4.2	54	47	13.9	30 - 130	30	
1,2-Diphenylhydrazine	ND	230	67	68	1.5	71	68	4.3	30 - 130	30	
1,3-Dichlorobenzene	ND	230	46	47	2.2	50	45	10.5	30 - 130	30	
1,4-Dichlorobenzene	ND	230	47	50	6.2	52	46	12.2	30 - 130	30	
2,4,5-Trichlorophenol	ND	230	69	68	1.5	70	64	9.0	30 - 130	30	
2,4,6-Trichlorophenol	ND	130	67	66	1.5	64	66	3.1	30 - 130	30	
2,4-Dichlorophenol	ND	130	64	63	1.6	64	61	4.8	30 - 130	30	
2,4-Dimethylphenol	ND	230	63	64	1.6	67	63	6.2	30 - 130	30	
2,4-Dinitrophenol	ND	230	13	<10	NC	<10	<10	NC	30 - 130	30	l,m
2,4-Dinitrotoluene	ND	130	63	66	4.7	70	63	10.5	30 - 130	30	
2,6-Dinitrotoluene	ND	130	61	66	7.9	64	61	4.8	30 - 130	30	
2-Chloronaphthalene	ND	230	58	62	6.7	61	60	1.7	30 - 130	30	
2-Chlorophenol	ND	230	52	53	1.9	53	50	5.8	30 - 130	30	
2-Methylnaphthalene	ND	230	59	60	1.7	62	58	6.7	30 - 130	30	
2-Methylphenol (o-cresol)	ND	230	54	55	1.8	57	54	5.4	30 - 130	30	
2-Nitroaniline	ND	330	69	70	1.4	76	84	10.0	30 - 130	30	
2-Nitrophenol	ND	230	70	76	8.2	72	71	1.4	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230	58	58	0.0	59	57	3.4	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	62	60	3.3	57	61	6.8	30 - 130	30	
3-Nitroaniline	ND	330	53	52	1.9	57	57	0.0	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	230	31	21	38.5	26	19	31.1	30 - 130	30	l,m,r
4-Bromophenyl phenyl ether	ND	230	65	69	6.0	65	71	8.8	30 - 130	30	
4-Chloro-3-methylphenol	ND	230	62	63	1.6	67	62	7.8	30 - 130	30	
4-Chloroaniline	ND	230	66	67	1.5	67	67	0.0	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	65	65	0.0	68	66	3.0	30 - 130	30	
4-Nitroaniline	ND	230	69	72	4.3	70	65	7.4	30 - 130	30	
4-Nitrophenol	ND	230	70	70	0.0	70	65	7.4	30 - 130	30	
Acenaphthene	ND	230	59	62	5.0	65	60	8.0	30 - 130	30	
Acenaphthylene	ND	130	58	60	3.4	58	57	1.7	30 - 130	30	
Acetophenone	ND	230	53	54	1.9	55	51	7.5	30 - 130	30	
Aniline	ND	330	49	50	2.0	51	46	10.3	30 - 130	30	
Anthracene	ND	230	64	65	1.6	63	66	4.7	30 - 130	30	
Benz(a)anthracene	ND	230	65	65	0.0	63	64	1.6	30 - 130	30	
Benzidine	ND	330	20	17	16.2	14	22	44.4	30 - 130	30	l,m,r

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzo(a)pyrene	ND	130	64	63	1.6	63	62	1.6	30 - 130	30	
Benzo(b)fluoranthene	ND	160	66	67	1.5	67	67	0.0	30 - 130	30	
Benzo(ghi)perylene	ND	230	65	66	1.5	67	67	0.0	30 - 130	30	
Benzo(k)fluoranthene	ND	230	65	67	3.0	66	66	0.0	30 - 130	30	
Benzoic Acid	ND	330	<10	<10	NC	<10	<10	NC	30 - 130	30	l,m
Benzyl butyl phthalate	ND	230	61	61	0.0	60	59	1.7	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	57	56	1.8	58	54	7.1	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	42	44	4.7	46	42	9.1	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	39	39	0.0	40	38	5.1	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	64	61	4.8	62	60	3.3	30 - 130	30	
Carbazole	ND	230	63	62	1.6	61	63	3.2	30 - 130	30	
Chrysene	ND	230	69	70	1.4	68	68	0.0	30 - 130	30	
Dibenz(a,h)anthracene	ND	130	66	62	6.3	68	69	1.5	30 - 130	30	
Dibenzofuran	ND	230	61	62	1.6	63	62	1.6	30 - 130	30	
Diethyl phthalate	ND	230	64	66	3.1	66	65	1.5	30 - 130	30	
Dimethylphthalate	ND	230	61	64	4.8	64	62	3.2	30 - 130	30	
Di-n-butylphthalate	ND	230	64	64	0.0	63	64	1.6	30 - 130	30	
Di-n-octylphthalate	ND	230	60	60	0.0	58	57	1.7	30 - 130	30	
Fluoranthene	ND	230	67	65	3.0	65	65	0.0	30 - 130	30	
Fluorene	ND	230	61	64	4.8	65	63	3.1	30 - 130	30	
Hexachlorobenzene	ND	130	68	65	4.5	65	68	4.5	30 - 130	30	
Hexachlorobutadiene	ND	230	62	64	3.2	67	60	11.0	30 - 130	30	
Hexachlorocyclopentadiene	ND	230	68	66	3.0	66	60	9.5	30 - 130	30	
Hexachloroethane	ND	130	49	51	4.0	54	49	9.7	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230	65	64	1.6	63	65	3.1	30 - 130	30	
Isophorone	ND	130	52	54	3.8	54	51	5.7	30 - 130	30	
Naphthalene	ND	230	53	54	1.9	57	54	5.4	30 - 130	30	
Nitrobenzene	ND	130	57	58	1.7	59	55	7.0	30 - 130	30	
N-Nitrosodimethylamine	ND	230	37	41	10.3	45	37	19.5	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	130	56	60	6.9	61	57	6.8	30 - 130	30	
N-Nitrosodiphenylamine	ND	130	67	68	1.5	68	65	4.5	30 - 130	30	
Pentachloronitrobenzene	ND	230	80	77	3.8	78	73	6.6	30 - 130	30	
Pentachlorophenol	ND	230	48	50	4.1	49	43	13.0	30 - 130	30	
Phenanthrene	ND	130	64	64	0.0	64	66	3.1	30 - 130	30	
Phenol	ND	230	52	54	3.8	52	49	5.9	30 - 130	30	
Pyrene	ND	230	68	68	0.0	70	67	4.4	30 - 130	30	
Pyridine	ND	230	30	31	3.3	34	27	23.0	30 - 130	30	m
% 2,4,6-Tribromophenol	65	%	72	73	1.4	74	70	5.6	30 - 130	30	
% 2-Fluorobiphenyl	56	%	59	60	1.7	62	58	6.7	30 - 130	30	
% 2-Fluorophenol	41	%	48	47	2.1	46	43	6.7	30 - 130	30	
% Nitrobenzene-d5	53	%	53	57	7.3	58	55	5.3	30 - 130	30	
% Phenol-d5	47	%	54	53	1.9	54	50	7.7	30 - 130	30	
% Terphenyl-d14	64	%	66	66	0.0	65	66	1.5	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 362202 (ug/kg), QC Sample No: BV42117 (BV41729, BV41730, BV41731, BV41734 (50X) , BV41738, BV41739)

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	5.0	110	105	4.7	95	103	8.1	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	105	100	4.9	94	103	9.1	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	107	102	4.8	89	89	0.0	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	104	100	3.9	89	89	0.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBV41729

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,1-Dichloroethane	ND	5.0	108	103	4.7	96	104	8.0	70 - 130	30	
1,1-Dichloroethene	ND	5.0	114	112	1.8	87	100	13.9	70 - 130	30	
1,1-Dichloropropene	ND	5.0	107	101	5.8	77	87	12.2	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	102	102	0.0	63	61	3.2	70 - 130	30	m
1,2,3-Trichloropropane	ND	5.0	96	93	3.2	88	88	0.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	99	96	3.1	70	67	4.4	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	1.0	101	99	2.0	84	86	2.4	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	110	104	5.6	82	86	4.8	70 - 130	30	
1,2-Dibromoethane	ND	5.0	100	96	4.1	88	90	2.2	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	106	103	2.9	90	94	4.3	70 - 130	30	
1,2-Dichloroethane	ND	5.0	104	100	3.9	86	90	4.5	70 - 130	30	
1,2-Dichloropropane	ND	5.0	110	105	4.7	95	92	3.2	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	103	100	3.0	88	88	0.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	101	98	3.0	86	91	5.6	70 - 130	30	
1,3-Dichloropropane	ND	5.0	99	95	4.1	86	92	6.7	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	107	103	3.8	91	95	4.3	70 - 130	30	
2,2-Dichloropropane	ND	5.0	110	102	7.5	92	100	8.3	70 - 130	30	
2-Chlorotoluene	ND	5.0	109	104	4.7	94	98	4.2	70 - 130	30	
2-Hexanone	ND	25	85	81	4.8	53	50	5.8	70 - 130	30	m
2-Isopropyltoluene	ND	5.0	104	101	2.9	82	79	3.7	70 - 130	30	
4-Chlorotoluene	ND	5.0	102	99	3.0	86	91	5.6	70 - 130	30	
4-Methyl-2-pentanone	ND	25	96	92	4.3	68	65	4.5	70 - 130	30	m
Acetone	ND	10	77	72	6.7	47	47	0.0	70 - 130	30	m
Acrylonitrile	ND	5.0	96	94	2.1	51	54	5.7	70 - 130	30	m
Benzene	ND	1.0	107	102	4.8	91	98	7.4	70 - 130	30	
Bromobenzene	ND	5.0	111	106	4.6	99	106	6.8	70 - 130	30	
Bromochloromethane	ND	5.0	103	97	6.0	90	95	5.4	70 - 130	30	
Bromodichloromethane	ND	5.0	111	108	2.7	94	104	10.1	70 - 130	30	
Bromoform	ND	5.0	110	109	0.9	85	98	14.2	70 - 130	30	
Bromomethane	ND	5.0	115	114	0.9	103	130	23.2	70 - 130	30	
Carbon Disulfide	ND	5.0	118	112	5.2	73	86	16.4	70 - 130	30	
Carbon tetrachloride	ND	5.0	112	107	4.6	93	105	12.1	70 - 130	30	
Chlorobenzene	ND	5.0	106	101	4.8	94	102	8.2	70 - 130	30	
Chloroethane	ND	5.0	111	106	4.6	89	102	13.6	70 - 130	30	
Chloroform	ND	5.0	102	97	5.0	92	99	7.3	70 - 130	30	
Chloromethane	ND	5.0	111	107	3.7	94	101	7.2	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	109	103	5.7	95	104	9.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	108	102	5.7	83	90	8.1	70 - 130	30	
Dibromochloromethane	ND	3.0	120	114	5.1	99	110	10.5	70 - 130	30	
Dibromomethane	ND	5.0	108	102	5.7	89	92	3.3	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	114	111	2.7	88	98	10.8	70 - 130	30	
Ethylbenzene	ND	1.0	105	101	3.9	90	96	6.5	70 - 130	30	
Hexachlorobutadiene	ND	5.0	105	105	0.0	44	40	9.5	70 - 130	30	m
Isopropylbenzene	ND	1.0	108	103	4.7	92	95	3.2	70 - 130	30	
m&p-Xylene	ND	2.0	101	98	3.0	86	91	5.6	70 - 130	30	
Methyl ethyl ketone	ND	5.0	90	83	8.1	61	58	5.0	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	1.0	100	97	3.0	86	90	4.5	70 - 130	30	
Methylene chloride	ND	5.0	102	96	6.1	88	97	9.7	70 - 130	30	
Naphthalene	ND	5.0	102	99	3.0	73	70	4.2	70 - 130	30	
n-Butylbenzene	ND	1.0	108	107	0.9	70	67	4.4	70 - 130	30	m
n-Propylbenzene	ND	1.0	107	104	2.8	86	89	3.4	70 - 130	30	
o-Xylene	ND	2.0	103	99	4.0	91	95	4.3	70 - 130	30	
p-Isopropyltoluene	ND	1.0	105	102	2.9	77	76	1.3	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
sec-Butylbenzene	ND	1.0	110	108	1.8	83	80	3.7	70 - 130	30	
Styrene	ND	5.0	99	95	4.1	83	88	5.8	70 - 130	30	
tert-Butylbenzene	ND	1.0	106	103	2.9	86	84	2.4	70 - 130	30	
Tetrachloroethene	ND	5.0	113	108	4.5	90	95	5.4	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	97	91	6.4	76	74	2.7	70 - 130	30	
Toluene	ND	1.0	114	106	7.3	92	101	9.3	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	112	108	3.6	102	113	10.2	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	104	98	5.9	82	88	7.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	101	97	4.0	73	76	4.0	70 - 130	30	
Trichloroethene	ND	5.0	110	105	4.7	99	110	10.5	70 - 130	30	
Trichlorofluoromethane	ND	5.0	105	102	2.9	89	98	9.6	70 - 130	30	
Trichlorotrifluoroethane	ND	5.0	113	108	4.5	91	100	9.4	70 - 130	30	
Vinyl chloride	ND	5.0	116	112	3.5	83	94	12.4	70 - 130	30	
% 1,2-dichlorobenzene-d4	94	%	100	101	1.0	101	98	3.0	70 - 130	30	
% Bromofluorobenzene	103	%	97	99	2.0	96	95	1.0	70 - 130	30	
% Dibromofluoromethane	104	%	99	92	7.3	92	89	3.3	70 - 130	30	
% Toluene-d8	87	%	103	103	0.0	99	100	1.0	70 - 130	30	

