TASK 210
SUBSURFACE SITE INVESTIGATION REPORT
STRATFORD SIGNALIZATION PROJECT
STRATFORD, CONNECTICUT
ConnDOT Project Number: 173-461

Prepared for

State of Connecticut Department of Transportation
Division of Environmental Compliance

Newington, Connecticut

Prepared by

TRC

Windsor, Connecticut

February 2018

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TRC Project No. 237612.005423.000210

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TABLE OF CONTENTS

SECTION PAGE

1.0 INTRODUCTION

1.1 Overview

Pursuant to TRC's Connecticut Department of Transportation (ConnDOT) Contract for On-Call Environmental Services, TRC performed a Task 210 Subsurface Site Investigation in the immediate vicinity of the intersections of Ferry Boulevard (United States Route 1 Northbound) and Barnum Avenue Cutoff (United States Route 1 Southbound), including the driveway entrances to The Dock Shopping Center, Riverview Bistro, and Danny's Drive-in, (referred to as the "Site") in Stratford, Connecticut (Figures 1 and 2). This investigation was conducted as part preliminary activities associated with the proposed Stratford signalization improvements project under ConnDOT project number 173-461. Specifically, this investigation was conducted within or in the immediate vicinity of proposed work areas, including proposed mast arms and pedestal foundations at the intersections of Ferry Boulevard, Barnum Avenue Cutoff, and several private driveways; the new sidewalk extending along Barnum Avenue Cutoff; and several handholds as identified on project plans provided to TRC for review to determine soil quality to anticipated excavation depths.

1.2 Objectives

The primary objectives of this Task 210 site investigation were to:

- Determine soil quality in the project area;
- Determine if "Raymark Waste", as defined by the USEPA (see Section 3.0) exists within the project area limits, given its proximity to the former Raymark Industries, Inc. (Raymark) Superfund Site;
- Utilize the gathered data to determine how best to manage soil during excavation activities and whether Plans and Specifications are required for the impending construction activities.

The analytical results of the soil sampling conducted as part of this Task 210 have been compared to both the Raymark Waste Characteristic thresholds (see section 3.0) and the numerical criteria set forth in Connecticut's Remediation Standard Regulations (RSRs) in order

to determine the relative magnitude of potential impacts. This evaluation of the data will aid in managing the materials encountered during the excavation activities.

1.3 Background

Based on a review of project plans provided to TRC by ConnDOT, the Stratford signalization improvements project will include modifications to the existing US Route 1 northbound and southbound vehicular and pedestrian traffic. Specifically, the project will involve the reconfiguration of traffic control signals and sidewalks in the immediate vicinity of several driveway accesses to private property, namely, the Dock Shopping Center, Riverview Bistro, and Danny's Drive-in.

Proposed improvements include traffic control devices mounted on mast arms and pedestal foundations to a maximum depth of 10 feet below existing grade, and along the proposed sidewalk to a maximum depth of two feet below existing grade.

1.3.1 Raymark Superfund Site

As indicated previously, the entire project area is located in close proximity to the Raymark Superfund Site; specifically, Raymark was previously located to the northwest of the current Stratford Signalization Project. According to the most recent Five-Year Review Report for the Raymark site prepared by the USEPA in September 2015, the Raymark facility operated from 1919 until 1989 and manufactured friction materials containing asbestos and non-asbestos containing components, metals, phenol-formaldehyde resins and various adhesives. Soils at the facility became contaminated with metals, asbestos, dioxins and polychlorinated biphenyls (PCBs). Groundwater is documented to have become contaminated with volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and metals. During the operational history of the Raymark facility, it was common practice to dispose of manufacturing waste as fill material both on the Raymark facility property and at locations throughout the Town of Stratford. Extensive environmental investigations and remedial activities were conducted both on and off the Raymark site from the early 1990s through the present day. USEPA

sampling of process waste found on the former Raymark property identified lead, asbestos, PCBs and copper as the four most common constituents of "Raymark Waste". Remediation of the former Raymark facility itself (designated as Operable Unit (OU) 1 by the USEPA) was completed in 1997 and the site was redeveloped into a shopping plaza in the early 2000s. A total of nine OUs have since been identified by USEPA in connection with the Raymark Facility. OU2 is related to contaminated groundwater within and downgradient of the former Raymark Facility. OU3 through OU9 are all related to areas where Raymark Waste, as defined by USEPA, is known to have been deposited throughout the Town of Stratford.

None of the EPA-lead investigations conducted prior to this investigation have identified areas of Raymark Waste within the Stratford signalization project limits. According to the OU6 Remedial Investigation (RI) prepared by Tetra Tech NUS, areas of Raymark Waste have been identified in close proximity to the project corridor, specifically on several properties along Ferry Boulevard, located within the Stratford signalization project.

1.4 Geologic/Physical Setting

As indicated by the Surficial Materials Map of Connecticut (Stone et al, 1992), the site is located in an area underlain by sand. Surficial materials are composed mainly of very coarse to fine sand, commonly in well-sorted layers. Coarser layers may contain up to 25 percent gravel particles, generally granules and pebbles; finer layers may contain some very fine sand, silt and clay (interpreted as delta-foreset beds, very distal fluvial deposits, or windblown sediment).

Based on the descriptions of the soil cores collected during the Task 210 field investigation, the site is generally underlain by sand with varying amounts of silt and gravel.

As indicated by the Bedrock Geological Map of Connecticut (Rogers, 1985), the site is located within an area of Oronoque Schist. The sand deposits at the site are underlain by gray to silver, medium- to fine grained schist and granofels.

The topography in the immediate project area can be characterized as generally flat. The ground elevation increases, slightly sloping upward from west to east to match the elevation of the drawbridge crossing over the Housatonic River. A granitic rock outcropping is visible within

the median between Barnum Avenue Cutoff and Ferry Boulevard. Groundwater generally flows from high topographic points to low topographic points, but can also be heavily influenced by aquifer type, depth to bedrock, nearby watercourses, groundwater use (e.g., withdrawal wells) and subsurface structures. Based on the local topography and features, groundwater is anticipated to flow to the east towards the Housatonic River. Groundwater contour maps presented in the various EPA reports and studies for the Raymark site confirm this generalized direction of groundwater flow.

According to the Connecticut Department of Energy and Environmental Protection (CTDEEP) groundwater classification maps reviewed by TRC, groundwater beneath the site is classified as "GB". Class GB groundwater designated uses are industrial process water, cooling waters and baseflow for hydraulically connected surface water bodies. It is presumed not suitable for human consumption without treatment.

2.0 TECHNICAL APPROACH

This section of the report summarizes the soil sampling methods employed during the Task 210 field investigation. Observations made in the field are also summarized in this section.

As indicated above, the focus of the Task 210 Subsurface Site Investigation was to characterize soils in the proposed development areas of the Stratford signalization project. Specifically, the proposed soil boring locations were selected in order to characterize the soils in the aforementioned project areas to the anticipated excavation depths. A total of 16 soil borings were advanced within the project areas.

A total of 47 soil samples (including duplicates) were collected from the 16 soil borings and submitted to the laboratory for analysis. Samples were collected continuously from each boring at two foot intervals. A total of four duplicate samples were collected throughout the course of the subsurface site investigation. A field rinsate blank and a solvent blank were submitted to the laboratory for analysis each day of sampling. The 47 soil samples (including the duplicate soil samples) and field rinsate blanks were submitted to the laboratory. The solvent blanks were submitted for VOC analysis only.

Each sample set consisted of one- 40 ml. methanol preserved VOA vial, two -40 ml DI water preserved VOA vials, and three -8 oz. unpreserved glass jars. The sample sets were split and sent to two different laboratories for analysis. One – 8 oz. jar from each sample was sent to the TRC Industrial Hygiene Laboratory in Windsor, Connecticut for Asbestos analysis by EPA Method 600/R-93/116. The remainder of the containers in the sample sets were sent to Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, Connecticut and held for future analysis of the following:

- VOCs by EPA Method 8260 (with Method 5035 field preservation for soil samples)
- SVOCs by EPA Method 8270; and
- Extractable total petroleum hydrocarbons (ETPH) by Connecticut's 2001 Method
- Polychlorinated biphenyls by EPA Method 8082
- Total RCRA 8 metals plus copper by EPA Methods 6010/7471;

If the TRC Industrial Hygiene Laboratory detected asbestos in the sample, the correlating sample being held at Phoenix was then analyzed for soil classification in accordance with Connecticut's Reasonable Confidence Protocols (RCP).

2.1 Preliminary Activities

Prior to beginning the investigation, TRC marked the proposed boring locations at the site with white paint on the ground surface. "Call Before You Dig" (CBYD) was contacted to mark the locations of buried utilities in the proposed work zones. In addition, a private utility mark-out service (Underground Surveying of Brookfield, CT) was contracted to conduct a more detailed mark-out given the presence of several utilities within the work areas. Preliminary activities also included the preparation of a Health and Safety Plan (HASP) to address the field work to be completed as part of this Task 210.

2.2 Soil Boring Program

Methodology

A total of 16 soil borings were advanced between August 24 and August 25, 2017 by Glacier Drilling, LLC (Glacier) of Durham, Connecticut, under the direct supervision of TRC personnel. These borings were advanced utilizing a track-mounted GeoProbe™. Dependent upon the particular sample location, soil cores were collected continuously from the ground surface to a maximum depth of 10 feet below grade (ftbg) (which represents the proposed maximum depth of construction).

Each five-foot soil core was collected in an acetate Macro-Core® liner and was logged with respect to soil characteristics (i.e., grain size, moisture content and any other physical characteristics) and indications of potential impacts (e.g., stains and odors). In addition, each core was field-screened using a photo ionization detector (PID) prior to the collection of soil samples for analysis. Soil boring logs are presented in Appendix A. The soil boring/sampling locations are shown on Figure 2.

Samples were collected continuously from the soil cores in two foot intervals to the total depth of each boring. Total boring depths were determined based on the anticipated excavation depths during upcoming Stratford signalization improvements project.

Soil samples submitted to the laboratory for VOC analysis were collected in accordance with EPA Method 5035. This method outlines the collection of soil samples, without homogenization and with minimal disturbance, and transfer into extraction solvents. The remaining soil was then homogenized utilizing dedicated/decontaminated stainless steel bowls and spoons, placed in the appropriate laboratory-supplied sample containers and then placed on ice, in a cooler, for delivery to the laboratory.

The probe tip and Macro-Core® sampler were decontaminated between uses to minimize the potential for cross-contamination. The decontamination was completed by washing with an Alconox and tap water mixture, followed by a tap water rinse and a final deionized water rinse.

Field Observations

Based on the descriptions of the soil cores, the site is underlain primarily by fine to coarse sand with some fine gravel. Refusals were encountered in borings SIG-SB04 at four ftbg, SIG-SB10 at seven ftbg; SIG-SB11 at nine ftbg, and SIG-SB16 at approximately five ftbg. If the proposed depth was not achieved at a location, off-sets were attempted. The off-set borings yielded similar results to that of the primary boring.

Each soil core was screened with a PID for volatile organic vapors. No elevated PID readings were observed in soils, and TRC did not observe any odors or staining.