Comment:

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

QA/QC Batch 362318 (ug/kg), QC Sample No: BV42195 (BV41740 (50X))

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	5.0	101	114	12.1	110	105	4.7	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	88	100	12.8	100	93	7.3	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	93	106	13.1	98	94	4.2	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	93	106	13.1	103	98	5.0	70 - 130	30	
1,1-Dichloroethane	ND	5.0	84	99	16.4	84	86	2.4	70 - 130	30	
1,1-Dichloroethene	ND	5.0	88	101	13.8	92	85	7.9	70 - 130	30	
1,1-Dichloropropene	ND	5.0	89	101	12.6	103	98	5.0	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	111	128	14.2	128	123	4.0	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	89	101	12.6	93	89	4.4	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	104	121	15.1	119	115	3.4	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	92	105	13.2	105	100	4.9	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	104	119	13.5	104	101	2.9	70 - 130	30	
1,2-Dibromoethane	ND	5.0	98	111	12.4	106	100	5.8	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	92	106	14.1	104	98	5.9	70 - 130	30	
1,2-Dichloroethane	ND	5.0	92	104	12.2	104	97	7.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0	91	102	11.4	100	95	5.1	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	92	106	14.1	106	100	5.8	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	92	106	14.1	105	100	4.9	70 - 130	30	
1,3-Dichloropropane	ND	5.0	94	106	12.0	102	97	5.0	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	91	105	14.3	103	99	4.0	70 - 130	30	
2,2-Dichloropropane	ND	5.0	87	98	11.9	100	93	7.3	70 - 130	30	
2-Chlorotoluene	ND	5.0	92	106	14.1	104	98	5.9	70 - 130	30	
2-Hexanone	ND	25	85	97	13.2	91	86	5.6	70 - 130	30	
2-Isopropyltoluene	ND	5.0	90	103	13.5	104	99	4.9	70 - 130	30	
4-Chlorotoluene	ND	5.0	89	103	14.6	100	95	5.1	70 - 130	30	
4-Methyl-2-pentanone	ND	25	89	102	13.6	96	92	4.3	70 - 130	30	
Acetone	ND	10	74	85	13.8	65	59	9.7	70 - 130	30	m
Acrylonitrile	ND	5.0	85	101	17.2	89	92	3.3	70 - 130	30	
Benzene	ND	1.0	91	103	12.4	100	95	5.1	70 - 130	30	
Bromobenzene	ND	5.0	93	107	14.0	102	98	4.0	70 - 130	30	
Bromochloromethane	ND	5.0	89	103	14.6	99	93	6.3	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Bromodichloromethane	ND	5.0	96	109	12.7	103	97	6.0	70 - 130	30	
Bromoform	ND	5.0	107	123	13.9	107	103	3.8	70 - 130	30	
Bromomethane	ND	5.0	80	95	17.1	73	77	5.3	70 - 130	30	
Carbon Disulfide	ND	5.0	95	108	12.8	98	92	6.3	70 - 130	30	
Carbon tetrachloride	ND	5.0	90	103	13.5	99	94	5.2	70 - 130	30	
Chlorobenzene	ND	5.0	93	105	12.1	105	100	4.9	70 - 130	30	
Chloroethane	ND	5.0	83	95	13.5	53	48	9.9	70 - 130	30	m
Chloroform	ND	5.0	88	100	12.8	100	93	7.3	70 - 130	30	
Chloromethane	ND	5.0	74	84	12.7	90	80	11.8	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	91	104	13.3	100	94	6.2	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	91	103	12.4	100	96	4.1	70 - 130	30	
Dibromochloromethane	ND	3.0	106	121	13.2	107	105	1.9	70 - 130	30	
Dibromomethane	ND	5.0	92	104	12.2	102	97	5.0	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	77	87	12.2	91	85	6.8	70 - 130	30	
Ethylbenzene	ND	1.0	94	107	12.9	108	103	4.7	70 - 130	30	
Hexachlorobutadiene	ND	5.0	100	117	15.7	121	116	4.2	70 - 130	30	
Isopropylbenzene	ND	1.0	91	104	13.3	101	97	4.0	70 - 130	30	
m&p-Xylene	ND	2.0	93	106	13.1	108	102	5.7	70 - 130	30	
Methyl ethyl ketone	ND	5.0	81	95	15.9	88	82	7.1	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	92	105	13.2	104	98	5.9	70 - 130	30	
Methylene chloride	ND	5.0	90	102	12.5	101	94	7.2	70 - 130	30	
Naphthalene	ND	5.0	113	130	14.0	124	121	2.4	70 - 130	30	
n-Butylbenzene	ND	1.0	93	108	14.9	109	104	4.7	70 - 130	30	
n-Propylbenzene	ND	1.0	88	101	13.8	100	96	4.1	70 - 130	30	
o-Xylene	ND	2.0	94	107	12.9	107	102	4.8	70 - 130	30	
p-Isopropyltoluene	ND	1.0	92	105	13.2	108	102	5.7	70 - 130	30	
sec-Butylbenzene	ND	1.0	95	109	13.7	111	105	5.6	70 - 130	30	
Styrene	ND	5.0	95	107	11.9	108	105	2.8	70 - 130	30	
tert-Butylbenzene	ND	1.0	92	106	14.1	105	100	4.9	70 - 130	30	
Tetrachloroethene	ND	5.0	94	108	13.9	78	75	3.9	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	84	96	13.3	92	87	5.6	70 - 130	30	
Toluene	ND	1.0	91	105	14.3	104	100	3.9	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	95	108	12.8	106	100	5.8	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	93	105	12.1	102	96	6.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	93	106	13.1	93	89	4.4	70 - 130	30	
Trichloroethene	ND	5.0	94	107	12.9	108	103	4.7	70 - 130	30	
Trichlorofluoromethane	ND	5.0	79	89	11.9	29	27	7.1	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0	90	103	13.5	95	87	8.8	70 - 130	30	
Vinyl chloride	ND	5.0	79	90	13.0	97	88	9.7	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%	100	100	0.0	100	100	0.0	70 - 130	30	
% Bromofluorobenzene	97	%	102	101	1.0	104	104	0.0	70 - 130	30	
% Dibromofluoromethane	100	%	100	100	0.0	99	99	0.0	70 - 130	30	
% Toluene-d8	97	%	98	98	0.0	98	99	1.0	70 - 130	30	

Comment:

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

QA/QC Batch 362027 (ug/Kg), QC Sample No: BV42417 2X (BV41730, BV41736)

Pesticides - Soil

4,4' -DDD	ND	1.7	102	96	6.1	108	103	4.7	40 - 140	30	
4,4' -DDE	ND	1.7	98	92	6.3	109	106	2.8	40 - 140	30	
4,4' -DDT	ND	1.7	104	98	5.9	112	104	7.4	40 - 140	30	
a-BHC	ND	1.0	87	83	4.7	97	94	3.1	40 - 140	30	
a-Chlordane	ND	3.3	92	87	5.6	102	99	3.0	40 - 140	30	

QA/QC Data

SDG I.D.: GBV41729

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30	
Aldrin	ND	1.0	89	85	4.6	99	98	1.0	40 - 140	30	
b-BHC	ND	1.0	91	94	3.2	101	96	5.1	40 - 140	30	
Chlordane	ND	33	97	93	4.2	109	102	6.6	40 - 140	30	
d-BHC	ND	3.3	98	93	5.2	107	105	1.9	40 - 140	30	
Dieldrin	ND	1.0	96	92	4.3	107	102	4.8	40 - 140	30	
Endosulfan I	ND	3.3	96	91	5.3	108	105	2.8	40 - 140	30	
Endosulfan II	ND	3.3	105	101	3.9	112	106	5.5	40 - 140	30	
Endosulfan sulfate	ND	3.3	106	101	4.8	110	105	4.7	40 - 140	30	
Endrin	ND	3.3	95	90	5.4	107	103	3.8	40 - 140	30	
Endrin aldehyde	ND	3.3	78	83	6.2	92	82	11.5	40 - 140	30	
Endrin ketone	ND	3.3	107	105	1.9	112	107	4.6	40 - 140	30	
g-BHC	ND	1.0	90	85	5.7	99	95	4.1	40 - 140	30	
g-Chlordane	ND	3.3	97	93	4.2	109	102	6.6	40 - 140	30	
Heptachlor	ND	3.3	91	86	5.6	105	129	20.5	40 - 140	30	
Heptachlor epoxide	ND	3.3	94	89	5.5	105	101	3.9	40 - 140	30	
Methoxychlor	ND	3.3	107	102	4.8	109	103	5.7	40 - 140	30	
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30	
% DCBP	90	%	96	93	3.2	101	97	4.0	30 - 150	30	
% TCMX	71	%	74	73	1.4	90	79	13.0	30 - 150	30	
QA/QC Batch 362483 (ug/kg), QC Sample No: BV42417 (BV41734)											
Volatiles - Soil											
1,1,1,2-Tetrachloroethane	ND	5.0	120	116	3.4	101	108	6.7	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	121	115	5.1	104	112	7.4	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	121	113	6.8	106	113	6.4	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	118	119	0.8	111	116	4.4	70 - 130	30	
1,1-Dichloroethane	ND	5.0	110	109	0.9	101	105	3.9	70 - 130	30	
1,1-Dichloroethene	ND	5.0	96	97	1.0	86	90	4.5	70 - 130	30	
1,1-Dichloropropene	ND	5.0	109	113	3.6	106	107	0.9	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	124	122	1.6	119	127	6.5	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	112	104	7.4	96	102	6.1	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	122	119	2.5	117	122	4.2	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	119	120	0.8	112	116	3.5	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	125	111	11.9	99	112	12.3	70 - 130	30	
1,2-Dibromoethane	ND	5.0	123	120	2.5	112	117	4.4	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	118	116	1.7	110	115	4.4	70 - 130	30	
1,2-Dichloroethane	ND	5.0	104	104	0.0	96	96	0.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0	106	112	5.5	103	104	1.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	120	119	0.8	112	115	2.6	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	118	115	2.6	109	114	4.5	70 - 130	30	
1,3-Dichloropropane	ND	5.0	109	110	0.9	99	106	6.8	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	116	114	1.7	109	113	3.6	70 - 130	30	
2,2-Dichloropropane	ND	5.0	120	117	2.5	106	113	6.4	70 - 130	30	
2-Chlorotoluene	ND	5.0	113	114	0.9	113	113	0.0	70 - 130	30	
2-Hexanone	ND	25	86	77	11.0	69	76	9.7	70 - 130	30	m
2-Isopropyltoluene	ND	5.0	113	115	1.8	107	112	4.6	70 - 130	30	
4-Chlorotoluene	ND	5.0	113	111	1.8	105	110	4.7	70 - 130	30	
4-Methyl-2-pentanone	ND	25	97	87	10.9	80	83	3.7	70 - 130	30	
Acetone	ND	10	89	74	18.4	61	67	9.4	70 - 130	30	m
Acrylonitrile	ND	5.0	114	103	10.1	90	97	7.5	70 - 130	30	
Benzene	ND	1.0	113	118	4.3	111	113	1.8	70 - 130	30	
Bromobenzene	ND	5.0	109	110	0.9	107	110	2.8	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Bromochloromethane	ND	5.0	129	122	5.6	110	116	5.3	70 - 130	30	
Bromodichloromethane	ND	5.0	114	115	0.9	100	100	0.0	70 - 130	30	
Bromoform	ND	5.0	124	110	12.0	85	93	9.0	70 - 130	30	
Bromomethane	ND	5.0	86	86	0.0	47	50	6.2	70 - 130	30	m
Carbon Disulfide	ND	5.0	98	98	0.0	86	90	4.5	70 - 130	30	
Carbon tetrachloride	ND	5.0	131	123	6.3	103	112	8.4	70 - 130	30	l
Chlorobenzene	ND	5.0	115	115	0.0	110	113	2.7	70 - 130	30	
Chloroethane	ND	5.0	89	89	0.0	19	19	0.0	70 - 130	30	m
Chloroform	ND	5.0	115	113	1.8	102	107	4.8	70 - 130	30	
Chloromethane	ND	5.0	94	91	3.2	81	83	2.4	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	126	125	0.8	115	121	5.1	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	112	114	1.8	105	107	1.9	70 - 130	30	
Dibromochloromethane	ND	3.0	127	125	1.6	99	104	4.9	70 - 130	30	
Dibromomethane	ND	5.0	117	119	1.7	108	111	2.7	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	114	114	0.0	95	100	5.1	70 - 130	30	
Ethylbenzene	ND	1.0	118	119	0.8	113	118	4.3	70 - 130	30	
Hexachlorobutadiene	ND	5.0	119	116	2.6	116	118	1.7	70 - 130	30	
Isopropylbenzene	ND	1.0	114	116	1.7	110	113	2.7	70 - 130	30	
m&p-Xylene	ND	2.0	119	122	2.5	115	118	2.6	70 - 130	30	
Methyl ethyl ketone	ND	5.0	96	79	19.4	68	75	9.8	70 - 130	30	m
Methyl t-butyl ether (MTBE)	ND	1.0	116	109	6.2	102	110	7.5	70 - 130	30	
Methylene chloride	ND	5.0	107	106	0.9	96	100	4.1	70 - 130	30	
Naphthalene	ND	5.0	141	132	6.6	135	143	5.8	70 - 130	30	l,m
n-Butylbenzene	ND	1.0	120	120	0.0	113	116	2.6	70 - 130	30	
n-Propylbenzene	ND	1.0	113	111	1.8	109	110	0.9	70 - 130	30	
o-Xylene	ND	2.0	125	124	0.8	120	124	3.3	70 - 130	30	
p-Isopropyltoluene	ND	1.0	120	121	0.8	114	117	2.6	70 - 130	30	
sec-Butylbenzene	ND	1.0	125	126	0.8	117	121	3.4	70 - 130	30	
Styrene	ND	5.0	122	121	0.8	116	120	3.4	70 - 130	30	
tert-Butylbenzene	ND	1.0	119	119	0.0	113	116	2.6	70 - 130	30	
Tetrachloroethene	ND	5.0	115	117	1.7	115	120	4.3	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0	107	90	17.3	78	86	9.8	70 - 130	30	
Toluene	ND	1.0	118	122	3.3	117	118	0.9	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	126	124	1.6	118	124	5.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	110	111	0.9	98	102	4.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	110	96	13.6	82	91	10.4	70 - 130	30	
Trichlorofluoromethane	ND	5.0	91	91	0.0	20	20	0.0	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0	99	98	1.0	87	93	6.7	70 - 130	30	
Vinyl chloride	ND	5.0	90	90	0.0	74	76	2.7	70 - 130	30	
% 1,2-dichlorobenzene-d4	100	%	103	103	0.0	101	102	1.0	70 - 130	30	
% Bromofluorobenzene	102	%	106	107	0.9	107	107	0.0	70 - 130	30	
% Dibromofluoromethane	98	%	103	98	5.0	93	97	4.2	70 - 130	30	
% Toluene-d8	100	%	101	102	1.0	103	101	2.0	70 - 130	30	

Comment:

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

QA/QC Batch 362233 (ug/Kg), QC Sample No: BV43468 (BV41737, BV41740, BV41741)

Semivolatiles - Soil

1,2,4,5-Tetrachlorobenzene	ND	230	70	71	1.4	67	72	7.2	30 - 130	30	
1,2,4-Trichlorobenzene	ND	230	60	61	1.7	58	67	14.4	30 - 130	30	
1,2-Dichlorobenzene	ND	180	57	57	0.0	56	61	8.5	30 - 130	30	
1,2-Diphenylhydrazine	ND	230	78	79	1.3	70	74	5.6	30 - 130	30	
1,3-Dichlorobenzene	ND	230	54	52	3.8	53	57	7.3	30 - 130	30	

QA/QC Data

SDG I.D.: GBV41729

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,4-Dichlorobenzene	ND	230	57	55	3.6	55	61	10.3	30 - 130	30	
2,4,5-Trichlorophenol	ND	230	73	72	1.4	62	65	4.7	30 - 130	30	
2,4,6-Trichlorophenol	ND	130	72	70	2.8	63	66	4.7	30 - 130	30	
2,4-Dichlorophenol	ND	130	70	70	0.0	65	66	1.5	30 - 130	30	
2,4-Dimethylphenol	ND	230	65	66	1.5	55	55	0.0	30 - 130	30	
2,4-Dinitrophenol	ND	230	25	28	11.3	21	18	15.4	30 - 130	30	l,m
2,4-Dinitrotoluene	ND	130	77	76	1.3	68	71	4.3	30 - 130	30	
2,6-Dinitrotoluene	ND	130	74	75	1.3	71	71	0.0	30 - 130	30	
2-Chloronaphthalene	ND	230	67	66	1.5	61	66	7.9	30 - 130	30	
2-Chlorophenol	ND	230	64	63	1.6	65	63	3.1	30 - 130	30	
2-Methylnaphthalene	ND	230	66	68	3.0	65	68	4.5	30 - 130	30	
2-Methylphenol (o-cresol)	ND	230	67	69	2.9	68	62	9.2	30 - 130	30	
2-Nitroaniline	ND	330	83	81	2.4	67	70	4.4	30 - 130	30	
2-Nitrophenol	ND	230	80	81	1.2	75	82	8.9	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230	69	73	5.6	73	64	13.1	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	56	58	3.5	49	57	15.1	30 - 130	30	
3-Nitroaniline	ND	330	63	61	3.2	53	53	0.0	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	230	46	49	6.3	39	37	5.3	30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	75	77	2.6	69	73	5.6	30 - 130	30	
4-Chloro-3-methylphenol	ND	230	73	72	1.4	68	70	2.9	30 - 130	30	
4-Chloroaniline	ND	230	73	75	2.7	67	72	7.2	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	73	75	2.7	68	71	4.3	30 - 130	30	
4-Nitroaniline	ND	230	80	80	0.0	72	72	0.0	30 - 130	30	
4-Nitrophenol	ND	230	77	80	3.8	70	72	2.8	30 - 130	30	
Acenaphthene	ND	230	70	70	0.0	64	68	6.1	30 - 130	30	
Acenaphthylene	ND	130	67	68	1.5	62	64	3.2	30 - 130	30	
Acetophenone	ND	230	64	65	1.6	68	64	6.1	30 - 130	30	
Aniline	ND	330	60	60	0.0	64	57	11.6	30 - 130	30	
Anthracene	ND	230	73	75	2.7	64	72	11.8	30 - 130	30	
Benz(a)anthracene	ND	230	73	73	0.0	65	69	6.0	30 - 130	30	
Benzidine	ND	330	19	15	23.5	<10	10	NC	30 - 130	30	l,m
Benzo(a)pyrene	ND	130	71	72	1.4	65	70	7.4	30 - 130	30	
Benzo(b)fluoranthene	ND	160	75	75	0.0	67	73	8.6	30 - 130	30	
Benzo(ghi)perylene	ND	230	68	71	4.3	64	69	7.5	30 - 130	30	
Benzo(k)fluoranthene	ND	230	72	72	0.0	64	71	10.4	30 - 130	30	
Benzoic Acid	ND	330	<10	<10	NC	<10	<10	NC	30 - 130	30	l,m
Benzyl butyl phthalate	ND	230	73	75	2.7	67	68	1.5	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	66	66	0.0	61	65	6.3	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	50	51	2.0	52	52	0.0	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	48	46	4.3	50	49	2.0	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	76	76	0.0	65	71	8.8	30 - 130	30	
Carbazole	ND	230	71	74	4.1	64	69	7.5	30 - 130	30	
Chrysene	ND	230	76	77	1.3	68	74	8.5	30 - 130	30	
Dibenz(a,h)anthracene	ND	130	71	75	5.5	67	70	4.4	30 - 130	30	
Dibenzofuran	ND	230	70	70	0.0	65	67	3.0	30 - 130	30	
Diethyl phthalate	ND	230	76	76	0.0	70	71	1.4	30 - 130	30	
Dimethylphthalate	ND	230	72	72	0.0	66	67	1.5	30 - 130	30	
Di-n-butylphthalate	ND	230	79	78	1.3	68	74	8.5	30 - 130	30	
Di-n-octylphthalate	ND	230	76	75	1.3	67	70	4.4	30 - 130	30	
Fluoranthene	ND	230	76	76	0.0	67	73	8.6	30 - 130	30	
Fluorene	ND	230	72	74	2.7	67	69	2.9	30 - 130	30	
Hexachlorobenzene	ND	130	77	80	3.8	66	74	11.4	30 - 130	30	
Hexachlorobutadiene	ND	230	66	64	3.1	58	73	22.9	30 - 130	30	

QA/QC Data

SDG I.D.: GBV41729

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Hexachlorocyclopentadiene	ND	230	66	61	7.9	65	73	11.6	30 - 130	30	
Hexachloroethane	ND	130	57	54	5.4	56	61	8.5	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230	68	71	4.3	64	70	9.0	30 - 130	30	
Isophorone	ND	130	61	60	1.7	57	61	6.8	30 - 130	30	
Naphthalene	ND	230	59	61	3.3	56	64	13.3	30 - 130	30	
Nitrobenzene	ND	130	71	70	1.4	74	71	4.1	30 - 130	30	
N-Nitrosodimethylamine	ND	230	56	54	3.6	53	59	10.7	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	130	75	76	1.3	75	71	5.5	30 - 130	30	
N-Nitrosodiphenylamine	ND	130	77	78	1.3	70	74	5.6	30 - 130	30	
Pentachloronitrobenzene	ND	230	83	86	3.6	75	84	11.3	30 - 130	30	
Pentachlorophenol	ND	230	57	61	6.8	44	46	4.4	30 - 130	30	
Phenanthrene	ND	130	72	73	1.4	64	72	11.8	30 - 130	30	
Phenol	ND	230	64	67	4.6	67	60	11.0	30 - 130	30	
Pyrene	ND	230	77	77	0.0	68	75	9.8	30 - 130	30	
Pyridine	ND	230	38	36	5.4	33	45	30.8	30 - 130	30	r
% 2,4,6-Tribromophenol	78	%	84	83	1.2	69	73	5.6	30 - 130	30	
% 2-Fluorobiphenyl	70	%	68	65	4.5	61	65	6.3	30 - 130	30	
% 2-Fluorophenol	53	%	56	56	0.0	53	51	3.8	30 - 130	30	
% Nitrobenzene-d5	75	%	69	68	1.5	72	66	8.7	30 - 130	30	
% Phenol-d5	66	%	67	68	1.5	72	63	13.3	30 - 130	30	
% Terphenyl-d14	74	%	75	74	1.3	64	72	11.8	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%)

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
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
October 20, 2016

Sample Criteria Exceedences Report

GBV41729 - TIGHE

Criteria: None

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

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

Project Location: 85 HAWTHORN ***Project Number:***

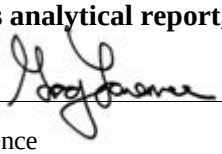
Laboratory Sample ID(s): BV41729-BV41741 ***Sampling Date(s):*** 10/5/2016, 10/6/2016

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 7470/7471, 8081, 8082, 8260, 8270, ETPH, 9010/9012

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	***VPH and EPH 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, SVOA Narration, VOA Narration.**	☐ Yes ☑ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?** **b) Were these reporting limits met?**	☐ Yes ☑ No ☑ Yes ☐ No
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
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #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". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge 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:  **Position:** Assistant Lab Director

Printed Name: Greg Lawrence **Date:** Thursday, October 20, 2016

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

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

October 20, 2016

SDG I.D.: GBV41729

SDG Comments

Metals Analysis: BV41733
The client requested a site specific list of elements which is shorter than the 6010 RCP list. Only lead is reported as requested on the chain-of-custody.

Cyanide Narration

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

Instrument:

LACHAT 10/10/16-1 Eric Geyer, Chemist 10/10/16

BV41729, BV41731, BV41740

The samples were distilled in accordance with the method.
The initial calibration met criteria.

The calibration check standards (ICV,CCV) were within 15% of true value and were analyzed at a frequencey of one per ten samples.
The continuing calibration blanks (ICB,CCB) had concentrations less than the reporting level.

The method blank, laboratory control sample (LCS), and matrix spike were distilled with the samples.

QC (Batch Specific):

Batch 362136 (BV42409)

BV41729, BV41731, BV41740

All LCS recoveries were within 80 - 120 with the following exceptions: None.