2.3 Quality Assurance/Quality Control Samples

The following quality assurance/quality control (QA/QC) samples were collected as part of the Task 210 subsurface investigation:

In order to determine the effectiveness of the decontamination of the sampling equipment, a field rinsate blank was collected and analyzed for the same analyses as the primary samples (with the exception of asbestos) submitted on each day of the sampling. Field rinsate

blanks were collected by pouring laboratory-supplied water over and/or through the sampling equipment used in the collection of the soil and groundwater samples. The rinsate water was then collected into the appropriate laboratory-supplied sample containers. The field rinsate blanks associated with the soil sampling program were designated as "FB082417"and "FB082517".

As part of this sampling program, a solvent blank was submitted each day to evaluate the effect of sample storage and shipment on sample integrity for the soil samples collected for VOC analysis. Furthermore, solvent blanks were used to ensure that proper sample container preparation and handling procedures were utilized following EPA 5035 Method protocols for field preservation of VOC soil samples. Vials of methanol and de-ionized water to be used for VOC soil sampling were prepared by the laboratory; the solvent blanks were designated as "SB082417", and "SB082517".

Duplicate samples are two separate samples taken from the same source. The procedure for collecting a duplicate sample consists of alternating the collection of the sample between the primary sample bottle and the duplicate bottle. As a part of this subsurface site investigation, duplicates were collected at a rate of one for every 20 primary samples collected. A total of four duplicates were collected. The duplicate soil samples collected as part of the soil sampling program are identified as SIG-SB104 (0'-2'), SIG-SB109 (2'-4'), SIG-SB112 (0'-2'), and SIG-SB115 (2'-4') which are duplicated of SIG-SB04 (0'-2'), SIG-SB09 (2'-4'), SIG-SB12 (0'-2'), and SIG-SB15 (2'-4'), respectively.

3.0 INVESTIGATION RESULTS

The following sections provide a summary of the analytical results related to the soil sampling conducted at the site. A total of 47 soil samples (including four duplicates) were collected and analyzed for asbestos. The asbestos results are summarized in Table 1. Soil samples that were reported to contain asbestos were further analyzed for VOCs, SVOCs, ETPH, PCBs, and total RCRA 8 metals plus copper. Copies of the laboratory reports are provided in Appendix B.

As the Stratford signalization improvements project is located in close proximity to the former Raymark Superfund Site, soil sample results were also evaluated against "Raymark Waste" criteria. Note that the Raymark Waste definition was developed by USEPA so that Raymark Waste could be uniquely distinguished from other contaminants that may be present in a given area. As previously indicated, lead, asbestos, PCBs and copper were the most common constituents found in Raymark Waste at the former Raymark Facility. Based on these constituents, and the concentration and frequency of their co-location in a single sample, the following definition of the Raymark Waste was formally developed by USEPA in a statement released in May 2010 (see Appendix D): "Raymark Waste" is defined as soil from a single soil sample at a same depth interval that contains lead above 400 milligrams per kilogram (mg/kg), asbestos (chrysotile only) greater than 1 percent and either PCBs (Aroclor 1268 only) above 1 mg/kg or copper above 288 mg/kg.

Historically, data reproducibility issues (particularly with respect to lead and asbestos concentrations) have been documented during investigations of Raymark Waste. As documented in the URS report entitled *Raymark Waste Delineation Final Report – Airport Property Portion of Additional Properties Operable Unit 6* dated March 2014, these issues have been attributed to the heterogeneity of the Raymark Waste Material. Based on this information, URS developed a modified process for determining if the material sampled was or was not Raymark Waste. Specifically, analytical protocols were modified to allow for further evaluation of lead results between 300 and 400 mg/kg and the criteria for chrysotile asbestos relative to its percentage in Raymark Waste was modified to 0.5%. This modified approach involved the use of primary and

replicate sample data for lead. Specifically, if the primary results of the lead analysis was greater than 300 mg/kg, the replicate sample would also be analyzed. If the results of the replicate analysis was greater than 400 mg/kg, and the sample also contained the requisite concentrations of chrysotile asbestos (modified to 0.5%), Aroclor 1268 (1 mg/kg) or copper (288 mg/kg), the material was determined to be Raymark Waste. Further, if the results of the primary and replicate lead analyses were below 400 mg/kg but the relative percent difference (RPD) between the results was greater than 50%, and the sample contained the requisite concentrations of asbestos, Aroclor 1268 or copper, the material was also determined to be Raymark Waste.

Note that primary and replicate samples were not collected at every location as part of this investigation. As such, an evaluation of the RPD for the lead analyses could not be made. However, since all of the soil samples were analyzed for all of the Raymark Waste parameters, it was possible to determine if material met the exact chemical definition of Raymark Waste. Furthermore, all soil samples which exhibited lead concentrations greater than 300 mg/kg and contained the requisite concentrations of asbestos, Aroclor 1268 or copper, were also conservatively determined to be Raymark Waste, consistent with the URS approach described above.

Although the project site is not subject to the Transfer Act, the Voluntary Cleanup Program, nor the requirements of a Consent Order, the analytical results were compared to the Connecticut RSRs to evaluate the levels of any detected contaminants within the investigated areas. This allows for management of contaminated media in a manner consistent with applicable regulations. The reported concentrations for soils were compared to the Residential Direct Exposure Criteria (RES DEC) and the GB Pollutant Mobility Criteria (PMC) under the RSRs. The Industrial/Commercial (I/C) criteria are not technically applicable at a site unless an Environmental Land Use Restriction (ELUR) is implemented.

3.1 Soil Sample Results

A summary of the asbestos soil sample analytical results is presented in Table 1. A summary of the four additional soil sample analytical results is presented in Table 2. A copy of all of the laboratory analytical reports for the soil samples is included as Appendix B.

Asbestos

As indicated in the results summary in Table 1, asbestos was present in four of the 47 soil samples collected as a part of this subsurface investigation. Soil samples SIG-SB02 (0'-2'), SIG-SB10 (0'-2'), SIG-SB10 (4'-6'), and SIG SB16 (0'-2') contained chrysotile asbestos. Sample SIG-SB10 (0'-2') contained both amosite and chrysotile asbestos.

VOCs

As indicated in the results summary in Table 2, one VOC was detected above the laboratory reporting limits in one of the four soil samples analyzed during this subsurface investigation. The reported concentration of toluene in the soil sample SIG-SB16 (0'-2'), 0.32 milligrams per kilogram (mg/Kg) does not exceed the RES DEC or GB PMC.

SVOCs

As indicated in the results summary in Table 2, numerous SVOCs were detected above the laboratory reporting limits in three of the four soil samples analyzed during this subsurface investigation. Sample SIG-SB10 (0'-2') contained various SVOC concentrations above the RES DEC and/or GA PMC. The reported SVOC concentrations in the samples SIG-SB02 (0'-2'), and SIG-SB10 (4'-6') were below the RES DEC and GA PMC.

ETPH

As indicated in the results summary in Table 2, ETPH was detected above the laboratory reporting limits in two of the four the soil samples analyzed during this subsurface investigation. Samples SIG-SB02 (0'-2') and SIG-SB10 (0'-2') exhibited ETPH concentrations of 57 mg/kg

and 120 mg/kg, respectively. The reported ETPH concentrations in the soil samples were both below the RES DEC and GB PMC.

PCBs

As indicated in Table 2, none of the samples collected as part of this investigation contained concentrations of PCBs above the laboratory reporting limits.

Total RCRA 8 Metals Plus Copper

As indicated in Table 2, the metals arsenic, barium, cadmium, chromium, copper, lead, and mercury were detected in one or more of the soil samples at the concentration ranges indicated below:

- Arsenic was detected at concentrations ranging from 1.48 mg/kg to 3.70 mg/kg;
- Barium was detected at concentrations ranging from 20 mg/kg to 53.9 mg/kg;
- Cadmium was detected at concentrations ranging from 0.34 mg/kg to 0.45 mg/kg;
- Chromium was detected at concentrations ranging from 8.05 mg/kg to 16.9 mg/kg;
- Copper was detected at concentrations ranging from 15.9 mg/kg to 46.2 mg/kg;
- Lead was detected at concentrations ranging from 9.8 mg/kg to 98.7 mg/kg; and
- Mercury was detected at concentrations ranging from 0.03 mg/kg to 0.04 mg/kg.

The reported concentrations of total arsenic barium, cadmium, chromium, copper, lead, and mercury were all below the RES DEC.

3.1.1 Raymark Waste Evaluation

As indicated above, the reported concentrations of lead, asbestos, copper and the PCB Aroclor 1268 were evaluated against the Raymark Waste criteria. After review of the sample results presented in Table 2, it was determined that Raymark Waste was not present in any of the soil samples collected from soil borings advanced as part of this subsurface investigation.

The following table summarizes the results of the Raymark Waste parameters in these samples:

Sample Identification	Lead (mg/kg)	Copper (mg/kg)	PCB-1268 (mg/kg)	Chrysotile Asbestos
SIG-SB02 (0'-2')	98.7	46.2	ND	Present
SIG-SB10 (0'-2')	54.2	40.8	ND	Present
SIG-SB10 (4'-6')	9.80	15.9	ND	Present
SIG-SB16 (0'-2')	37.6	18.7	ND	Present

These four samples SIG-SB02 (0'-2'), SIG-SB10 (0'-2'), SIG-SB10 (4'-6'), and SIG SB16 (0'-2') all contain chrysotile asbestos but do not contain lead concentrations above 400 mg/kg and either PCBs (Aroclor 1268 only) above 1 mg/kg or copper above 288 mg/kg. Therefore, these soils are not considered Raymark Waste.

3.2 Quality Assurance / Quality Control Sample Results

As indicated in Section 2.3, various blanks and duplicate samples were submitted to the laboratory as part of this sampling program for quality assurance/quality control purposes. The equipment blanks associated with the soil sampling did not exhibit detectable concentrations of any constituents, indicating that the field equipment used for the sampling had been adequately decontaminated and had no influence on the soil analytical results.

VOCs were not detected in the solvent blanks associated with this investigation.

4.0 CONCLUSIONS AND RECOMMENDATIONS

This section briefly summarizes the findings of the Task 210 exploratory site investigation activities conducted at the site in August of 2017. Also included are recommendations based on these findings/conclusions.

4.1 Soil

1. The soil borings drilled in the planned redevelopment areas were advanced to anticipated excavation depths with the exception of refusals encountered in borings SIG-SB04 at four ftbg, SIG-SB10 at seven ftbg; SIG-SB11 at nine ftbg, and SIG-SB16 at approximately five ftbg. In general, the soils at the site can be characterized as fine to coarse sand with some fine gravel.
2. Asbestos, VOCs, SVOCs, ETPH, and total RCRA 8 metals plus copper, were detected at concentrations above the laboratory reporting limits in four of the soil samples collected as a part of this subsurface investigation. Concentrations of SVOCs were detected above the applicable criteria in one soil sample.

   Raymark Waste: Based on the reported concentrations of lead, asbestos, PCBs and/or copper, none of the samples were determined to meet the definition of "Raymark Waste".