ETPH Narration

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

QC Batch 362238 (Samples: BV41731, BV41732, BV41733, BV41734, BV41735, BV41736, BV41737, BV41738, BV41739, BV41740, BV41741): -----

The MS/MSD RPD exceeds the method criteria. The RPD for the surrogate is acceptalbe. Therefore there may be slight variability in the reported results.

Instrument:

AU-FID1 10/11/16-1 Jeff Bucko, Chemist 10/11/16

BV41734, BV41735, BV41736, BV41738, BV41741

The initial calibration (ETPHO05I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID1 10/11/16-2 Jeff Bucko, Chemist 10/11/16

BV41730, BV41733, BV41737, BV41740

The initial calibration (ETPHO05I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID1 10/12/16-1 Jeff Bucko, Chemist 10/12/16

BV41739

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

October 20, 2016

SDG I.D.: GBV41729

ETPH Narration

The initial calibration (ETPHO05I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID1 10/12/16-2 Jeff Bucko, Chemist 10/12/16

BV41729, BV41731

The initial calibration (ETPHO05I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID11 10/13/16-1 Jeff Bucko, Chemist 10/13/16

BV41732

The initial calibration (ETPH926I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

Batch 362056 (BV41757)

BV41729, BV41730

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.

QC (Site Specific):

Batch 362238 (BV41738)

BV41731, BV41732, BV41733, BV41734, BV41735, BV41736, BV41737, BV41738, BV41739, BV41740, BV41741

All LCS recoveries were within 60 - 120 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: None.
All MS/MSD RPDs were less than 30% with the following exceptions: Ext. Petroleum H.C.(39.5%)

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 10/10/16 09:19 Rick Schweitzer, Chemist 10/10/16

BV41729, BV41730, BV41731, BV41732, BV41734, BV41736, BV41738, BV41739, BV41740

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 interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 362164 (BV41700)

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

NY # 11301

Certification Report

October 20, 2016

SDG I.D.: GBV41729

Mercury Narration

BV41729, BV41730, BV41731, BV41732, BV41734, BV41736, BV41738, BV41739, BV41740

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 30% with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? No.

QC Batch 362038 (Samples: BV41729, BV41730, BV41731, BV41732, BV41733, BV41734, BV41736, BV41738): -----

A trace amount of an analyte was found in blank. Due to the concentration in the blank relative to the samples, no bias is suspected. (Soil- Lead(BV41729, BV41730, BV41731, BV41732, BV41733, BV41734, BV41736, BV41738))

The Sample/Duplicate RPD exceeds the method criteria for one analyte, therefore there may be variability in the reported result. (Lead)

Instrument:

ARCOS 10/08/16 01:56 Laura Kinnin, Chemist 10/08/16

BV41729, BV41730, BV41731, BV41732, BV41734, BV41736, BV41738

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

ARCOS 10/10/16 06:00 Laura Kinnin, Chemist 10/10/16

BV41730, BV41731, BV41732, BV41733, BV41734

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

ARCOS 10/12/16 08:05 Emily Kolominskaya, Laura Kinnin, Chemist 10/12/16

BV41740

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

ARCOS 10/13/16 07:21 Laura Kinnin, Tina Hall, Chemist 10/13/16

BV41739

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

ARCOS 10/14/16 08:29 Emily Kolominskaya, Laura Kinnin, Chemist 10/14/16

BV41740

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

NY # 11301

Certification Report

October 20, 2016

SDG I.D.: GBV41729

ICP Metals Narration

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 362038 (BV42417)

BV41729, BV41730, BV41731, BV41732, BV41733, BV41734, BV41736, BV41738

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

Batch 362230 (BV42125)

BV41739, BV41740

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

PCB Narration

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

Instrument:

AU-ECD29 10/10/16-1 Adam Werner, Chemist 10/10/16

BV41729, BV41731, BV41732, BV41734, BV41738, BV41739, BV41740, BV41741

The initial calibration (PC0823AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC0823BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

QC (Batch Specific):

Batch 362016 (BV40786)

BV41729, BV41731, BV41732, BV41734, BV41738, BV41739, BV41740, BV41741

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
MSD could not be reported for this batch.

PEST Narration

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

Instrument:

AU-ECD13 10/10/16-1 Carol Eddy, Chemist 10/10/16

BV41730, BV41736

8081 Narration:
Endrin and DDT breakdown was evaluated and does not exceed 15%.

The initial calibration (PSO04AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PSO04BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

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

October 20, 2016

SDG I.D.: GBV41729

PEST Narration

QC (Batch Specific):

Batch 362027 (BV42417)

BV41730, BV41736

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 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? No.

QC Batch 362025 (Samples: BV41731, BV41732, BV41733, BV41735, BV41736): -----

The LCSD recovery is below the lower range but within the method criteria. Therefore a slight low bias is possible. (4,6-Dinitro-2-methylphenol)

The LCS/LCSD RPD exceeds the method criteria for one analyte, but this analyte was not reported in the sample(s) so no variability is suspected. (4,6-Dinitro-2-methylphenol)

The MS/MSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (4,6-Dinitro-2-methylphenol, Benzidine)

The QC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (2,4-Dinitrophenol, Benzidine, Benzoic Acid)

QC Batch 362233 (Samples: BV41737, BV41740, BV41741): -----

The MS/MSD RPD exceeds the method criteria for one analyte, therefore there may be variability in the reported result. (Pyridine)

The QC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (2,4-Dinitrophenol, Benzidine, Benzoic Acid)

Instrument:

CHEM19 10/07/16-1 Damien Drobinski, Chemist 10/07/16

BV41731, BV41732, BV41733, BV41735, BV41736

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_0830):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Benzoic acid 21% (20%)
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.089 (0.1), Hexachlorobenzene 0.088 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM19/1007_04-SV_0830):

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

October 20, 2016

SDG I.D.: GBV41729

SVOA Narration

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
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: Hexachlorobenzene 0.090 (0.1)
The following compounds did not meet minimum response factors: None.

CHEM19 10/10/16-1 Damien Drobinski, Chemist 10/10/16

BV41737, BV41740, BV41741

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_0830):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Benzoic acid 21% (20%)
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.089 (0.1), Hexachlorobenzene 0.088 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM19/1010_04-SV_0830):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
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: Hexachlorobenzene 0.084 (0.1)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 362025 (BV42057)

BV41731, BV41732, BV41733, BV41735, BV41736

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(13%), Benzidine(20%), Benzoic Acid(<10%)
All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 4,6-Dinitro-2-methylphenol(21%), Benzidine(17%), Benzoic Acid(<10%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: 4,6-Dinitro-2-methylphenol(38.5%)

Batch 362233 (BV43468)

BV41737, BV41740, BV41741

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(25%), Benzidine(19%), Benzoic Acid(<10%)
All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(28%), Benzidine(15%), Benzoic Acid(<10%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

VOA Narration

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

October 20, 2016

SDG I.D.: GBV41729

VOA Narration

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

QC Batch 362158 (Samples: BV41732): -----

The LCSD recovery is below the lower range, but within the method criteria. A slight low bias is possible. (Acetone)

The LCSD recovery is above the upper range for one analyte that was not reported in the sample(s), therefore no significant bias is suspected. (Carbon tetrachloride)

QC Batch 362483 (Samples: BV41734): -----

The LCS recovery is above the upper range for one analyte that was not reported in the sample(s), therefore no significant bias is suspected. (Carbon tetrachloride)

The QC recovery for one analyte is above the upper range but was not reported in the sample(s), therefore no significant bias is suspected. (Naphthalene)

Instrument:

CHEM03 10/08/16-2 Harry Mullin, Chemist 10/08/16

BV41740

Initial Calibration Verification (CHEM03/VT-L1006):
96% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%), Acetone 26% (20%), Bromoform 22% (20%)
The following compounds did not meet recommended response factors: Acetone 0.095 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM03/1008L35-VT-L1006):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
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.

CHEM18 10/08/16-1 Harry Mullin, Chemist 10/08/16

BV41729, BV41730, BV41731, BV41734, BV41738, BV41739

Initial Calibration Verification (CHEM18/VT-M1006):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 28% (20%), Methyl Ethyl Ketone 26% (20%)
The following compounds did not meet recommended response factors: Bromoform 0.073 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM18/1008M02-VT-M1006):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
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: Bromoform 0.076 (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

October 20, 2016

SDG I.D.: GBV41729

VOA Narration

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

CHEM26 10/08/16-2 Harry Mullin, Chemist 10/08/16

BV41732

Initial Calibration Verification (CHEM26/VT-1003):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Methyl Ethyl Ketone 22% (20%)
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM26/1008_34-VT-1003):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
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.

CHEM26 10/11/16-1 Jane Li, Chemist 10/11/16

BV41734

Initial Calibration Verification (CHEM26/VT-1003):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Methyl Ethyl Ketone 22% (20%)
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM26/1011_02-VT-1003):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: Naphthalene 34%H (30%)
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.

QC (Batch Specific):

Batch 362158 (BV40748)

BV41732

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: Acetone(68%), Carbon tetrachloride(131%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Batch 362202 (BV42117)

BV41729, BV41730, BV41731, BV41734, BV41738, BV41739

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 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

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

October 20, 2016

SDG I.D.: GBV41729

VOA Narration

Batch 362318 (BV42195)

BV41740

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 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Batch 362483 (BV42417)

BV41734

All LCS recoveries were within 70 - 130 with the following exceptions: Carbon tetrachloride(131%), Naphthalene(141%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Naphthalene(132%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Temperature Narration

The samples were received at 2C with cooling initiated.
(Note acceptance criteria is above freezing up to 6°C)

Cooler: Yes ☒ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 2 °C Pg 1 of 2

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

Data Delivery:
☐ Fax #:
☑ Email: Smavis@tighebond.com

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

Project: 85 Hawthorn
Report to: Samantha Avis
Invoice to: Tighe + Bond
Phone #: 908-294-1381
Fax #:

Project P.O: 12107714

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Sam A Date: 10/6/16

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	VOCs	SVOCs	RCP metals	PCBs	Cyanide	Pesticides	Lead	Soil VOA Vials [ ] methanol [2] H2O	GL Soil container (8) oz [ ] 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 (as is)	Bacteria (w/thio)
41729	B-107 (6-8')	S	10/5/16	0900	X	X		X	X	X					3	2						
41730	B-108 (12-14')	S	10/5/16	1000	X	X		X			X				3	2						
41731	B-109 (12-14')	S	10/5/16	1025	X	X	X	X	X	X					3	2						
41732	B-110 (11-13')	S	10/5/16	1115	X	X	X	X	X						3	2						
41733	B-111 (16-18')	S	10/5/16	1200	X		X					X				1						
* 41734	B-112 (22-24')	S	10/5/16	1320	X	X		X	X						3	2						
41735	B-114 (7-9')	S	10/5/16	1430	X		X									1						
41736	B-115 (7-9')	S	10/5/16	1500	X		X	X			X					2						
41737	B-DUP	S	10/5/16	1201	X		X									1						
41738	B-116 (1-3')	S	10/6/16	1330	X	X		X	X						3	2						
41739	B-117 (2-4')	S	10/6/16	1350	X	X		X	X						3	2						
41740	B-118 (10-12')	S	10/6/16	1415	X	X	X	X	X	X					3	2						

Relinquished by:	Accepted by:	Date:	Time:
Sam A	T+B Fridge	10/6/16	1630
Scott Fish	Scott Fish	10/7/16	10:15
Scott Fish		10/7/16	16:30

Comments, Special Requirements or Regulations:

* 1 jar +3 vocs Rcvd MTP

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☑ RCP Cert
☐ GW Protection
☐ 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
☑ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

Cooler: Yes ☑ No ☐
Coolant: IPK ☒ ICE ☐ No ☐
Temp 3 °C Pg 2 of 2

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

Contact Options:
☐ Fax:
☑ Phone: 908-294-1381
☑ Email: SMavis@tighebond.com

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

Project: 85 Hawthorn
Report to: Samantha Avis
Invoice to: Tighe + Bond

Project P.O:

This section MUST be completed with Bottle Quantities.

Sampler's Signature: Sam A Date: 10/6/16

Client Sample - Information - Identification

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	VOCs	5 VOCs	PCBs	RCP metals	Pesticides	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
41741	B-119 (2-4')	S	10/6/16	1500	X		X	X				1								

Relinquished by:	Accepted by:	Date:	Time:
Samantha A	T+B Fridge	10/6/16	1630
	Scott Felch	10/7/16	10:15
Scott Felch		10/7/16	16 ~~30~~

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☑ RCP Cert
☐ GW Protection
☐ 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
☑ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

Lisa Arnold

From: Samantha M. Avis <SMAvis@tighebond.com>
Sent: Monday, October 10, 2016 12:35 PM
To: Lisa Arnold
Subject: RE: 85 Hawthorne Phoenix # BV41741

Hi Lisa,

I just need the tests that have an X.