   Recommendation: Based on the results of this investigation, TRC recommends that appropriate Plans, Specifications, and Estimate (Task 310) be prepared at this time. It is recommended that a Notice To Contractor be prepared to notify all redevelopment contractors of the presence of impacted material and the presence of asbestos in soils. In addition, controlled materials handling and health and safety specifications are warranted.

5.0 REFERENCES

Environmental Protection Agency, 2015. Fourth Five-Year Review Report For Raymark Industries, Inc. Superfund Site, Fairfield County, Connecticut.

Nobis Engineering, Inc. 2014. Remedial Investigation Update, Raymark Industries, Inc. Site – Operable Unit 2. Stratford, Connecticut.

Rogers, J. 1985. Bedrock Geological Map of Connecticut. State Geological and Natural History of Connecticut. Scale 1:125,000.

Stone, J.R. 1992. Surficial Materials Map of Connecticut. U.S. Department of the Interior, U.S. Geological Survey. Scale1:125,000.

Tetra Tech NUS, Inc. 2005. Final Remedial Investigation, Raymark – OU6 – Additional Properties. Stratford, Connecticut.

Tetra Tech NUS, Inc. 2005. Remedial Investigation, Raymark – OU2 – Groundwater. Stratford, Connecticut.

URS Corporation, March 2014. Raymark Waste Delineation Final Report – Airport Property Portion of Additional Properties Operable Unit 6.

FIGURES

0 2000
Approximate Scale FT

0 1
Approximate Scale MILE

1:24000
BASE CREATED WITH TOPO ©
www.topo.com 7.5' USGS TOPOGRAPHIC MAPS
DANBURY, CT QUADRANGLE

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STRATFORD, CONNECTICUT
DOT PROJECT NO. 173-461

FIGURE 1
SITE LOCATION MAP

DATE: 01/2018 | TRC PROJECT NO. 237612.5423.000210

KEY: • Soil Boring Location

SIG-SB-#: #-#' Soil Boring Location: Asbestos present in samples at depth intervals noted

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STRATFORD, CONNECTICUT
DOT PROJECT NO. 173-461

FIGURE 2
SITE PLAN AND SOIL BORING LOCATIONS

DATE: 02/2018 | TRC PROJECT NO. 237612.5423.000210

TABLES

Table 1
Asbestos Soil Sample Analytical Results
Task 210 Subsurface Investigation
Stratford Signalization Project, Stratford, Connecticut
TRC Project No. 237612.5423.210
ConnDOT Project No. 173-461

Sample Identification	Sample Date	Sample Interval (ftbg)	Notes	Asbestos EPA 600/R-93/166	Asbestor Type
SIG-SB01 (0-2)	8/24/2017	0-2'		ND	None
SIG-SB01 (2-4)	8/24/2017	2-4'		ND	None
SIG-SB02 (0-2)	8/24/2017	0-2'		Present	Chrysotile
SIG-SB02 (2-4)	8/24/2017	2-4'		ND	None
SIG-SB03 (0-2)	8/24/2017	0-2'		ND	None
SIG-SB03 (2-4)	8/24/2017	2-4'		ND	None
SIG-SB04 (0-2)	8/24/2017	0-2'		ND	None
SIG-SB104 (0-2)	8/24/2017	0-2'	Duplicate of SIG-SB04 (0-2)	ND	None
SIG-SB04 (2-4)	8/24/2017	2-4'		ND	None
SIG-SB05 (0-2)	8/24/2017	0-2'		ND	None
SIG-SB05 (2-4)	8/24/2017	2-4'		ND	None
SIG-SB05 (4-6)	8/24/2017	4-6'		ND	None
SIG-SB05 (6-8)	8/24/2017	6-8'		ND	None
SIG-SB05 (8-10)	8/24/2017	8-10'		ND	None
SIG-SB06 (0-2)	8/24/2017	0-2'		ND	None
SIG-SB06 (2-4)	8/24/2017	2-4'		ND	None
SIG-SB07 (0-2)	8/24/2017	0-2'		ND	None
SIG-SB07 (2-4)	8/24/2017	2-4'		ND	None
SIG-SB07 (4-6)	8/24/2017	4-6'		ND	None
SIG-SB07 (6-8)	8/24/2017	6-8'		ND	None
SIG-SB07 (8-10)	8/24/2017	8-10'		ND	None
SIG-SB08 (0-2)	8/24/2017	0-2'		ND	None
SIG-SB08 (2-4)	8/24/2017	2-4'		ND	None
SIG-SB09 (0-2)	8/24/2017	0-2'		ND	None
SIG-SB09 (2-4)	8/24/2017	2-4'		ND	None
SIG-SB109 (2-4)	8/24/2017	2-4'	Duplicate of SIG-SB09 (2-4)	ND	None
SIG-SB10 (0-2)	8/25/2017	0-2'		Present	Chrysotile & Amosite
SIG-SB10 (2-4)	8/25/2017	2-4'		ND	None
SIG-SB10 (4-6)	8/25/2017	4-6'		Present	Chrysotile
SIG-SB11 (0-2)	8/25/2017	0-2'		ND	None
SIG-SB11 (2-4)	8/25/2017	2-4'		ND	None
SIG-SB11 (4-6)	8/25/2017	4-6'		ND	None
SIG-SB11 (6-8)	8/25/2017	6-8'		ND	None
SIG-SB11 (8-9)	8/25/2017	8-9'		ND	None
SIG-SB12 (0-2)	8/25/2017	0-2'		ND	None
SIG-SB112 (0-2)	8/25/2017	0-2'	Duplicate of SIG-SB12 (0-2)	ND	None
SIG-SB13 (0-2)	8/25/2017	0-2'		ND	None
SIG-SB14 (0-2)	8/25/2017	0-2'		ND	None
SIG-SB15 (0-2)	8/25/2017	0-2'		ND	None
SIG-SB15 (2-4)	8/25/2017	2-4'		ND	None
SIG-SB115 (2-4)	8/25/2017	2-4'	Duplicate of SIG-SB15 (2-4)	ND	None
SIG-SB15 (4-6)	8/25/2017	4-6"		ND	None
SIG-SB15 (6-8)	8/25/2017	6-8'		ND	None
SIG-SB15 (8-10)	8/25/2017	8-10'		ND	None
SIG-SB16 (0-2)	8/25/2017	0-2'		Present	Chrysotile
SIG-SB16 (2-4)	8/25/2017	2-4'		ND	None
SIG-SB16 (4-4.8)	8/25/2017	4-4.8'		ND	None

NOTES:
ftbg - feet below grade
ND - Not Detected

Table 2
Soil Sample Analytical Results
Task 210 Subsurface Investigation
Stratford Signalization Project, Stratford, Connecticut
TRC Project No. 237612.5423.210
ConnDOT Project No. 173-461

Boring No. Sample Interval (ftbg): Sample Date: Laboratory ID number: Notes:	SIG-SB02(0-2) 0-2' 8/24/2017 BY90207	SIG-SB10(0-2) 0-2' 8/25/2017 BY90861	SIG-SB10(4-6) 4-6' 8/25/2017 BY90863	SIG-SB16(0-2) 0-2' 8/25/2017 BY90879	EB082417 -- 8/24/2017 BY90231, - Equipment Blank	EB082517 -- 8/25/2017 BY90232, - Equipment Blank	SB082417 -- 8/24/2017 BY90232, - Solvent Blank	SB082517 -- 8/25/2017 BY90860, - Solvent Blank	**CT RSRs** RES DEC	 GB PMC
Volatile Organic Compounds - mg/Kg										
Method 8260	ND	ND	ND		ND	ND	ND	ND		
Toluene				0.32					500	67
Semi-Volatile Organic Compounds - mg/Kg										
Method 8270				ND	ND	ND	NA	NA		
2,4-Dinitrophenol		0.44							NE	NE
4,6-Dinitro-2-methylphenol		0.46							NE	NE
Acenaphthene		0.4							NE	NE
Anthracene		0.62							1,000	400
Benz(a)anthracene	0.26	**2.7**							1	1
Benzo(a)pyrene	0.8	**2.6**	0.32						1	1
Benzo(b)fluoranthene	0.8	**3.1**	0.26						1	1
Benzo(ghi)perylene	0.64	1.8	0.24						NE	NE
Benzo(k)fluoranthene	0.78	2.6	0.24						8.4	1
Carbazole		0.64							NE	NE
Chrysene	0.4	3.5							NE	NE
Dibenz(a,h)anthracene	0.54	0.3							NE	NE
Fluoranthene	0.53	6.2							1,000	56
Fluorene		0.4							1,000	56
Indeno(1,2,3-cd)pyrene	0.68	2	0.3						NE	NE
Phenanthrene	0.27	4.4							1,000	40
Pyrene	0.55	5							1,000	40
Extractable Total Petroleum Hydrocarbons - mg/Kg										
CT Method	57	120	ND	ND	ND	ND	NA	NA	500	2,500
PCBs - ug/Kg										
Method 8082	ND	ND	ND	ND	ND	ND	NA	NA	--	--
Total Metals - mg/kg										
Methods 6010/7471					ND	ND	NA	NA		
Arsenic	3.70	2.15	1.48	3.15					10	--
Barium	53.9	37.2	20	36.7					10	--
Cadmium	0.34	0.45							34	--
Chromium	16.1	16.9	8.05	14					100	--
Copper	46.2	40.8	15.9	18.7					250	--
Lead	98.7	54.2	9.8	37.6					400	--
Mercury	0.04			0.03					20	--
Asbestos										
EPA 600/R-93/116										
Amosite	Not Present	Present	Not Present	Not Present	Not Present	Not Present	NA	NA	NE	NE
Chrysotile	Present	Present	Present	Present	Not Present	Not Present	NA	NA	NE	NE

NOTES:
CT RSRs - State of Connecticut Remediation Standard Regulations (CT RSRs) per RCSA 22a-133k-1 through 22a-133k-3, adopted January 1, 1996 and revised on June 27, 2013.
RES DEC - Residential Direct Exposure Criteria
GB PMC - GB Pollutant Mobility Criteria
ftbg - feet below grade
ND - Not detected above laboratory detection limits (all checked to be in compliance with established RSR criteria)
NA - Not Analyzed
NE - Not Established
BOLD value indicates an exceedance of the Residential Direct Exposure Criteria (RES DEC)
Shaded value indicates an exceedance of the GB Pollutant Mobility Criteria (GB PMC)
* - Currently, no RES DEC or I/C DEC for total chromium is established in the CT RSRs. However, the CT RSRs provide an RES DEC value for both hexavalent and trivalent chromium, of which the value for hexavalent chromium (the more stringent of the two) is presented on this table for comparison.

APPENDIX A

SOIL BORING LOGS

BORING NUMBER: **SIG-SB01**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**4**	Hole Diameter (in):	**2"**
Date Started:	**8/24/17**	Date Completed:	**8/24/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 1.4' Brown fine-SAND, trace fine-gravel, no odor, no staining, dry.	
						1.4'- 1.7' PULVERIZED ROCK	
	MAC-4		4.0	2.6		1.7'- 2.6' Brown fine-SAND, trace fine-gravel, no odor, no staining, dry.	
5						Refusal at 4.0 feet. Bottom of borehole at 4.0 feet.	