Thank you,
Sam

From: Lisa Arnold [mailto:lisa@phoenixlabs.com]
Sent: Monday, October 10, 2016 12:33 PM
To: Samantha M. Avis <SMAvis@tighebond.com>
Subject: 85 Hawthorne Phoenix # BV41741

Good afternoon,

I noticed on the 2nd page that tests are written but not X to be analyzed.
Please confirm if you need just the tests that are X.

Thank you,

Lisa Arnold
Client Services

PHOENIX
Environmental Laboratories, Inc.

Tuesday, November 01, 2016

Attn: Mr Harley Langford
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Project ID: 85 HAWTHORN STREET
Sample ID#s: BV64532 - BV64539

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

NY # 11301

SDG Comments

November 01, 2016

SDG I.D.: GBV64532

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.

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

Analysis Report

November 01, 2016

FOR: Attn: Mr Harley Langford
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/24/16	14:20
Location Code:	TIGHE-HARTFD	Received by:	SW	10/25/16	14:12
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12102214				

Laboratory Data

SDG ID: GBV64532
Phoenix ID: BV64532

Project ID: 85 HAWTHORN STREET
Client ID: MW-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	10/27/16	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	10/27/16	TH	SW6010C
Barium	0.180	0.002	mg/L	1	10/27/16	TH	SW6010C
Beryllium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Chromium	0.003	0.001	mg/L	1	10/27/16	TH	SW6010C
Copper	0.006	0.005	mg/L	1	10/27/16	TH	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	10/26/16	RS	SW7470A
Nickel	0.002	0.001	mg/L	1	10/27/16	TH	SW6010C
Lead	0.003	0.002	mg/L	1	10/27/16	TH	SW6010C
Antimony	< 0.005	0.005	mg/L	1	10/27/16	TH	SW6010C
Selenium	< 0.010	0.010	mg/L	1	10/27/16	TH	SW6010C
Thallium	< 0.001	0.001	mg/L	1	10/26/16	RS	SM3113B/SW7010-10
Vanadium	0.003	0.002	mg/L	1	10/27/16	TH	SW6010C
Zinc	0.019	0.002	mg/L	1	10/27/16	TH	SW6010C
Extraction of CT ETPH	Completed				10/26/16	P/D	SW3510C/SW3520C
Mercury Digestion	Completed				10/26/16	W/W	SW7470A
Total Metals Digestion	Completed				10/25/16	AG	
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	0.18	mg/L	1	10/27/16	JRB	CTETPH 8015D
Identification	ND		mg/L	1	10/27/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	64		%	1	10/27/16	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Project ID: 85 HAWTHORN STREET
Client ID: MW-1

Phoenix I.D.: BV64532

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromoethane	ND	0.25	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Acetone	ND	25	ug/L	1	10/26/16	MH	SW8260C
Acrylonitrile	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/26/16	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Project ID: 85 HAWTHORN STREET
Client ID: MW-1

Phoenix I.D.: BV64532

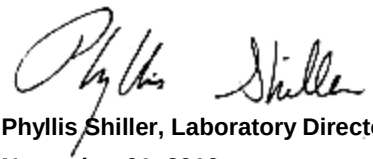
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Methylene chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	10/26/16	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	10/26/16	MH	70 - 130 %
% Dibromofluoromethane	97		%	1	10/26/16	MH	70 - 130 %
% Toluene-d8	99		%	1	10/26/16	MH	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

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



Phyllis Shiller, Laboratory Director
November 01, 2016
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

November 01, 2016

FOR: Attn: Mr Harley Langford
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/24/16	17:05
Location Code:	TIGHE-HARTFD	Received by:	SW	10/25/16	14:12
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12102214				

Laboratory Data

SDG ID: GBV64532
Phoenix ID: BV64533

Project ID: 85 HAWTHORN STREET
Client ID: MW-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction of CT ETPH	Completed				10/26/16	P/D	SW3510C/SW3520C
TPH by GC (Extractable Products)							
Ext. Petroleum HC	0.31	0.078	mg/L	1	10/28/16	JRB	CTETPH 8015D
Identification	**		mg/L	1	10/28/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	NR		%	1	10/28/16	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromoethane	ND	0.25	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Project ID: 85 HAWTHORN STREET
Client ID: MW-3

Phoenix I.D.: BV64533

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Acetone	ND	25	ug/L	1	10/26/16	MH	SW8260C
Acrylonitrile	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/26/16	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Project ID: 85 HAWTHORN STREET
Client ID: MW-3

Phoenix I.D.: BV64533

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Trichlorofluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/26/16	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	10/26/16	MH	70 - 130 %
% Dibromofluoromethane	97		%	1	10/26/16	MH	70 - 130 %
% Toluene-d8	99		%	1	10/26/16	MH	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C24. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

TPH Comment:
NR = not reported, >130%. Insufficient sample for re-extraction.

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

Phyllis Shiller, Laboratory Director
November 01, 2016
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

November 01, 2016

FOR: Attn: Mr Harley Langford
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/24/16	10:41
Location Code:	TIGHE-HARTFD	Received by:	SW	10/25/16	14:12
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12102214				

Laboratory Data

SDG ID: GBV64532
Phoenix ID: BV64534

Project ID: 85 HAWTHORN STREET
Client ID: MW-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	10/27/16	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	10/27/16	TH	SW6010C
Barium	0.117	0.002	mg/L	1	10/27/16	TH	SW6010C
Beryllium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Chromium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Copper	< 0.005	0.005	mg/L	1	10/27/16	TH	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	10/26/16	RS	SW7470A
Nickel	0.003	0.001	mg/L	1	10/27/16	TH	SW6010C
Lead	< 0.002	0.002	mg/L	1	10/27/16	TH	SW6010C
Antimony	< 0.005	0.005	mg/L	1	10/27/16	TH	SW6010C
Selenium	< 0.010	0.010	mg/L	1	10/27/16	TH	SW6010C
Thallium	< 0.001	0.001	mg/L	1	10/26/16	RS	SM3113B/SW7010-10
Vanadium	< 0.002	0.002	mg/L	1	10/27/16	TH	SW6010C
Zinc	0.004	0.002	mg/L	1	10/27/16	TH	SW6010C
Extraction of CT ETPH	Completed				10/26/16	P/D	SW3510C/SW3520C
Mercury Digestion	Completed				10/26/16	W/W	SW7470A
PCB Extraction	Completed				10/25/16	Z/Z	SW3510C
Semi-Volatile Extraction	Completed				10/25/16	P/D	SW3520C
Total Metals Digestion	Completed				10/25/16	AG	
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	0.072	mg/L	1	10/27/16	JRB	CTETPH 8015D
Identification	ND		mg/L	1	10/27/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	65		%	1	10/27/16	JRB	50 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1221	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1232	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1242	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1248	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1254	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1260	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1262	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1268	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	100		%	1	10/27/16	AW	30 - 150 %
% TCMX	97		%	1	10/27/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromoethane	ND	0.25	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Acetone	ND	25	ug/L	1	10/26/16	MH	SW8260C
Acrylonitrile	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/26/16	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Project ID: 85 HAWTHORN STREET
Client ID: MW-4

Phoenix I.D.: BV64534

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/26/16	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	10/26/16	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	10/26/16	MH	70 - 130 %
% Toluene-d8	99		%	1	10/26/16	MH	70 - 130 %
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Acenaphthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Acenaphthylene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Anthracene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)

Project ID: 85 HAWTHORN STREET
Client ID: MW-4

Phoenix I.D.: BV64534

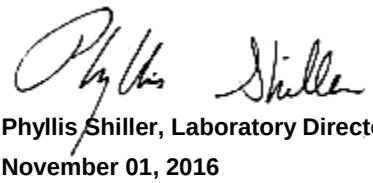
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzo(b)fluoranthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	10/26/16	DD	SW8270D (SIM)
Fluoranthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Fluorene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Naphthalene	ND	0.10	ug/L	1	10/26/16	DD	SW8270D (SIM)
Phenanthrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Pyrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	62		%	1	10/26/16	DD	30 - 130 %
% Nitrobenzene-d5	60		%	1	10/26/16	DD	30 - 130 %
% Terphenyl-d14	81		%	1	10/26/16	DD	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

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



Phyllis Shiller, Laboratory Director
November 01, 2016
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

November 01, 2016

FOR: Attn: Mr Harley Langford
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/24/16	12:46
Location Code:	TIGHE-HARTFD	Received by:	SW	10/25/16	14:12
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12102214				

Laboratory Data

SDG ID: GBV64532
Phoenix ID: BV64535

Project ID: 85 HAWTHORN STREET
Client ID: MW-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	10/29/16	TH	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	10/29/16	TH	SW6010C
Barium	0.097	0.002	mg/L	1	10/29/16	TH	SW6010C
Beryllium	< 0.001	0.001	mg/L	1	10/29/16	TH	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	10/29/16	TH	SW6010C
Chromium	< 0.001	0.001	mg/L	1	10/29/16	TH	SW6010C
Copper	< 0.005	0.005	mg/L	1	10/29/16	TH	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	10/27/16	RS	SW7470A
Nickel	< 0.001	0.001	mg/L	1	10/29/16	TH	SW6010C
Lead	< 0.002	0.002	mg/L	1	10/29/16	TH	SW6010C
Antimony	< 0.005	0.005	mg/L	1	10/31/16	LK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	10/29/16	TH	SW6010C
Thallium	< 0.001	0.001	mg/L	1	10/28/16	RS/TH	SM3113B/SW7010-10
Vanadium	< 0.002	0.002	mg/L	1	10/31/16	LK	SW6010C
Zinc	0.003	0.002	mg/L	1	10/29/16	TH	SW6010C
Extraction of CT ETPH	Completed				10/26/16	P/D	SW3510C/SW3520C
Mercury Digestion	Completed				10/27/16	W/W	SW7470A
PCB Extraction	Completed				10/25/16	Z/Z	SW3510C
Semi-Volatile Extraction	Completed				10/25/16	P/D	SW3520C
Total Metals Digestion	Completed				10/26/16	AG	
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	0.074	mg/L	1	10/27/16	JRB	CTETPH 8015D
Identification	ND		mg/L	1	10/27/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	65		%	1	10/27/16	JRB	50 - 150 %

Project ID: 85 HAWTHORN STREET
Client ID: MW-5

Phoenix I.D.: BV64535

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1221	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1232	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1242	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1248	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1254	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1260	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1262	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1268	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	108		%	1	10/27/16	AW	30 - 150 %
% TCMX	94		%	1	10/27/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromoethane	ND	0.25	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Acetone	ND	25	ug/L	1	10/26/16	MH	SW8260C
Acrylonitrile	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/26/16	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Parameter	Result		RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND		5.0	ug/L	1	10/26/16	MH	SW8260C
Carbon tetrachloride	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Chlorobenzene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroethane	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroform	9.9		1.0	ug/L	1	10/26/16	MH	SW8260C
Chloromethane	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,2-Dichloroethene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,3-Dichloropropene	ND		0.40	ug/L	1	10/26/16	MH	SW8260C
Dibromochloromethane	ND		0.50	ug/L	1	10/26/16	MH	SW8260C
Dibromomethane	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Dichlorodifluoromethane	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Ethylbenzene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Hexachlorobutadiene	ND		0.40	ug/L	1	10/26/16	MH	SW8260C
Isopropylbenzene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
m&p-Xylene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Methyl ethyl ketone	ND		5.0	ug/L	1	10/26/16	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Methylene chloride	2.1	S	1.0	ug/L	1	10/26/16	MH	SW8260C
Naphthalene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
n-Butylbenzene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
n-Propylbenzene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
o-Xylene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
p-Isopropyltoluene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
sec-Butylbenzene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Styrene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
tert-Butylbenzene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrachloroethene	42		5.0	ug/L	5	10/27/16	MH	SW8260C
Tetrahydrofuran (THF)	ND		2.5	ug/L	1	10/26/16	MH	SW8260C
Toluene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Total Xylenes	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,2-Dichloroethene	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,3-Dichloropropene	ND		0.40	ug/L	1	10/26/16	MH	SW8260C
trans-1,4-dichloro-2-butene	ND		5.0	ug/L	1	10/26/16	MH	SW8260C
Trichloroethene	1.1		1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorofluoromethane	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorotrifluoroethane	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
Vinyl chloride	ND		1.0	ug/L	1	10/26/16	MH	SW8260C
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	101			%	1	10/26/16	MH	70 - 130 %
% Bromofluorobenzene	94			%	1	10/26/16	MH	70 - 130 %
% Dibromofluoromethane	100			%	1	10/26/16	MH	70 - 130 %
% Toluene-d8	99			%	1	10/26/16	MH	70 - 130 %
Semivolatiles by SIM								
2-Methylnaphthalene	ND		0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Acenaphthene	ND		0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Acenaphthylene	ND		0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Anthracene	ND		0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benz(a)anthracene	ND		0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(a)pyrene	ND		0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)

Project ID: 85 HAWTHORN STREET
Client ID: MW-5

Phoenix I.D.: BV64535

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzo(b)fluoranthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	10/26/16	DD	SW8270D (SIM)
Fluoranthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Fluorene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Naphthalene	ND	0.11	ug/L	1	10/26/16	DD	SW8270D (SIM)
Phenanthrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Pyrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	58		%	1	10/26/16	DD	30 - 130 %
% Nitrobenzene-d5	55		%	1	10/26/16	DD	30 - 130 %
% Terphenyl-d14	78		%	1	10/26/16	DD	30 - 130 %

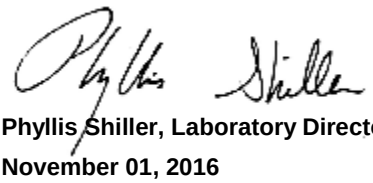
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Semi-Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

S - Laboratory solvent, contamination is possible.