Notes: Collected SIG-SB01 (0-2); and (2-4) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB02**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**4**	Hole Diameter (in):	**2"**
Date Started:	**8/24/17**	Date Completed:	**8/24/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 0.7' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						0.7'- 1.5' Light brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						1.5'- 1.8' Black fine-SAND, trace fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	3.1		1.8'- 3.1' Brown fine-SAND, little slit, trace fine-gravel, no odor, no staining, dry.	
5						Bottom of borehole at 4.0 feet.	

Notes: Collected SIG-SB02 (0-2); and (2-4)analyzed for asbestos. SIG-SB02 (0-2) also analyzed for VOCs, SVOCs, ETPH, RCRA 8 metals and copper.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB03**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**4**	Hole Diameter (in):	**2"**
Date Started:	**8/24/17**	Date Completed:	**8/24/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 1.3' Brown fine-SAND, little fine-gravel, no odor, no staining, dry	
						1.3'- 1.6' Light brown fine-SAND, trave fine-gravel, no odor, no staining, dry.	
						1.6'- 1.7' Dark brown fine-SAND, no odor, no staining, dry.	
						1.7'- 3.3' Brown fine-SAND, little silt, trace fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	3.3			
						Bottom of borehole at 4.0 feet.	
5							

Notes: Collected SIG-SB03 (0-2); and (2-4) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB04**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**4**	Hole Diameter (in):	**2"**
Date Started:	**8/24/17**	Date Completed:	**8/24/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 1' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						1'- 2.2' Dark brown medium-SAND, little fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	3.2			
						2.2'- 3.2' Brown medium-SAND, little fine-gravel, no odor, no staining, dry.	
						Bottom of borehole at 4.0 feet.	
5							

Notes: Collected SIG-SB04 (0-2); (2-4); and DUPLICATE SIG-SB104 (0-2) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB05**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**10**	Hole Diameter (in):	**2"**
Date Started:	**8/24/17**	Date Completed:	**8/24/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
	MAC-4		4.0	3.5		0'- 1.5' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						1.5'- 2.3' Dark Brown fine-SAND, some silt, trace fine-gravel, no odor, no staining, dry.	
						2.3'- 3.5' Reddish brown fine-SAND, some silt, trace fine-gravel, no odor, no staining, dry.	
5	MAC-4		4.0	2.8		4'- 5' Reddish brown fine-SAND, some silt, trace fine-gravel, no odor, no staining, dry.	
						5'- 6.2' Reddish brown fine-coarse SAND, little fine-gravel, no odor, no staining, dry.	
						6.2'- 6.8' Reddish brown fine-SAND, little silt, little fine-gravel, no odor, no staining, dry.	
	MAC-2		2.0	2.0		8'- 8.6' Brown fine-coarse SAND, little fine-gravel, no odor, no staining, dry.	
						8.6'- 9.5' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
10						9.5'- 10' Brown SILT, trace clay, no odor, no staining, dry.	
						Bottom of borehole at 10.0 feet.	

Notes: Collected SIG-SB05 (0-2); (2-4); (4-6); (6-8); and (8-10) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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TRC
Results you can rely on

BORING NUMBER: **SIG-SB06**

PROJECT INFORMATION		BORING INFORMATION	
Project Name:	**Stratford Signialization**	Boring Depth (ft):	**4**
Project Location:	**Stratford, CT**	Hole Diameter (in):	**2"**
Project Number:	**237612.5423.210**	Date Started:	**8/24/17**
Client:	**ConnDOT**	Date Completed:	**8/24/17**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**	Coordinate System:	
Checked By:	**Chris Lindahl**	North:	**Not Surveyed**
		East:	**Not Surveyed**
		Vertical Datum:	
		Ground Elevation:	**Not Surveyed**
		Well Elevation (Top of Casing)	**Not Surveyed**

DRILLING INFORMATION	
Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS			
MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 0.5' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						0.5'- 0.7' BLACK ASPHALT	
						0.7'- 2.3' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	2.9			
						2.3'- 2.9' PULVERIZED ROCK	
						Bottom of borehole at 4.0 feet.	
5							

Notes: Collected SIG-SB06 (0-2); and (2-4) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB07**
Page 1 of 1

PROJECT INFORMATION		BORING INFORMATION	
Project Name:	**Stratford Signialization**	Boring Depth (ft):	**10**
Project Location:	**Stratford, CT**	Hole Diameter (in):	**2"**
Project Number:	**237612.5423.210**	Date Started:	**8/24/17**
Client:	**ConnDOT**	Date Completed:	**8/24/17**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**	Coordinate System:	
Checked By:	**Chris Lindahl**	North:	**Not Surveyed**
		East:	**Not Surveyed**
		Vertical Datum:	
		Ground Elevation:	**Not Surveyed**
		Well Elevation (Top of Casing)	**Not Surveyed**

DRILLING INFORMATION	
Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS			
MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
	MAC-4		4.0	3.0		0'- 1.5' Brown fine-coarse SAND, little fine-gravel, trace red brick fragments, no odor, no staining, dry.	
						1.5'- 1.9' Black fine-SAND, highly compacted, some fiberous like material, no odor, no staining, dry.	
						1.9'- 3' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
5	MAC-4		4.0	2.5		4'- 5.8' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						5.8'- 6.5' Brown fine-SAND, little fine-gravel, trace asphalt fragments, no odor, no staining, dry.	
10	MAC-2		2.0	2.0		8'- 10' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						Bottom of borehole at 10.0 feet.	

Notes: Collected SIG-SB07 (0-2); (2-4); (4-6); (6-8); and (8-10) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB08**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**4**	Hole Diameter (in):	**2"**
Date Started:	**8/24/17**	Date Completed:	**8/24/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 1.3' Light brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						1.3'- 1.6' Dark brown fine-SAND, trace silt, trace shell fragments, trace fine-gravel, no odor, no staining, dry.	
						1.6'- 3.2' Brown SILT, trace fine-sand, trace fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	3.2			
						Bottom of borehole at 4.0 feet.	
5							

Notes: Collected SIG-SB08 (0-2); and (2-4) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
H:\HAZMAT\CONNDOT\PROJECT ASSIGNMENTS\STRATFORD SIGNALIZATION PROJECT - 173-461\TASK 210\SIG-SB STRATFORD.GPJ

BORING NUMBER: **SIG-SB09**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**4**	Hole Diameter (in):	**2"**
Date Started:	**8/24/17**	Date Completed:	**8/24/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 0.8' Dark brown fine-SAND, some silt, no odor, no staining, dry.	
						0.8'- 1.1' Light brown fine-SAND, trace fine-gravel, no odot, no staining, dry.	
						1.1'- 1.3' GRAVEL	
						1.3'- 2.8' Brown fine-coarse SAND, little fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	2.8			
						Bottom of borehole at 4.0 feet.	
5							

Notes: Collected SIG-SB09 (0-2); (2-4); and DUPLICATE SIG-SB109 (2-4) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB10**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**7**	Hole Diameter (in):	**2"**
Date Started:	**8/25/17**	Date Completed:	**8/25/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 0.4' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	◆
						0.4'- 1.7' Light brown coarse-SAND, little fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	2.8		1.7'- 2.4' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						2.4'- 2.8' Brown SILT, no odor, no staining, dry.	
						4'- 5.8' Light brown coarse-SAND, little fine-gravel, no odor, no staining, dry.	◆
5							
	MAC-4		4.0	3.0		5.8'- 6' Brown SILT, trace fine-gravel, no odor, no staining, dry.	
						6'- 8' PULVERIZED ROCK	
						Refusal at 7.0 feet.	
						Bottom of borehole at 7.0 feet.	

Notes: Collected SIG-SB10 (0-2); (2-4); and (4-6) analyzed for asbestos. SIG-SB (0-2) and (4-6) alos analized for VOCs, SVOCs, ETPH, PCBs, RCRA 8 metals and copper.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
H:\HAZMAT\CONNDOT\PROJECT ASSIGNMENTS\STRATFORD SIGNALIZATION PROJECT - 173-461\TASK 210\SIG-SB STRATFORD.GPJ

BORING NUMBER: **SIG-SB11**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**9**	Hole Diameter (in):	**2"**
Date Started:	**8/25/17**	Date Completed:	**8/25/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 0.4' Brown fine-SAND, little fine-gravel, trace silt, no odor, no staining, dry.	
						0.4'- 0.6' Reddish brown fine-SAND and SILT, no odor, no staining, dry.	
						0.6'- 1.6' Dark brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
						1.6'- 1.9' PULVERIZED ROCK	
	MAC-4		4.0	3.6		1.9'- 3.6' Brown medium-SAND, some fine-gravel, no odor, no staining, sry.	
						4'- 4.3' Brown medium-SAND, some fine-gravel, no odor, no staining, sry.	
						4.3'- 4.8' Brown SILT, no odor, no staining, dry.	
5						4.8'- 6.8' Brown medium-SAND, some fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	3.5			
						6.8'- 7.5' Brown SILT, trace clay, trace fine-gravel, no odor, no staining, dry.	
	MAC-1		1.0	1.0		8'- 9' Brown SILT, trace clay, trace fine-gravel, no odor, no staining, dry. (pulverized rock ~8.5-8.6)	
10						Refusal at 9.0 feet. Bottom of borehole at 9.0 feet.	

Notes: Collected SIG-SB11 (0-2); (2-4); (4-6); (6-8); and (8-9) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB12**
Page 1 of 1

PROJECT INFORMATION		BORING INFORMATION	
Project Name:	**Stratford Signialization**	Boring Depth (ft):	**2**
Project Location:	**Stratford, CT**	Hole Diameter (in):	**2"**
Project Number:	**237612.5423.210**	Date Started:	**8/25/17**
Client:	**ConnDOT**	Date Completed:	**8/25/17**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**	Coordinate System:	
Checked By:	**Chris Lindahl**	North:	**Not Surveyed**
		East:	**Not Surveyed**
		Vertical Datum:	
		Ground Elevation:	**Not Surveyed**
		Well Elevation (Top of Casing)	**Not Surveyed**

DRILLING INFORMATION	
Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS			
MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 0.5' Brown sub-base, no odor, no staining, dry.	
						0.5'- 2' Brown fine-SAND, little fine-gravel, trace silt, no odor, no staining, dry.	
	MAC-2		2.0	2.0			
						Bottom of borehole at 2.0 feet.	

Notes: Collected SIG-SB12 (0-2); and DUP SIG-SB112 (0-2) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB13**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**2**	Hole Diameter (in):	**2"**
Date Started:	**8/25/17**	Date Completed:	**8/25/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
	MAC-2		2.0	2.0		0'- 0.6' Dark brown sub-base, no odor, no staining, dry. 0.6'- 2' Brown fine-SAND, trace fine-gravel, no odor, no staining, dry.	
						Bottom of borehole at 2.0 feet.	