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



Phyllis Shiller, Laboratory Director
November 01, 2016
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

November 01, 2016

FOR: Attn: Mr Harley Langford
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/24/16	15:00
Location Code:	TIGHE-HARTFD	Received by:	SW	10/25/16	14:12
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12102214				

Laboratory Data

SDG ID: GBV64532
Phoenix ID: BV64536

Project ID: 85 HAWTHORN STREET
Client ID: MW-6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	10/27/16	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	10/27/16	TH	SW6010C
Barium	0.045	0.002	mg/L	1	10/27/16	TH	SW6010C
Beryllium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Chromium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Copper	< 0.005	0.005	mg/L	1	10/27/16	TH	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	10/26/16	RS	SW7470A
Nickel	0.002	0.001	mg/L	1	10/27/16	TH	SW6010C
Lead	< 0.002	0.002	mg/L	1	10/27/16	TH	SW6010C
Antimony	< 0.005	0.005	mg/L	1	10/27/16	TH	SW6010C
Selenium	< 0.010	0.010	mg/L	1	10/27/16	TH	SW6010C
Thallium	< 0.001	0.001	mg/L	1	10/26/16	RS	SM3113B/SW7010-10
Vanadium	< 0.002	0.002	mg/L	1	10/27/16	TH	SW6010C
Zinc	0.003	0.002	mg/L	1	10/27/16	TH	SW6010C
Extraction of CT ETPH	Completed				10/26/16	P/D	SW3510C/SW3520C
Mercury Digestion	Completed				10/26/16	W/W	SW7470A
PCB Extraction	Completed				10/25/16	Z/Z	SW3510C
Semi-Volatile Extraction	Completed				10/25/16	P/D	SW3520C
Total Metals Digestion	Completed				10/25/16	AG	
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	0.070	mg/L	1	10/27/16	JRB	CTETPH 8015D
Identification	ND		mg/L	1	10/27/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	63		%	1	10/27/16	JRB	50 - 150 %

Project ID: 85 HAWTHORN STREET
Client ID: MW-6

Phoenix I.D.: BV64536

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1221	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1232	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1242	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1248	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1254	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1260	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1262	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
PCB-1268	ND	0.28	ug/L	1	10/27/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	82		%	1	10/27/16	AW	30 - 150 %
% TCMX	104		%	1	10/27/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromoethane	ND	0.25	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Acetone	ND	25	ug/L	1	10/26/16	MH	SW8260C
Acrylonitrile	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/26/16	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Project ID: 85 HAWTHORN STREET
Client ID: MW-6

Phoenix I.D.: BV64536

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	10/26/16	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	10/26/16	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/26/16	MH	70 - 130 %
% Toluene-d8	100		%	1	10/26/16	MH	70 - 130 %
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Acenaphthene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Acenaphthylene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Anthracene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)

Project ID: 85 HAWTHORN STREET
Client ID: MW-6

Phoenix I.D.: BV64536

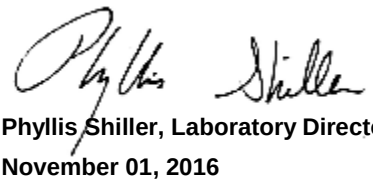
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzo(b)fluoranthene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Chrysene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	10/26/16	DD	SW8270D (SIM)
Fluoranthene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Fluorene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Naphthalene	ND	0.12	ug/L	1	10/26/16	DD	SW8270D (SIM)
Phenanthrene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
Pyrene	ND	0.06	ug/L	1	10/26/16	DD	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	67		%	1	10/26/16	DD	30 - 130 %
% Nitrobenzene-d5	70		%	1	10/26/16	DD	30 - 130 %
% Terphenyl-d14	80		%	1	10/26/16	DD	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Semi-Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

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



Phyllis Shiller, Laboratory Director
November 01, 2016
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

November 01, 2016

FOR: Attn: Mr Harley Langford
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/24/16	15:50
Location Code:	TIGHE-HARTFD	Received by:	SW	10/25/16	14:12
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12102214				

Laboratory Data

SDG ID: GBV64532
Phoenix ID: BV64537

Project ID: 85 HAWTHORN STREET
Client ID: MW-7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	10/27/16	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	10/27/16	TH	SW6010C
Barium	0.086	0.002	mg/L	1	10/27/16	TH	SW6010C
Beryllium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Chromium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Copper	< 0.005	0.005	mg/L	1	10/27/16	TH	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	10/26/16	RS	SW7470A
Nickel	0.002	0.001	mg/L	1	10/27/16	TH	SW6010C
Lead	< 0.002	0.002	mg/L	1	10/27/16	TH	SW6010C
Antimony	< 0.005	0.005	mg/L	1	10/27/16	TH	SW6010C
Selenium	< 0.010	0.010	mg/L	1	10/27/16	TH	SW6010C
Thallium	< 0.001	0.001	mg/L	1	10/26/16	RS	SM3113B/SW7010-10
Vanadium	< 0.002	0.002	mg/L	1	10/27/16	TH	SW6010C
Zinc	0.006	0.002	mg/L	1	10/27/16	TH	SW6010C
Extraction of CT ETPH	Completed				10/27/16	P/D	SW3510C/SW3520C
Mercury Digestion	Completed				10/26/16	W/W	SW7470A
Total Metals Digestion	Completed				10/25/16	AG	
TPH by GC (Extractable Products)							
Ext. Petroleum HC	0.15	0.070	mg/L	1	10/28/16	JRB	CTETPH 8015D
Identification	**		mg/L	1	10/28/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	71		%	1	10/28/16	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Project ID: 85 HAWTHORN STREET
Client ID: MW-7

Phoenix I.D.: BV64537

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromoethane	ND	0.25	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Acetone	ND	25	ug/L	1	10/26/16	MH	SW8260C
Acrylonitrile	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/26/16	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Project ID: 85 HAWTHORN STREET
Client ID: MW-7

Phoenix I.D.: BV64537

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Methylene chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/26/16	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	10/26/16	MH	70 - 130 %
% Dibromofluoromethane	97		%	1	10/26/16	MH	70 - 130 %
% Toluene-d8	100		%	1	10/26/16	MH	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

TPH Comment:
**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C9 to C24. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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

Phyllis Shiller, Laboratory Director
November 01, 2016
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

November 01, 2016

FOR: Attn: Mr Harley Langford
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/24/16	16:42
Location Code:	TIGHE-HARTFD	Received by:	SW	10/25/16	14:12
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12102214				

Laboratory Data

SDG ID: GBV64532
Phoenix ID: BV64538

Project ID: 85 HAWTHORN STREET
Client ID: DUP

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	10/27/16	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	10/27/16	TH	SW6010C
Barium	0.117	0.002	mg/L	1	10/27/16	TH	SW6010C
Beryllium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Chromium	< 0.001	0.001	mg/L	1	10/27/16	TH	SW6010C
Copper	< 0.005	0.005	mg/L	1	10/27/16	TH	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	10/26/16	RS	SW7470A
Nickel	0.003	0.001	mg/L	1	10/27/16	TH	SW6010C
Lead	< 0.002	0.002	mg/L	1	10/27/16	TH	SW6010C
Antimony	< 0.005	0.005	mg/L	1	10/27/16	TH	SW6010C
Selenium	< 0.010	0.010	mg/L	1	10/27/16	TH	SW6010C
Thallium	< 0.001	0.001	mg/L	1	10/26/16	RS	SM3113B/SW7010-10
Vanadium	< 0.002	0.002	mg/L	1	10/27/16	TH	SW6010C
Zinc	0.003	0.002	mg/L	1	10/27/16	TH	SW6010C
Extraction of CT ETPH	Completed				10/27/16	P/D	SW3510C/SW3520C
Mercury Digestion	Completed				10/26/16	W/W	SW7470A
PCB Extraction	Completed				10/25/16	Z/Z	SW3510C
Semi-Volatile Extraction	Completed				10/25/16	P/D	SW3520C
Total Metals Digestion	Completed				10/25/16	AG	
TPH by GC (Extractable Products)							
Ext. Petroleum HC	ND	0.070	mg/L	1	10/28/16	JRB	CTETPH 8015D
Identification	ND		mg/L	1	10/28/16	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	65		%	1	10/28/16	JRB	50 - 150 %

Project ID: 85 HAWTHORN STREET
Client ID: DUP

Phoenix I.D.: BV64538

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Polychlorinated Biphenyls							
PCB-1016	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1221	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1232	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1242	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1248	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1254	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1260	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1262	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
PCB-1268	ND	0.27	ug/L	1	10/27/16	AW	SW8082A
QA/QC Surrogates							
% DCBP	101		%	1	10/27/16	AW	30 - 150 %
% TCMX	98		%	1	10/27/16	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromoethane	ND	0.25	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Acetone	ND	25	ug/L	1	10/26/16	MH	SW8260C
Acrylonitrile	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/26/16	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Carbon Disulfide	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/26/16	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	10/26/16	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	10/26/16	MH	70 - 130 %
% Toluene-d8	100		%	1	10/26/16	MH	70 - 130 %
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Acenaphthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Acenaphthylene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Anthracene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)

Project ID: 85 HAWTHORN STREET
Client ID: DUP

Phoenix I.D.: BV64538

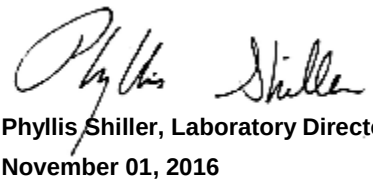
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzo(b)fluoranthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	10/26/16	DD	SW8270D (SIM)
Fluoranthene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Fluorene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Naphthalene	ND	0.10	ug/L	1	10/26/16	DD	SW8270D (SIM)
Phenanthrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
Pyrene	ND	0.05	ug/L	1	10/26/16	DD	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	62		%	1	10/26/16	DD	30 - 130 %
% Nitrobenzene-d5	68		%	1	10/26/16	DD	30 - 130 %
% Terphenyl-d14	81		%	1	10/26/16	DD	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

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



Phyllis Shiller, Laboratory Director
November 01, 2016
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

November 01, 2016

FOR: Attn: Mr Harley Langford
Tighe & Bond
213 Court St, Suite 1100
Middletown, CT 06457

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/24/16	
Location Code:	TIGHE-HARTFD	Received by:	SW	10/25/16	14:12
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	12102214				

Laboratory Data

SDG ID: GBV64532
Phoenix ID: BV64539

Project ID: 85 HAWTHORN STREET
Client ID: TRIP BLANK

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dibromoethane	ND	0.25	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/26/16	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C

Project ID: 85 HAWTHORN STREET
Client ID: TRIP BLANK

Phoenix I.D.: BV64539

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	25	ug/L	1	10/26/16	MH	SW8260C
Acrylonitrile	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/26/16	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/26/16	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/26/16	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/26/16	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	10/26/16	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/26/16	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	10/26/16	MH	70 - 130 %
% Bromofluorobenzene	92		%	1	10/26/16	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	10/26/16	MH	70 - 130 %

Project ID: 85 HAWTHORN STREET
Client ID: TRIP BLANK

Phoenix I.D.: BV64539

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	100		%	1	10/26/16	MH	70 - 130 %

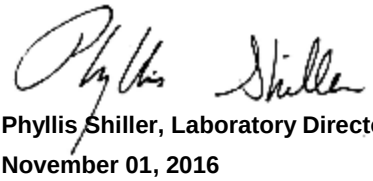
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TRIP BLANK INCLUDED.

Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

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



Phyllis Shiller, Laboratory Director
November 01, 2016
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

QA/QC Report

November 01, 2016

QA/QC Data

SDG I.D.: GBV64532

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 364116 (mg/L), QC Sample No: BV61815 (BV64532, BV64534, BV64536, BV64537, BV64538)													
Thallium - Water	BRL	0.001	<0.001	<0.001	NC	101			103			75 - 125	20
QA/QC Batch 364463 (mg/L), QC Sample No: BV63100 (BV64535)													
ICP Metals - Aqueous													
Antimony	BRL	0.005	0.011	0.015	NC	113			111			75 - 125	20
Arsenic	BRL	0.004	<0.004	<0.004	NC	97.7			96.8			75 - 125	20
Barium	BRL	0.002	0.024	0.023	4.30	100			97.7			75 - 125	20
Beryllium	BRL	0.001	<0.001	<0.001	NC	103			102			75 - 125	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	98.0			96.3			75 - 125	20
Chromium	BRL	0.001	<0.001	<0.001	NC	98.6			97.0			75 - 125	20
Copper	BRL	0.005	0.010	0.010	NC	97.3			97.9			75 - 125	20
Lead	BRL	0.002	<0.002	<0.002	NC	98.0			96.9			75 - 125	20
Nickel	BRL	0.001	<0.001	<0.001	NC	98.2			96.7			75 - 125	20
Selenium	BRL	0.010	<0.010	<0.010	NC	98.0			96.2			75 - 125	20
Silver	BRL	0.001	<0.001	<0.001	NC	95.8			95.5			75 - 125	20
Vanadium	BRL	0.002	<0.002	0.002	NC	96.6			96.1			75 - 125	20
Zinc	BRL	0.002	<0.002	<0.002	NC	97.4			97.2			75 - 125	20
QA/QC Batch 364256 (mg/L), QC Sample No: BV64487 (BV64532, BV64534, BV64536, BV64537, BV64538)													
ICP Metals - Aqueous													
Antimony	BRL	0.005	0.006	<0.005	NC	107			106			75 - 125	20
Arsenic	BRL	0.004	<0.004	<0.004	NC	101			101			75 - 125	20
Barium	BRL	0.002	<0.002	<0.002	NC	96.4			96.5			75 - 125	20
Beryllium	BRL	0.001	<0.001	<0.001	NC	101			99.9			75 - 125	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	104			104			75 - 125	20
Chromium	BRL	0.001	<0.001	<0.001	NC	97.6			97.1			75 - 125	20
Copper	BRL	0.005	<0.005	<0.005	NC	92.3			92.1			75 - 125	20
Lead	BRL	0.002	<0.002	<0.002	NC	102			101			75 - 125	20
Nickel	BRL	0.001	0.001	<0.001	NC	101			100			75 - 125	20
Selenium	BRL	0.010	<0.010	<0.010	NC	98.4			96.6			75 - 125	20
Silver	BRL	0.001	<0.001	<0.001	NC	90.0			88.7			75 - 125	20
Vanadium	BRL	0.002	<0.002	<0.002	NC	95.3			95.3			75 - 125	20
Zinc	BRL	0.002	<0.002	<0.002	NC	98.4			98.2			75 - 125	20
QA/QC Batch 364340 (mg/L), QC Sample No: BV64591 (BV64532, BV64534, BV64536, BV64537, BV64538)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	89.8			87.8			70 - 130	20
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													
QA/QC Batch 364263 (mg/L), QC Sample No: BV64699 (BV64532, BV64534, BV64535, BV64536, BV64537, BV64538)													
Thallium - Water	BRL	0.001	<0.001	<0.001	NC	98.0			116			75 - 125	20
QA/QC Batch 364497 (mg/L), QC Sample No: BV65036 (BV64535)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	108			98.9			70 - 130	20

QA/QC Data

SDG I.D.: GBV64532

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

Comment:

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

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

QA/QC Report

November 01, 2016

QA/QC Data

SDG I.D.: GBV64532

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 364420 (mg/L), QC Sample No: BV64532 (BV64532, BV64533, BV64534, BV64535, BV64536, BV64537, BV64538)										
TPH by GC (Extractable Products) - Ground Water										
Ext. Petroleum H.C.	ND	0.10	67	71	5.8				60 - 120	30
% n-Pentacosane	65	%	70	73	4.2				50 - 150	20
Comment:										
Additional criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%.										
QA/QC Batch 364245 (ug/L), QC Sample No: BV64534 (BV64534, BV64535, BV64536, BV64538)										
Semivolatiles by SIM - Ground Water										
2-Methylnaphthalene	ND	0.05	58	57	1.7				30 - 130	20
Acenaphthene	ND	0.05	74	75	1.3				30 - 130	20
Acenaphthylene	ND	0.04	71	73	2.8				30 - 130	20
Anthracene	ND	0.02	81	83	2.4				30 - 130	20
Benz(a)anthracene	ND	0.02	82	85	3.6				30 - 130	20
Benzo(a)pyrene	ND	0.02	82	87	5.9				30 - 130	20
Benzo(b)fluoranthene	ND	0.02	89	93	4.4				30 - 130	20
Benzo(ghi)perylene	ND	0.02	79	81	2.5				30 - 130	20
Benzo(k)fluoranthene	ND	0.02	83	90	8.1				30 - 130	20
Chrysene	ND	0.02	82	86	4.8				30 - 130	20
Dibenz(a,h)anthracene	ND	0.01	88	91	3.4				30 - 130	20
Fluoranthene	ND	0.04	81	84	3.6				30 - 130	20
Fluorene	ND	0.05	74	77	4.0				30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	0.02	84	87	3.5				30 - 130	20
Naphthalene	ND	0.05	61	59	3.3				30 - 130	20
Phenanthrene	ND	0.05	74	77	4.0				30 - 130	20
Pyrene	ND	0.02	83	87	4.7				30 - 130	20
% 2-Fluorobiphenyl	53	%	62	63	1.6				30 - 130	20
% Nitrobenzene-d5	56	%	56	52	7.4				30 - 130	20
% Terphenyl-d14	82	%	81	84	3.6				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 364566 (ug/L), QC Sample No: BV64539 (BV64532, BV64533, BV64534, BV64535, BV64536, BV64537, BV64538, BV64539)										
Volatiles - Ground Water										
1,1,1,2-Tetrachloroethane	ND	1.0	104	97	7.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	94	89	5.5				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	108	102	5.7				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	106	102	3.8				70 - 130	30
1,1-Dichloroethane	ND	1.0	93	87	6.7				70 - 130	30
1,1-Dichloroethene	ND	1.0	96	93	3.2				70 - 130	30
1,1-Dichloropropene	ND	1.0	95	90	5.4				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	108	104	3.8				70 - 130	30

QA/QC Data

SDG I.D.: GBV64532

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2,3-Trichloropropane	ND	1.0	104	98	5.9				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	106	101	4.8				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	98	92	6.3				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	115	107	7.2				70 - 130	30
1,2-Dibromoethane	ND	1.0	110	104	5.6				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	104	98	5.9				70 - 130	30
1,2-Dichloroethane	ND	1.0	99	94	5.2				70 - 130	30
1,2-Dichloropropane	ND	1.0	100	92	8.3				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	98	92	6.3				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	102	97	5.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	103	97	6.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	101	97	4.0				70 - 130	30
2,2-Dichloropropane	ND	1.0	99	91	8.4				70 - 130	30
2-Chlorotoluene	ND	1.0	100	93	7.3				70 - 130	30
2-Hexanone	ND	5.0	99	91	8.4				70 - 130	30
2-Isopropyltoluene	ND	1.0	94	89	5.5				70 - 130	30
4-Chlorotoluene	ND	1.0	98	92	6.3				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	101	94	7.2				70 - 130	30
Acetone	ND	5.0	90	88	2.2				70 - 130	30
Acrylonitrile	ND	5.0	99	98	1.0				70 - 130	30
Benzene	ND	0.70	99	93	6.3				70 - 130	30
Bromobenzene	ND	1.0	103	98	5.0				70 - 130	30
Bromochloromethane	ND	1.0	103	100	3.0				70 - 130	30
Bromodichloromethane	ND	0.50	104	96	8.0				70 - 130	30
Bromoform	ND	1.0	110	104	5.6				70 - 130	30
Bromomethane	ND	1.0	100	89	11.6				70 - 130	30
Carbon Disulfide	ND	1.0	99	93	6.3				70 - 130	30
Carbon tetrachloride	ND	1.0	97	89	8.6				70 - 130	30
Chlorobenzene	ND	1.0	99	93	6.3				70 - 130	30
Chloroethane	ND	1.0	97	93	4.2				70 - 130	30
Chloroform	ND	1.0	96	90	6.5				70 - 130	30
Chloromethane	ND	1.0	89	84	5.8				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	102	96	6.1				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	102	96	6.1				70 - 130	30
Dibromochloromethane	ND	0.50	112	105	6.5				70 - 130	30
Dibromomethane	ND	1.0	104	99	4.9				70 - 130	30
Dichlorodifluoromethane	ND	1.0	104	99	4.9				70 - 130	30
Ethylbenzene	ND	1.0	100	94	6.2				70 - 130	30
Hexachlorobutadiene	ND	0.40	106	106	0.0				70 - 130	30
Isopropylbenzene	ND	1.0	99	93	6.3				70 - 130	30
m&p-Xylene	ND	1.0	100	92	8.3				70 - 130	30
Methyl ethyl ketone	ND	5.0	106	98	7.8				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	107	99	7.8				70 - 130	30
Methylene chloride	ND	1.0	99	93	6.3				70 - 130	30
Naphthalene	ND	1.0	114	109	4.5				70 - 130	30
n-Butylbenzene	ND	1.0	101	97	4.0				70 - 130	30
n-Propylbenzene	ND	1.0	97	90	7.5				70 - 130	30
o-Xylene	ND	1.0	100	93	7.3				70 - 130	30
p-Isopropyltoluene	ND	1.0	100	95	5.1				70 - 130	30
sec-Butylbenzene	ND	1.0	104	99	4.9				70 - 130	30
Styrene	ND	1.0	102	95	7.1				70 - 130	30
tert-Butylbenzene	ND	1.0	99	93	6.3				70 - 130	30
Tetrachloroethene	ND	1.0	101	94	7.2				70 - 130	30

QA/QC Data

SDG I.D.: GBV64532

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Tetrahydrofuran (THF)	ND	2.5	98	94	4.2				70 - 130	30
Toluene	ND	1.0	99	93	6.3				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	100	94	6.2				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	101	99	2.0				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	105	101	3.9				70 - 130	30
Trichloroethene	ND	1.0	102	96	6.1				70 - 130	30
Trichlorofluoromethane	ND	1.0	93	88	5.5				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	97	93	4.2				70 - 130	30
Vinyl chloride	ND	1.0	98	95	3.1				70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	101	100	1.0				70 - 130	30
% Bromofluorobenzene	94	%	98	97	1.0				70 - 130	30
% Dibromofluoromethane	95	%	98	99	1.0				70 - 130	30
% Toluene-d8	100	%	99	99	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

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

QA/QC Batch 364322 (ug/L), QC Sample No: BV64603 (BV64534, BV64535, BV64536, BV64538)

Polychlorinated Biphenyls - Ground Water

PCB-1016	ND	0.050	76	74	2.7				40 - 140	20
PCB-1221	ND	0.050							40 - 140	20
PCB-1232	ND	0.050							40 - 140	20
PCB-1242	ND	0.050							40 - 140	20
PCB-1248	ND	0.050							40 - 140	20
PCB-1254	ND	0.050							40 - 140	20
PCB-1260	ND	0.050	96	94	2.1				40 - 140	20
PCB-1262	ND	0.050							40 - 140	20
PCB-1268	ND	0.050							40 - 140	20
% DCBP (Surrogate Rec)	77	%	113	104	8.3				30 - 150	20
% TCMX (Surrogate Rec)	75	%	96	86	11.0				30 - 150	20

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 364724 (ug/L), QC Sample No: BV66860 (BV64535 (5X))

Volatiles - Ground Water

Tetrachloroethene	ND	1.0	110	104	5.6				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

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

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
November 01, 2016

Sample Criteria Exceedances Report

GBV64532 - TIGHE-HARTFD

Criteria: CT: GWP, SWP

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BV64532	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	2.5	0.5	0.5	ug/L
BV64532	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	0.25	0.05	0.05	ug/L
BV64533	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	0.25	0.05	0.05	ug/L
BV64533	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	2.5	0.5	0.5	ug/L
BV64533	$ETPH_WMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GWPC (µg/L)	0.31	0.078	0.25	0.25	mg/L
BV64534	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	0.25	0.05	0.05	ug/L
BV64534	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	2.5	0.5	0.5	ug/L
BV64535	$8260GWR	Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	42	5.0	5	5	ug/L
BV64535	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	0.25	0.05	0.05	ug/L
BV64535	$8260GWR	Chloroform	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	9.9	1.0	6	6	ug/L
BV64535	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	2.5	0.5	0.5	ug/L
BV64536	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	0.25	0.05	0.05	ug/L
BV64536	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	2.5	0.5	0.5	ug/L
BV64537	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	0.25	0.05	0.05	ug/L
BV64537	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	2.5	0.5	0.5	ug/L
BV64538	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	0.25	0.05	0.05	ug/L
BV64538	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	2.5	0.5	0.5	ug/L
BV64539	$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	2.5	0.5	0.5	ug/L
BV64539	$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (ug/L)	ND	0.25	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: 85 HAWTHORN STREET ***Project Number:***

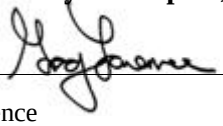
Laboratory Sample ID(s): BV64532-BV64539 ***Sampling Date(s):*** 10/24/2016

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 7000, 7470/7471, 8082, 8260, 8270, ETPH

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	***VPH and EPH 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 CTDEP Reasonable Confidence Protocol documents achieved?**	☑ Yes ☐ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?**	☑ Yes ☐ No
	b) Were these reporting limits met?	☐ Yes ☑ No
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
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☐ Yes ☑ No

Notes: For all questions to which the response was "No" (with the exception of question #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". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge 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:  **Position:** Assistant Lab Director

Printed Name: Greg Lawrence **Date:** Tuesday, November 01, 2016

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

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

November 01, 2016

SDG I.D.: GBV64532

SDG Comments

8270 Semi-volatile Organics: BV64534 BV64535 BV64536 BV64538
Only the PAH constituents are reported as requested on the chain-of-custody. In order to achieve the requested reporting levels for the target compounds, the sample was extracted and analyzed via 8270 selective ion monitoring (SIM).