Notes: Collected SIG-SB13 (0-2) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB14**
Page 1 of 1

PROJECT INFORMATION

Project Name:	**Stratford Signialization**
Project Location:	**Stratford, CT**
Project Number:	**237612.5423.210**
Client:	**ConnDOT**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**
Checked By:	**Chris Lindahl**

BORING INFORMATION

Boring Depth (ft):	**2**	Hole Diameter (in):	**2"**
Date Started:	**8/25/17**	Date Completed:	**8/25/17**
Coordinate System:			
North:	**Not Surveyed**	East:	**Not Surveyed**
Vertical Datum:		Ground Elevation:	**Not Surveyed**
Well Elevation (Top of Casing)	**Not Surveyed**		

DRILLING INFORMATION

Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS

MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
	MAC-2		2.0	2.0		0'- 1.1' Brown fine-SAND, little silt, little fine-gravel, no odor, no staining, dry.	
						1.1'- 2' Brown fine-SAND, trace fine-gravel, no odor, no staining, dry.	
						Bottom of borehole at 2.0 feet.	

Notes: Collected SIG-SB14 (0-2) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB15**
Page 1 of 1

PROJECT INFORMATION		BORING INFORMATION	
Project Name:	**Stratford Signialization**	Boring Depth (ft):	**10**
Project Location:	**Stratford, CT**	Hole Diameter (in):	**2"**
Project Number:	**237612.5423.210**	Date Started:	**8/25/17**
Client:	**ConnDOT**	Date Completed:	**8/25/17**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**	Coordinate System:	
Checked By:	**Chris Lindahl**	North:	**Not Surveyed**
		East:	**Not Surveyed**
		Vertical Datum:	
		Ground Elevation:	**Not Surveyed**
		Well Elevation (Top of Casing)	**Not Surveyed**

DRILLING INFORMATION	
Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS			
MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 1' Brown fine-SAND, trace silt, trace fine-gravel, no odor, no staining dry.	
						1'- 1.8' Brown fine-SAND, little fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	3.3		1.8'- 3.3' Brown fine-coarse SAND, little fine-gravel, no odor, no staining, dry.	
5						4'- 6' Brown fine-coarse SAND, little fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	3.2		6'- 7.2' Brown medium-SAND, trace gravel, no odor, no staining, dry.	
						8'- 9' Brown medium-SAND, trace gravel, no odor, no staining, dry.	
	MAC-2		2.0	2.0		9'- 10' Brown fine-coarse SAND, trace fine-gravel, no odor, no staining, dry.	
10						Bottom of borehole at 10.0 feet.	

Notes: Collected SIG-SB15 (0-2); (2-4); (4-6); (6-8); (8-10) and DUPLICATE SIG-SB115 (2-4) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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BORING NUMBER: **SIG-SB16**
Page 1 of 1

PROJECT INFORMATION		BORING INFORMATION	
Project Name:	**Stratford Signialization**	Boring Depth (ft):	**5**
Project Location:	**Stratford, CT**	Hole Diameter (in):	**2"**
Project Number:	**237612.5423.210**	Date Started:	**8/25/17**
Client:	**ConnDOT**	Date Completed:	**8/25/17**
TRC Eng./Geol:	**Z. Pedersen & V. Signorelli**	Coordinate System:	
Checked By:	**Chris Lindahl**	North:	**Not Surveyed**
		East:	**Not Surveyed**
		Vertical Datum:	
		Ground Elevation:	**Not Surveyed**
		Well Elevation (Top of Casing)	**Not Surveyed**

DRILLING INFORMATION	
Drilling Contractor:	**Glacier Drilling, LLC**
Driller(s):	**Mike & Lavelle**
Drilling Method:	**Direct-Push**
Equipment/Model:	**Geoprobe 54LT**
Sampler:	**4' Macrocore**

GROUND WATER OBSERVATIONS			
MEASUREMENT	▽ At Time of Drilling	▼ At End of Drilling	▼ After Drilling
DATE			
DEPTH (ft.bgs.)			
REFERENCE			
STABILIZATION			

DEPTH (FT.)	SAMPLE NUMBER	SAMPLE TYPE	PENETRATION (FT.)	RECOVERY (FT.)	LITHOLOGY	MATERIAL DESCRIPTION	◆VOC SCREENING RESULTS (ppm) 20 40 60 80
						0'- 1' Brown fine-SAND, little silt, trace fine-gravel, no odor, no staining, dry.	
						1'- 3.1' Brown fine-coarse SAND little fine-gravel, no odor, no staining, dry.	
	MAC-4		4.0	3.1			
						4'- 4.8' Brown fine-coarse SAND little fine-gravel, no odor, no staining, dry.	
	MAC-0.8		0.8	0.8			
5						Refusal at 4.8 feet. Bottom of borehole at 5.0 feet.	

Notes: Collected SIG-SB15 (0-2); (2-4); and (4-4.8) analyzed for asbestos.

SOIL BORING/WELL COMPLETION WITH NOTES - TRC-STD US.GDT - 9/15/17
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APPENDIX B

LABORATORY ANALYTICAL REPORTS

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

Results you can rely on

BULK ASBESTOS ANALYSIS REPORT

CLIENT: CT Department of Transportation

Lab Log #: 0051165
Project #: 237612.005423.000210
Date Received: 08/24/2017
Date Analyzed: 08/24/2017

Site: Stratford Signalization

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos	Asbestos Type
SIG-SB01 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB01 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB02 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	Present	Chrysotile
SIG-SB02 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB03 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB03 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB04 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB104 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB04 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB05 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB05 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB05 (4-6)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB05 (6-8)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB05 (8-10)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB06 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB06 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB07 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB07 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None

Industrial Hygiene Laboratory
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Windsor, CT 06095
(860) 298-6308

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos	Asbestos Type
SIG-SB07 (4-6)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB07 (6-8)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB07 (8-10)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB08 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB08 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB09 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB09 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB109 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None

Reporting limit
ND - asbestos was not detected
Present - asbestos was present

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation 1982 (EPA 600/M4-82-020) Bulk Analysis Code 18/A01 and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials July 1993, R.L. Perkins and B.W. Harvey, (EPA/600/R-93/116) Bulk Analysis Code 18/A03, which utilize polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2018. TRC is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the Industrial Hygiene Program (IHLAP) for PLM effective through October 1, 2018. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and QC data related to the samples is available upon written request from client.

Analyzed by: K. Williamson — Kathleen Williamson, Laboratory Manager

Reviewed by: Cathryn Lemire, Approved Signatory

Date Issued 08/28/2017

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

Results you can rely on

BULK ASBESTOS ANALYSIS REPORT

CLIENT: CT Department of Transportation

Lab Log #: 0051177
Project #: 237612.005423.000210
Date Received: 08/25/2017
Date Analyzed: 08/25/2017

Site: Stratford Signalization

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos	Asbestos Type
SIG-SB10 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	Present Present	Chrysotile Amosite
SIG-SB10 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB10 (4-6)	Brown (soil sample)	- -	- -	- -	- - -	Present	Chrysotile
SIG-SB11 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB11 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB11 (4-6)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB11 (6-8)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB11 (8-9)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB12 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB112 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB13 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB14 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB15 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB15 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB115 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB15 (4-6)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB15 (6-8)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB15 (8-10)	Brown (soil sample)	- -	- -	- -	- - -	ND	None

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos	Asbestos Type
SIG-SB16 (0-2)	Brown (soil sample)	- -	- -	- -	- - -	Present	Chrysotile
SIG-SB16 (2-4)	Brown (soil sample)	- -	- -	- -	- - -	ND	None
SIG-SB16 (4-4.8)	Brown (soil sample)	- -	- -	- -	- - -	ND	None

Reporting limit
ND - asbestos was not detected
Present - asbestos was present

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation 1982 (EPA 600/M4-82-020) Bulk Analysis Code 18/A01 and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials July 1993, R.L. Perkins and B.W. Harvey, (EPA/600/R-93/116) Bulk Analysis Code 18/A03, which utilize polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2018. TRC is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the Industrial Hygiene Program (IHLAP) for PLM effective through October 1, 2018. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and QC data related to the samples is available upon written request from client.

Analyzed by: K. Williamson — Kathleen Williamson, Laboratory Manager

Reviewed by: Cathryn Lemire — Cathryn Lemire, Approved Signatory

Date Issued
08/28/2017

PHOENIX
Environmental Laboratories, Inc.

Friday, January 19, 2018

Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Sample ID#s: BY90207, BY90231 - BY90233

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. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

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

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

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

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
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
UT Lab Registration #CT00007
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

January 19, 2018

SDG I.D.: GBY90205

Volatile 8260 analysis:
The reporting level for Acrylonitrile is above the GWP criteria.
1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane do not meet the GWP these compounds are analyzed by GC/ECD to achieve this criteria.

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Analysis Report

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		08/24/17	9:45
Location Code:	TRC-DOT	Received by:	SW	08/24/17	16:10
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90205
Phoenix ID: BY90207

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Client ID: SIG-SB02 (0-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.31	0.31	mg/Kg	1	08/28/17	MA	SW6010C
Arsenic	3.70	0.63	mg/Kg	1	08/28/17	MA	SW6010C
Barium	53.9	0.31	mg/Kg	1	08/28/17	MA	SW6010C
Cadmium	0.34	0.31	mg/Kg	1	08/28/17	MA	SW6010C
Chromium	16.1	0.31	mg/Kg	1	08/28/17	MA	SW6010C
Copper	46.2	0.31	mg/kg	1	08/28/17	MA	SW6010C
Mercury	0.04	0.03	mg/Kg	1	08/28/17	RS	SW7471B
Lead	98.7	0.31	mg/Kg	1	08/28/17	MA	SW6010C
Selenium	< 1.3	1.3	mg/Kg	1	08/28/17	MA	SW6010C
Percent Solid	95		%		08/25/17	Q	SW846-%Solid
Soil Extraction for PCB	Completed				08/25/17	CC/CK	SW3545A
Soil Extraction for SVOA	Completed				08/25/17	JJ/CK	SW3545A
Extraction of CT ETPH	Completed				08/25/17	SC/JCK	SW3545A
Mercury Digestion	Completed				08/28/17	W/Q	SW7471B
Total Metals Digest	Completed				08/25/17	L/AG	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	57	51	mg/Kg	1	08/26/17	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	08/26/17	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	78		%	1	08/26/17	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	0.34	mg/Kg	10	08/28/17	AW	SW8082A
PCB-1221	ND	0.34	mg/Kg	10	08/28/17	AW	SW8082A
PCB-1232	ND	0.34	mg/Kg	10	08/28/17	AW	SW8082A
PCB-1242	ND	0.34	mg/Kg	10	08/28/17	AW	SW8082A
PCB-1248	ND	0.34	mg/Kg	10	08/28/17	AW	SW8082A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1254	ND	0.34	mg/Kg	10	08/28/17	AW	SW8082A
PCB-1260	ND	0.34	mg/Kg	10	08/28/17	AW	SW8082A
PCB-1262	ND	0.34	mg/Kg	10	08/28/17	AW	SW8082A
PCB-1268	ND	0.34	mg/Kg	10	08/28/17	AW	SW8082A
QA/QC Surrogates							
% DCBP	104		%	10	08/28/17	AW	30 - 150 %
% TCMX	93		%	10	08/28/17	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0033	mg/Kg	1	08/27/17	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,1-Dichloroethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,1-Dichloroethene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,1-Dichloropropene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dibromoethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dichloroethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dichloropropane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,3-Dichloropropane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
2,2-Dichloropropane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
2-Chlorotoluene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
2-Hexanone	ND	0.028	mg/Kg	1	08/27/17	JLI	SW8260C
2-Isopropyltoluene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
4-Chlorotoluene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.028	mg/Kg	1	08/27/17	JLI	SW8260C
Acetone	ND	0.28	mg/Kg	1	08/27/17	JLI	SW8260C
Acrylonitrile	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Benzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Bromobenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Bromochloromethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Bromodichloromethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Bromoform	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Bromomethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Carbon Disulfide	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Carbon tetrachloride	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Chlorobenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Chloroethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Chloroform	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Chloromethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,3-Dichloropropene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Dibromochloromethane	ND	0.0033	mg/Kg	1	08/27/17	JLI	SW8260C
Dibromomethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Ethylbenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Hexachlorobutadiene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Isopropylbenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
m&p-Xylene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.033	mg/Kg	1	08/27/17	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.011	mg/Kg	1	08/27/17	JLI	SW8260C
Methylene chloride	ND	0.011	mg/Kg	1	08/27/17	JLI	SW8260C
Naphthalene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
n-Butylbenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
n-Propylbenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
o-Xylene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
p-Isopropyltoluene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
sec-Butylbenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Styrene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
tert-Butylbenzene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Tetrachloroethene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.011	mg/Kg	1	08/27/17	JLI	SW8260C
Toluene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Total Xylenes	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.011	mg/Kg	1	08/27/17	JLI	SW8260C
Trichloroethene	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Trichlorofluoromethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
Vinyl chloride	ND	0.0056	mg/Kg	1	08/27/17	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	08/27/17	JLI	70 - 130 %
% Bromofluorobenzene	86		%	1	08/27/17	JLI	70 - 130 %
% Dibromofluoromethane	103		%	1	08/27/17	JLI	70 - 130 %
% Toluene-d8	90		%	1	08/27/17	JLI	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	08/26/17	DD	SW8270D
1,2,4-Trichlorobenzene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
1,2-Dichlorobenzene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
1,3-Dichlorobenzene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
1,4-Dichlorobenzene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
2,4,5-Trichlorophenol	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
2,4-Dichlorophenol	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
2,4-Dimethylphenol	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	08/26/17	DD	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Client ID: SIG-SB02 (0-2)