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.

AA Metals (TL) Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

PE600-1 10/26/16 08:38 Rick Schweitzer, Chemist 10/26/16

BV64532, BV64534, BV64536, BV64537, BV64538

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 CRDL met criteria.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following samples did not meet analytical spike criteria: None.

PE600-1 10/28/16 15:36 Rick Schweitzer, Tina Hall, Chemist 10/28/16

BV64535

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 CRDL met criteria.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following samples did not meet analytical spike criteria: None.

QC (Batch Specific):

Batch 364116 (BV61815)

BV64532, BV64534, BV64536, BV64537, BV64538

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

Batch 364263 (BV64699)

BV64532, BV64534, BV64535, BV64536, BV64537, BV64538

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

ETPH Narration

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

Instrument:

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

November 01, 2016

SDG I.D.: GBV64532

ETPH Narration

AU-XL1 10/27/16-1 Jeff Bucko, Chemist 10/27/16

BV64532, BV64534, BV64535, BV64536

The initial calibration (ETPHO13I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-XL1 10/28/16-1 Jeff Bucko, Chemist 10/28/16

BV64537, BV64538

The initial calibration (ETPHO13I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-XL2 10/28/16-2 Jeff Bucko, Chemist 10/28/16

BV64533

The initial calibration (ETPHO26I) RSD for the compound list was less than 30% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

Batch 364420 (BV64532)

BV64532, BV64533, BV64534, BV64535, BV64536, BV64537, BV64538

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.

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 10/26/16 08:35 Rick Schweitzer, Chemist 10/26/16

BV64532, BV64534, BV64536, BV64537, BV64538

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 interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

MERLIN 10/27/16 09:44 Rick Schweitzer, Chemist 10/27/16

BV64535

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 interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

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

NY # 11301

Certification Report

November 01, 2016

SDG I.D.: GBV64532

Mercury Narration

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 364340 (BV64591)

BV64532, BV64534, BV64536, BV64537, BV64538

All LCS recoveries were within 70 - 130 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

Batch 364497 (BV65036)

BV64535

All LCS recoveries were within 70 - 130 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

ARCOS 10/27/16 04:50 Laura Kinnin, Tina Hall, Chemist 10/27/16

BV64532, BV64534, BV64536, BV64537, BV64538

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: CCV 10/27/16 17:06: Silver 89% (90-110)
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

ARCOS 10/28/16 15:39 Laura Kinnin, Tina Hall, Chemist 10/28/16

BV64535

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

ARCOS 10/31/16 05:46 Laura Kinnin, Tina Hall, Chemist 10/31/16

BV64535

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 364256 (BV64487)

BV64532, BV64534, BV64536, BV64537, BV64538

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

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

NY # 11301

Certification Report

November 01, 2016

SDG I.D.: GBV64532

ICP Metals Narration

Batch 364463 (BV63100)

BV64535

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

PCB Narration

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

Instrument:

AU-ECD29 10/27/16-1 Adam Werner, Chemist 10/27/16

BV64534, BV64535, BV64536, BV64538

The initial calibration (PC1013AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC1013BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

QC (Batch Specific):

Batch 364322 (BV64603)

BV64534, BV64535, BV64536, BV64538

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

SVOASIM Narration

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

Instrument:

CHEM07 10/26/16-1 Damien Drobinski, Chemist 10/26/16

BV64534, BV64535, BV64536, BV64538

Initial Calibration Verification (CHEM07/SIM_1024):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM07/1026_02-SIM_1024):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
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.

QC (Batch Specific):

Batch 364245 (BV64534)

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

November 01, 2016

SDG I.D.: GBV64532

SVOASIM Narration

BV64534, BV64535, BV64536, BV64538

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.
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%)

VOA Narration

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

Instrument:

CHEM02 10/26/16-1 Michael Hahn, Chemist 10/26/16

BV64532, BV64533, BV64534, BV64535, BV64536, BV64537, BV64538, BV64539

Initial Calibration Verification (CHEM02/VT-P1025):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.028 (0.05), 2-Hexanone 0.045 (0.1), 4-Methyl-2-pentanone 0.062 (0.1), Acetone 0.019 (0.1), Acrylonitrile 0.025 (0.05), Bromoform 0.091 (0.1), Methyl ethyl ketone 0.038 (0.1), Tetrahydrofuran (THF) 0.027 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1026P02-VT-P1025):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
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: 1,1,2,2-Tetrachloroethane 0.249 (0.3), 1,2-Dibromo-3-chloropropane 0.033 (0.05), Acrylonitrile 0.031 (0.05), Tetrahydrofuran (THF) 0.029 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 10/27/16-1 Michael Hahn, Chemist 10/27/16

BV64535

Initial Calibration Verification (CHEM02/VT-P1025):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1027P02-VT-P1025):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
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.

QC (Batch Specific):

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

November 01, 2016

SDG I.D.: GBV64532

VOA Narration

Batch 364566 (BV64539)

BV64532, BV64533, BV64534, BV64535, BV64536, BV64537, BV64538, BV64539

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 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Batch 364724 (BV66860)

BV64535

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 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

Temperature Narration

The samples were received at 4C with cooling initiated.
(Note acceptance criteria is above freezing up to 6°C)

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

Temp 4 °C Pg of

CHAIN OF CUSTODY RECORD

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

Data Delivery:
[ ] Fax #:
[ ] Email:

Customer: TIGHE Band
Address: 213 Court street Suite 1100
Middletown CT 06457

Project: 85 Hawthorn Street
Report to: Sam Avis
Invoice to: TIGHE Bond Westfield
Phone #:
Fax #:

Project P.O: 121022.14

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 10/24/16

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	RCP metals	PAH	PCB	TCLP	VOC	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz ( ) 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 (as is)	Bacteria (w/thio)
64532	MW-1	GW	10/24/16	1420	X			X	X			3	1			1			5
64533	MW-3 (*)			1705				X	X			3	1						4
64534	MW-4			1041	X	X	X	X	X			3	3			1			7
64535	MW-5 *			1246	↓	↓	↓	↓	↓			↓	↓			↓			7
64536	MW-6			1500															7
64537	MW-7			1550	X			X	X			3	1			1			5
64538	DUP			1042	X	X	X	X	X			3	3			1			7
64539	Trip Blank											2							2
64540	Temp Blank			1800	X	X	X	X	X			3	3			1			7
																			51

Relinquished by:	Accepted by:	Date:	Time:
Evan Doss	TTB Aridge	10/24/16	1820
	[signature]	10/25/16	1233
	Paradise	10/25/16	1412

Comments, Special Requirements or Regulations:

VOC code: TIGHE-Hartford
*Missing HNO3 bottle (TF)
(X) Received HNO3 bottle (TF)

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

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

CT
[X] RCP Cert
[ ] GW Protection
[ ] 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

Greg Lawrence

From: Evan R. Tosi <ERTosi@tighebond.com>
Sent: Wednesday, October 26, 2016 1:36 PM
To: Greg Lawrence
Subject: RE: 85 Hawthorn Street

Greg,

I am looking at the chain now and that bottle must be for MW-5. My hand writing is not the greatest.

Evan R. Tosi | Environmental Scientist 1
Tighe & Bond | 213 Court Street. | Middletown, CT 06457 | (860) 852-5212 (ext. 4812)
www.tighebond.com | Follow us on: Twitter Facebook LinkedIn

From: Greg Lawrence [mailto:greg@phoenixlabs.com]
Sent: Wednesday, October 26, 2016 10:13 AM
To: Evan R. Tosi <ERTosi@tighebond.com>
Subject: 85 Hawthorn Street
Importance: High

Evan,

Yesterday we received samples from the above site. For your sample ID MW-3 we received an HNO3 bottle, no metals requested, no HNO3 bottle for MW-5 and this sample needs metals. Is it possible that the HNO3 bottle labeled MW-3 should be MW-5 or does MW-3 need metals and not MW-5. Please advise.

Thank you,

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

Greg Lawrence

From: Samantha M. Avis <SMAvis@tighebond.com>
Sent: Thursday, October 27, 2016 3:00 PM
To: Greg Lawrence
Subject: 85 Hawthorn St.

Greg,

As per our phone discussion:

Please cancel running any analysis on the Equipment Blank (Phoenix Sample #64540)
Please run the Trip Blank for VOCs (Phoenix Sample #64539)

Thank you,

Samantha Avis | Environmental Scientist
Tighe&Bond | 213 Court St., Suite 1100 | Middletown, CT 06457 | 860.852.5206 | 908.294.1381 (cell)
www.tighebond.com | Follow us on: Twitter Facebook LinkedIn

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241604329
Customer ID:	TIGH62
Customer PO:	
Project ID:	

Attention:	Samantha Avis	**Phone:**	(908) 294-1381
	Tighe & Bond	**Fax:**	(860) 704-4775
	213 Court Street	**Received Date:**	10/10/2016 3:20 PM
	Suite 1100	**Analysis Date:**	10/25/2016
	Middletown, CT 06457	**Collected Date:**	
Project:	85 HAWTHORN ST		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1A *241604329-0001*	Debris pile, east side of site - black fibrous paper	Brown/Black Fibrous Homogeneous	40% Glass	60% Non-fibrous (Other)	None Detected
1B *241604329-0002*	Debris pile, east side of site - black fibrous paper	Brown/Black Non-Fibrous Homogeneous	50% Glass	50% Non-fibrous (Other)	None Detected
1C *241604329-0003*	Debris pile, east side of site - black fibrous paper	Black Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
2A *241604329-0004*	Debris pile, east side of site - white/gray coating	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2B *241604329-0005*	Debris pile, east side of site - white/gray coating	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2C *241604329-0006*	Debris pile, east side of site - white/gray coating	Gray/White Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
3A *241604329-0007*	Debris pile, east side of site - tan/gray fibrous	Gray/Tan Fibrous Homogeneous	40% Glass	60% Non-fibrous (Other)	None Detected
3B *241604329-0008*	Debris pile, east side of site - tan/gray fibrous	Gray/Tan Fibrous Homogeneous	50% Glass	50% Non-fibrous (Other)	None Detected
3C *241604329-0009*	Debris pile, east side of site - tan/gray fibrous	Tan Fibrous Homogeneous	80% Glass	20% Non-fibrous (Other)	None Detected
4A *241604329-0010*	Debris pile, east side of site - tan/gray transite panel	Gray/Tan Non-Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
4B *241604329-0011*	Debris pile, east side of site - tan/gray transite panel	Gray/Tan Non-Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
4C *241604329-0012*	Debris pile, east side of site - tan/gray transite panel	Brown/Tan Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected

Initial report from: 10/25/2016 13:59:22

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

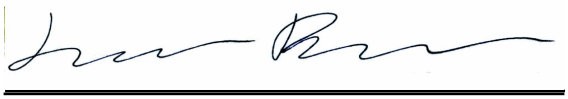
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241604329
Customer ID:	TIGH62
Customer PO:	
Project ID:	

Analyst(s)

Almedina Hodzic (8)

Lauren Brennan (4)



Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

Initial report from: 10/25/2016 13:59:22