Phoenix I.D.: BY90207

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Chloronaphthalene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
2-Chlorophenol	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
2-Methylnaphthalene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
2-Methylphenol (o-cresol)	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
2-Nitroaniline	ND	0.3	mg/Kg	1	08/26/17	DD	SW8270D
2-Nitrophenol	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	0.34	mg/Kg	1	08/26/17	DD	SW8270D
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
3-Nitroaniline	ND	0.3	mg/Kg	1	08/26/17	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	08/26/17	DD	SW8270D
4-Bromophenyl phenyl ether	ND	0.34	mg/Kg	1	08/26/17	DD	SW8270D
4-Chloro-3-methylphenol	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
4-Chloroaniline	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
4-Nitroaniline	ND	0.3	mg/Kg	1	08/26/17	DD	SW8270D
4-Nitrophenol	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Acenaphthene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Acenaphthylene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Acetophenone	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Aniline	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
Anthracene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Benz(a)anthracene	0.26	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Benzidine	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
Benzo(a)pyrene	0.8	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Benzo(b)fluoranthene	0.8	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Benzo(ghi)perylene	0.64	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Benzo(k)fluoranthene	0.78	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Benzoic acid	ND	0.68	mg/Kg	1	08/26/17	DD	SW8270D
Benzyl butyl phthalate	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg	1	08/26/17	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Carbazole	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
Chrysene	0.4	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Dibenz(a,h)anthracene	0.54	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Dibenzofuran	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
Diethyl phthalate	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Dimethylphthalate	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Di-n-butylphthalate	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Di-n-octylphthalate	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Fluoranthene	0.53	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Fluorene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Hexachlorobenzene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Hexachlorobutadiene	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
Hexachlorocyclopentadiene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Hexachloroethane	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Indeno(1,2,3-cd)pyrene	0.68	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Isophorone	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Client ID: SIG-SB02 (0-2)

Phoenix I.D.: BY90207

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Naphthalene	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
Pentachloronitrobenzene	ND	0.14	mg/Kg	1	08/26/17	DD	SW8270D
Pentachlorophenol	ND	0.34	mg/Kg	1	08/26/17	DD	SW8270D
Phenanthrene	0.27	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Phenol	ND	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Pyrene	0.55	0.24	mg/Kg	1	08/26/17	DD	SW8270D
Pyridine	ND	0.2	mg/Kg	1	08/26/17	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	47		%	1	08/26/17	DD	30 - 130 %
% 2-Fluorobiphenyl	48		%	1	08/26/17	DD	30 - 130 %
% 2-Fluorophenol	31		%	1	08/26/17	DD	30 - 130 %
% Nitrobenzene-d5	41		%	1	08/26/17	DD	30 - 130 %
% Phenol-d5	38		%	1	08/26/17	DD	30 - 130 %
% Terphenyl-d14	49		%	1	08/26/17	DD	30 - 130 %
Field Extraction	Completed				08/24/17		SW5035A

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.

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.

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.

Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

Analysis Report

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/24/17	13:50
Location Code:	TRC-DOT	Received by:	SW	08/24/17	16:10
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90205
Phoenix ID: BY90231

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Client ID: EB082417

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	08/26/17	MA	SW6010C/E200.7
Arsenic	< 0.004	0.004	mg/L	1	08/26/17	MA	SW6010C/E200.7
Barium	< 0.002	0.002	mg/L	1	08/26/17	MA	SW6010C/E200.7
Cadmium	< 0.001	0.001	mg/L	1	08/26/17	MA	SW6010C/E200.7
Chromium	< 0.001	0.001	mg/L	1	08/26/17	MA	SW6010C/E200.7
Copper	< 0.005	0.005	mg/L	1	08/26/17	MA	SW6010C/E200.7
Mercury	< 0.0002	0.0002	mg/L	1	08/28/17	RS	SW7470/245.1
Lead	< 0.002	0.002	mg/L	1	08/26/17	MA	SW6010C/E200.7
Selenium	< 0.010	0.010	mg/L	1	08/26/17	MA	SW6010C/E200.7
Extraction of CT ETPH	Completed				08/25/17	P/UU	SW3510C/SW3520C
Mercury Digestion	Completed				08/28/17	Q/W	SW7470/245.1
PCB Extraction	Completed				08/29/17	TN	SW3510C
Semi-Volatile Extraction	Completed				08/25/17	P/UU	SW3520C
Total Metals Digestion	Completed				08/25/17	AG	
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	0.072	mg/L	1	08/28/17	JRB	CTETPH 8015D
Identification	ND		mg/L	1	08/28/17	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	80		%	1	08/28/17	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	0.47	ug/L	1	08/30/17	AW	SW8082A
PCB-1221	ND	0.47	ug/L	1	08/30/17	AW	SW8082A
PCB-1232	ND	0.47	ug/L	1	08/30/17	AW	SW8082A
PCB-1242	ND	0.47	ug/L	1	08/30/17	AW	SW8082A
PCB-1248	ND	0.47	ug/L	1	08/30/17	AW	SW8082A
PCB-1254	ND	0.47	ug/L	1	08/30/17	AW	SW8082A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1260	ND	0.47	ug/L	1	08/30/17	AW	SW8082A
PCB-1262	ND	0.47	ug/L	1	08/30/17	AW	SW8082A
PCB-1268	ND	0.47	ug/L	1	08/30/17	AW	SW8082A
QA/QC Surrogates							
% DCBP	86		%	1	08/30/17	AW	30 - 150 %
% TCMX	93		%	1	08/30/17	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	08/26/17	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	08/26/17	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	08/26/17	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	08/26/17	MH	SW8260C
Acetone	ND	25	ug/L	1	08/26/17	MH	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	08/26/17	MH	SW8260C
Benzene	ND	0.70	ug/L	1	08/26/17	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	08/26/17	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	08/26/17	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	08/26/17	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dibromochloromethane	ND	0.50	ug/L	1	08/26/17	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	08/26/17	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	08/26/17	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Styrene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	08/26/17	MH	SW8260C
Toluene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	08/26/17	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	08/26/17	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	08/26/17	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	08/26/17	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	08/26/17	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	08/26/17	MH	70 - 130 %
% Toluene-d8	100		%	1	08/26/17	MH	70 - 130 %

Semivolatiles

1,2,4-Trichlorobenzene	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
1,2-Dichlorobenzene	ND	2.4	ug/L	1	08/30/17	DD	SW8270D
1,2-Diphenylhydrazine	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
1,3-Dichlorobenzene	ND	2.4	ug/L	1	08/30/17	DD	SW8270D
1,4-Dichlorobenzene	ND	2.4	ug/L	1	08/30/17	DD	SW8270D
2,4,5-Trichlorophenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
2,4,6-Trichlorophenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
2,4-Dichlorophenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
2,4-Dimethylphenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
2,4-Dinitrophenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
2,4-Dinitrotoluene	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
2,6-Dinitrotoluene	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
2-Chloronaphthalene	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
2-Chlorophenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Methylphenol (o-cresol)	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
2-Nitroaniline	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
2-Nitrophenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	9.4	ug/L	1	08/30/17	DD	SW8270D
3,3'-Dichlorobenzidine	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
3-Nitroaniline	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
4-Bromophenyl phenyl ether	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
4-Chloro-3-methylphenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
4-Chloroaniline	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
4-Nitroaniline	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
4-Nitrophenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
Acetophenone	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Aniline	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Benzidine	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Benzoic acid	ND	47	ug/L	1	08/30/17	DD	SW8270D
Benzyl butyl phthalate	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Bis(2-chloroethyl)ether	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Carbazole	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Diethyl phthalate	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Dimethylphthalate	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Di-n-butylphthalate	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Di-n-octylphthalate	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Isophorone	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
N-Nitrosodimethylamine	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
N-Nitrosodiphenylamine	ND	4.7	ug/L	1	08/30/17	DD	SW8270D
Phenol	ND	0.94	ug/L	1	08/30/17	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	86		%	1	08/30/17	DD	15 - 110 %
% 2-Fluorobiphenyl	95		%	1	08/30/17	DD	30 - 130 %
% 2-Fluorophenol	64		%	1	08/30/17	DD	15 - 110 %
% Nitrobenzene-d5	78		%	1	08/30/17	DD	30 - 130 %
% Phenol-d5	74		%	1	08/30/17	DD	15 - 110 %
% Terphenyl-d14	109		%	1	08/30/17	DD	30 - 130 %
Semivolatiles (SIM)							
1,2,4,5-Tetrachlorobenzene	ND	0.47	ug/L	1	08/29/17	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	0.94	ug/L	1	08/29/17	DD	SW8270D (SIM)
Acenaphthene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Acenaphthylene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Anthracene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.19	ug/L	1	08/29/17	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Client ID: EB082417

Phoenix I.D.: BY90231

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Bis(2-ethylhexyl)phthalate	ND	0.47	ug/L	1	08/29/17	DD	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	08/29/17	DD	SW8270D (SIM)
Dibenzofuran	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Fluoranthene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Fluorene	ND	0.09	ug/L	1	08/29/17	DD	SW8270D (SIM)
Hexachlorobenzene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Hexachlorobutadiene	ND	0.47	ug/L	1	08/29/17	DD	SW8270D (SIM)
Hexachlorocyclopentadiene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Hexachloroethane	ND	0.47	ug/L	1	08/29/17	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Naphthalene	ND	0.09	ug/L	1	08/29/17	DD	SW8270D (SIM)
Nitrobenzene	ND	0.09	ug/L	1	08/29/17	DD	SW8270D (SIM)
Pentachloronitrobenzene	ND	0.09	ug/L	1	08/29/17	DD	SW8270D (SIM)
Pentachlorophenol	ND	0.75	ug/L	1	08/29/17	DD	SW8270D (SIM)
Phenanthrene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Pyrene	ND	0.05	ug/L	1	08/29/17	DD	SW8270D (SIM)
Pyridine	ND	0.47	ug/L	1	08/29/17	DD	SW8270D (SIM)
QA/QC Surrogates							
% 2,4,6-Tribromophenol	101		%	1	08/29/17	DD	15 - 110 %
% 2-Fluorobiphenyl	77		%	1	08/29/17	DD	30 - 130 %
% 2-Fluorophenol	70		%	1	08/29/17	DD	15 - 110 %
% Nitrobenzene-d5	84		%	1	08/29/17	DD	30 - 130 %
% Phenol-d5	74		%	1	08/29/17	DD	15 - 110 %
% Terphenyl-d14	87		%	1	08/29/17	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:

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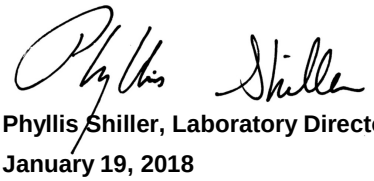


Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

Analysis Report

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		08/24/17	13:55
Location Code:	TRC-DOT	Received by:	SW	08/24/17	16:10
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90205
Phoenix ID: BY90232

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Client ID: SB082417-TB-HL

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.05	mg/Kg	50	08/27/17	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.05	mg/Kg	50	08/27/17	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.1	mg/Kg	50	08/27/17	JLI	SW8260C
1,1-Dichloroethane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,1-Dichloroethene	ND	0.14	mg/Kg	50	08/27/17	JLI	SW8260C
1,1-Dichloropropene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.05	mg/Kg	50	08/27/17	JLI	SW8260C
1,2-Dibromoethane	ND	0.025	mg/Kg	50	08/27/17	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,2-Dichloroethane	ND	0.025	mg/Kg	50	08/27/17	JLI	SW8260C
1,2-Dichloropropane	ND	0.1	mg/Kg	50	08/27/17	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,3-Dichloropropane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
2,2-Dichloropropane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
2-Chlorotoluene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
2-Hexanone	ND	0.7	mg/Kg	50	08/27/17	JLI	SW8260C
2-Isopropyltoluene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
4-Chlorotoluene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
4-Methyl-2-pentanone	ND	1.3	mg/Kg	50	08/27/17	JLI	SW8260C

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Client ID: SB082417-TB-HL

Phoenix I.D.: BY90232

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	5	mg/Kg	50	08/27/17	JLI	SW8260C
Acrylonitrile	ND	0.025	mg/Kg	50	08/27/17	JLI	SW8260C
Benzene	ND	0.025	mg/Kg	50	08/27/17	JLI	SW8260C
Bromobenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Bromochloromethane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Bromodichloromethane	ND	0.05	mg/Kg	50	08/27/17	JLI	SW8260C
Bromoform	ND	0.08	mg/Kg	50	08/27/17	JLI	SW8260C
Bromomethane	ND	0.1	mg/Kg	50	08/27/17	JLI	SW8260C
Carbon Disulfide	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Carbon tetrachloride	ND	0.1	mg/Kg	50	08/27/17	JLI	SW8260C
Chlorobenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Chloroethane	ND	0.15	mg/Kg	50	08/27/17	JLI	SW8260C
Chloroform	ND	0.12	mg/Kg	50	08/27/17	JLI	SW8260C
Chloromethane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Dibromochloromethane	ND	0.05	mg/Kg	50	08/27/17	JLI	SW8260C
Dibromomethane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Dichlorodifluoromethane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Ethylbenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Hexachlorobutadiene	ND	0.2	mg/Kg	50	08/27/17	JLI	SW8260C
Isopropylbenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
m&p-Xylene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Methyl Ethyl Ketone	ND	3	mg/Kg	50	08/27/17	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Methylene chloride	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Naphthalene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
n-Butylbenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
n-Propylbenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
o-Xylene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
p-Isopropyltoluene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
sec-Butylbenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Styrene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
tert-Butylbenzene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Tetrachloroethene	ND	0.1	mg/Kg	50	08/27/17	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.13	mg/Kg	50	08/27/17	JLI	SW8260C
Toluene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Total Xylenes	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.5	mg/Kg	50	08/27/17	JLI	SW8260C
Trichloroethene	ND	0.1	mg/Kg	50	08/27/17	JLI	SW8260C
Trichlorofluoromethane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.25	mg/Kg	50	08/27/17	JLI	SW8260C
Vinyl chloride	ND	0.04	mg/Kg	50	08/27/17	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	50	08/27/17	JLI	70 - 130 %
% Bromofluorobenzene	101		%	50	08/27/17	JLI	70 - 130 %
% Dibromofluoromethane	95		%	50	08/27/17	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	92		%	50	08/27/17	JLI	70 - 130 %
Field Extraction	Completed				08/24/17		SW5035A

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:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

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.

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.

Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

Analysis Report

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		08/24/17	
Location Code:	TRC-DOT	Received by:	SW	08/24/17	16:10
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90205
Phoenix ID: BY90233

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Client ID: SB082417-TB-LL

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.003	mg/Kg	1	08/27/17	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,1-Dichloroethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,1-Dichloroethene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,1-Dichloropropene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dibromoethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dichloroethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,2-Dichloropropane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,3-Dichloropropane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
2,2-Dichloropropane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
2-Chlorotoluene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
2-Hexanone	ND	0.025	mg/Kg	1	08/27/17	JLI	SW8260C
2-Isopropyltoluene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
4-Chlorotoluene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.025	mg/Kg	1	08/27/17	JLI	SW8260C

Project ID: CONN DOT-STRATFORD SIGNALIZATION
Client ID: SB082417-TB-LL

Phoenix I.D.: BY90233

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	0.25	mg/Kg	1	08/27/17	JLI	SW8260C
Acrylonitrile	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Benzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Bromobenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Bromochloromethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Bromodichloromethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Bromoform	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Bromomethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Carbon Disulfide	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Carbon tetrachloride	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Chlorobenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Chloroethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Chloroform	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Chloromethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
cis-1,3-Dichloropropene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Dibromochloromethane	ND	0.003	mg/Kg	1	08/27/17	JLI	SW8260C
Dibromomethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Dichlorodifluoromethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Ethylbenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Hexachlorobutadiene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Isopropylbenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
m&p-Xylene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.03	mg/Kg	1	08/27/17	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.01	mg/Kg	1	08/27/17	JLI	SW8260C
Methylene chloride	ND	0.01	mg/Kg	1	08/27/17	JLI	SW8260C
Naphthalene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
n-Butylbenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
n-Propylbenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
o-Xylene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
p-Isopropyltoluene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
sec-Butylbenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Styrene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
tert-Butylbenzene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Tetrachloroethene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.01	mg/Kg	1	08/27/17	JLI	SW8260C
Toluene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Total Xylenes	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.01	mg/Kg	1	08/27/17	JLI	SW8260C
Trichloroethene	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Trichlorofluoromethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
Vinyl chloride	ND	0.005	mg/Kg	1	08/27/17	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	08/27/17	JLI	70 - 130 %
% Bromofluorobenzene	101		%	1	08/27/17	JLI	70 - 130 %
% Dibromofluoromethane	102		%	1	08/27/17	JLI	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	91		%	1	08/27/17	JLI	70 - 130 %
Field Extraction	Completed				08/24/17		SW5035A

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:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

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.

Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

January 19, 2018

QA/QC Data

SDG I.D.: GBY90205

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 399306 (mg/L), QC Sample No: BY87104 (BY90231)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	0.001	<0.004	NC	91.6			97.6			75 - 125	20
Barium	BRL	0.002	0.020	0.019	5.10	100			99.3			75 - 125	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	98.5			97.6			75 - 125	20
Chromium	BRL	0.001	0.069	0.066	4.40	96.2			97.4			75 - 125	20
Copper	BRL	0.005	0.002	<0.005	NC	98.3			99.8			75 - 125	20
Lead	BRL	0.002	<0.002	<0.002	NC	95.9			95.8			75 - 125	20
Selenium	BRL	0.010	<0.010	<0.010	NC	88.5			92.4			75 - 125	20
Silver	BRL	0.001	<0.001	<0.001	NC	94.1			97.2			75 - 125	20
QA/QC Batch 399378 (mg/L), QC Sample No: BY89741 (BY90231)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	88.0			87.4			80 - 120	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 399275 (mg/kg), QC Sample No: BY90102 (BY90207)													
ICP Metals - Soil													
Arsenic	BRL	0.66	1.25	1.17	NC	91.5			86.7			75 - 125	30
Barium	BRL	0.33	33.6	33.4	0.60	100			97.8			75 - 125	30
Cadmium	BRL	0.33	<0.36	<0.34	NC	96.0			94.4			75 - 125	30
Chromium	BRL	0.33	13.5	13.2	2.20	106			95.9			75 - 125	30
Copper	BRL	0.33	16.3	16.1	1.20	105			107			75 - 125	30
Lead	BRL	0.33	3.07	2.65	14.7	97.5			96.3			75 - 125	30
Selenium	BRL	1.3	<1.4	<1.3	NC	84.8			81.0			75 - 125	30
Silver	BRL	0.33	<0.36	<0.34	NC	100			93.8			75 - 125	30
QA/QC Batch 399376 (mg/kg), QC Sample No: BY90105 (BY90207)													
Mercury - Soil	BRL	0.02	<0.03	<0.02	NC	88.0	85.8	2.5	81.2			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

January 19, 2018

QA/QC Data

SDG I.D.: GBY90205

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 399305 (mg/L), QC Sample No: BY89356 (BY90231)										
TPH by GC (Extractable Products) - Water										
Ext. Petroleum H.C. (C9-C36)	ND	0.094	87	90	3.4				60 - 120	30
% n-Pentacosane	60	%	77	79	2.6				50 - 150	20
Comment:										
The MS/MSD could not be reported due to the presence of ETPH in the original sample. The LCS was within method criteria.										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 399429 (ug/L), QC Sample No: BY89771 (BY90231)										
Volatiles - Water										
1,1,1,2-Tetrachloroethane	ND	1.0	112	104	7.4				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	108	98	9.7				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	115	110	4.4				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	110	104	5.6				70 - 130	30
1,1-Dichloroethane	ND	1.0	108	100	7.7				70 - 130	30
1,1-Dichloroethene	ND	1.0	103	94	9.1				70 - 130	30
1,1-Dichloropropene	ND	1.0	107	99	7.8				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	121	123	1.6				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	111	104	6.5				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	115	112	2.6				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	105	97	7.9				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	126	119	5.7				70 - 130	30
1,2-Dibromoethane	ND	1.0	114	107	6.3				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	106	102	3.8				70 - 130	30
1,2-Dichloroethane	ND	1.0	111	105	5.6				70 - 130	30
1,2-Dichloropropane	ND	1.0	107	101	5.8				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	105	97	7.9				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	108	101	6.7				70 - 130	30
1,3-Dichloropropane	ND	1.0	110	104	5.6				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	107	100	6.8				70 - 130	30
2,2-Dichloropropane	ND	1.0	119	108	9.7				70 - 130	30
2-Chlorotoluene	ND	1.0	107	99	7.8				70 - 130	30
2-Hexanone	ND	5.0	107	101	5.8				70 - 130	30
2-Isopropyltoluene	ND	1.0	106	99	6.8				70 - 130	30
4-Chlorotoluene	ND	1.0	106	98	7.8				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	107	102	4.8				70 - 130	30
Acetone	ND	5.0	98	94	4.2				70 - 130	30
Acrylonitrile	ND	5.0	122	109	11.3				70 - 130	30
Benzene	ND	0.70	108	100	7.7				70 - 130	30
Bromobenzene	ND	1.0	107	101	5.8				70 - 130	30
Bromochloromethane	ND	1.0	113	103	9.3				70 - 130	30
Bromodichloromethane	ND	0.50	112	106	5.5				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Bromoform	ND	1.0	119	110	7.9				70 - 130	30
Bromomethane	ND	1.0	121	108	11.4				70 - 130	30
Carbon Disulfide	ND	1.0	109	99	9.6				70 - 130	30
Carbon tetrachloride	ND	1.0	108	98	9.7				70 - 130	30
Chlorobenzene	ND	1.0	106	99	6.8				70 - 130	30
Chloroethane	ND	1.0	103	94	9.1				70 - 130	30
Chloroform	ND	1.0	106	99	6.8				70 - 130	30
Chloromethane	ND	1.0	97	88	9.7				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	107	100	6.8				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	116	109	6.2				70 - 130	30
Dibromochloromethane	ND	0.50	121	111	8.6				70 - 130	30
Dibromomethane	ND	1.0	111	103	7.5				70 - 130	30
Dichlorodifluoromethane	ND	1.0	97	88	9.7				70 - 130	30
Ethylbenzene	ND	1.0	107	98	8.8				70 - 130	30
Hexachlorobutadiene	ND	0.40	114	108	5.4				70 - 130	30
Isopropylbenzene	ND	1.0	106	96	9.9				70 - 130	30
m&p-Xylene	ND	1.0	106	97	8.9				70 - 130	30
Methyl ethyl ketone	ND	5.0	115	107	7.2				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	126	118	6.6				70 - 130	30
Methylene chloride	ND	1.0	100	93	7.3				70 - 130	30
Naphthalene	ND	1.0	125	125	0.0				70 - 130	30
n-Butylbenzene	ND	1.0	109	99	9.6				70 - 130	30
n-Propylbenzene	ND	1.0	105	96	9.0				70 - 130	30
o-Xylene	ND	1.0	109	101	7.6				70 - 130	30
p-Isopropyltoluene	ND	1.0	106	98	7.8				70 - 130	30
sec-Butylbenzene	ND	1.0	109	100	8.6				70 - 130	30
Styrene	ND	1.0	110	101	8.5				70 - 130	30
tert-Butylbenzene	ND	1.0	105	97	7.9				70 - 130	30
Tetrachloroethene	ND	1.0	107	99	7.8				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	116	110	5.3				70 - 130	30
Toluene	ND	1.0	106	99	6.8				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	106	97	8.9				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	115	109	5.4				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	126	113	10.9				70 - 130	30
Trichloroethene	ND	1.0	108	100	7.7				70 - 130	30
Trichlorofluoromethane	ND	1.0	91	83	9.2				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	98	90	8.5				70 - 130	30
Vinyl chloride	ND	1.0	100	91	9.4				70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	101	101	0.0				70 - 130	30
% Bromofluorobenzene	98	%	102	100	2.0				70 - 130	30
% Dibromofluoromethane	102	%	102	104	1.9				70 - 130	30
% Toluene-d8	100	%	100	99	1.0				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 399304 (ug/L), QC Sample No: BY89940 (BY90231)

Semivolatiles (SIM) - Water

1,2,4,5-Tetrachlorobenzene	ND	0.47	70	71	1.4				30 - 130	20
2-Methylnaphthalene	ND	0.02	63	64	1.6				30 - 130	20
Acenaphthene	ND	0.02	81	77	5.1				30 - 130	20
Acenaphthylene	ND	0.02	72	71	1.4				30 - 130	20
Anthracene	ND	0.02	85	79	7.3				30 - 130	20

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benz(a)anthracene	ND	0.02	84	79	6.1				30 - 130	20	
Benzo(a)pyrene	ND	0.02	70	66	5.9				30 - 130	20	
Benzo(b)fluoranthene	ND	0.02	80	79	1.3				30 - 130	20	
Benzo(ghi)perylene	ND	0.02	77	70	9.5				30 - 130	20	
Benzo(k)fluoranthene	ND	0.02	87	75	14.8				30 - 130	20	
Bis(2-ethylhexyl)phthalate	ND	0.09	90	91	1.1				30 - 130	20	
Chrysene	ND	0.02	86	82	4.8				30 - 130	20	
Dibenz(a,h)anthracene	ND	0.01	91	83	9.2				30 - 130	20	
Dibenzofuran	ND	0.05	74	71	4.1				30 - 130	20	
Fluoranthene	ND	0.02	81	75	7.7				30 - 130	20	
Fluorene	ND	0.02	79	75	5.2				30 - 130	20	
Hexachlorobenzene	ND	0.02	87	84	3.5				30 - 130	20	
Hexachlorobutadiene	ND	0.05	56	66	16.4				30 - 130	20	
Hexachlorocyclopentadiene	ND	0.05	37	40	7.8				30 - 130	20	
Hexachloroethane	ND	0.05	49	63	25.0				30 - 130	20	r
Indeno(1,2,3-cd)pyrene	ND	0.02	83	76	8.8				30 - 130	20	
Naphthalene	ND	0.02	59	64	8.1				30 - 130	20	
Nitrobenzene	ND	0.05	64	72	11.8				30 - 130	20	
Pentachloronitrobenzene	ND	0.09	101	95	6.1				30 - 130	20	
Pentachlorophenol	ND	0.19	>200	191	NC				30 - 130	20	l
Phenanthrene	ND	0.02	78	73	6.6				30 - 130	20	
Pyrene	ND	0.02	83	76	8.8				30 - 130	20	
Pyridine	ND	0.47	54	71	27.2				30 - 130	20	r
% 2,4,6-Tribromophenol	98	%	107	102	4.8				15 - 110	20	
% 2-Fluorobiphenyl	72	%	71	71	0.0				30 - 130	20	
% 2-Fluorophenol	64	%	44	55	22.2				15 - 110	20	r
% Nitrobenzene-d5	75	%	61	67	9.4				30 - 130	20	
% Phenol-d5	68	%	57	61	6.8				15 - 110	20	
% Terphenyl-d14	86	%	85	78	8.6				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 399304 (ug/L), QC Sample No: BY89940 (BY90231)

Semivolatiles - Water

1,2,4-Trichlorobenzene	ND	3.3	61	62	1.6				30 - 130	20	
1,2-Dichlorobenzene	ND	0.94	51	52	1.9				30 - 130	20	
1,2-Diphenylhydrazine	ND	1.5	84	87	3.5				30 - 130	20	
1,3-Dichlorobenzene	ND	0.94	51	50	2.0				30 - 130	20	
1,4-Dichlorobenzene	ND	0.94	52	52	0.0				30 - 130	20	
2,4,5-Trichlorophenol	ND	0.94	86	92	6.7				30 - 130	20	
2,4,6-Trichlorophenol	ND	0.94	84	87	3.5				30 - 130	20	
2,4-Dichlorophenol	ND	0.94	70	75	6.9				30 - 130	20	
2,4-Dimethylphenol	ND	0.94	74	78	5.3				30 - 130	20	
2,4-Dinitrophenol	ND	0.94	102	130	24.1				30 - 130	20	r
2,4-Dinitrotoluene	ND	3.3	99	100	1.0				30 - 130	20	
2,6-Dinitrotoluene	ND	3.3	92	94	2.2				30 - 130	20	
2-Chloronaphthalene	ND	3.3	81	79	2.5				30 - 130	20	
2-Chlorophenol	ND	0.94	52	56	7.4				30 - 130	20	
2-Methylphenol (o-cresol)	ND	0.94	65	71	8.8				30 - 130	20	
2-Nitroaniline	ND	3.3	125	132	5.4				30 - 130	20	l
2-Nitrophenol	ND	0.94	62	68	9.2				30 - 130	20	
3&4-Methylphenol (m&p-cresol)	ND	0.94	69	76	9.7				30 - 130	20	

QA/QC Data

SDG I.D.: GBY90205

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
3,3'-Dichlorobenzidine	ND	4.7	102	100	2.0				30 - 130	20	
3-Nitroaniline	ND	4.7	117	117	0.0				30 - 130	20	
4,6-Dinitro-2-methylphenol	ND	0.94	107	117	8.9				30 - 130	20	
4-Bromophenyl phenyl ether	ND	3.3	86	87	1.2				30 - 130	20	
4-Chloro-3-methylphenol	ND	0.94	81	88	8.3				30 - 130	20	
4-Chloroaniline	ND	3.3	80	83	3.7				30 - 130	20	
4-Chlorophenyl phenyl ether	ND	0.94	88	89	1.1				30 - 130	20	
4-Nitroaniline	ND	4.7	85	92	7.9				30 - 130	20	
4-Nitrophenol	ND	0.94	84	96	13.3				15 - 130	20	
Acetophenone	ND	3.3	61	68	10.9				30 - 130	20	
Aniline	ND	3.3	68	74	8.5				30 - 130	20	
Benzidine	ND	4.2	85	90	5.7				30 - 130	20	
Benzoic acid	ND	9.4	69	91	27.5				30 - 130	20	r
Benzyl butyl phthalate	ND	1.4	88	96	8.7				30 - 130	20	
Bis(2-chloroethoxy)methane	ND	3.3	71	75	5.5				30 - 130	20	
Bis(2-chloroethyl)ether	ND	0.94	47	49	4.2				30 - 130	20	
Bis(2-chloroisopropyl)ether	ND	0.94	48	52	8.0				30 - 130	20	
Carbazole	ND	4.7	98	95	3.1				30 - 130	20	
Diethyl phthalate	ND	1.4	91	94	3.2				30 - 130	20	
Dimethylphthalate	ND	1.4	87	90	3.4				30 - 130	20	
Di-n-butylphthalate	ND	1.4	92	94	2.2				30 - 130	20	
Di-n-octylphthalate	ND	1.4	85	96	12.2				30 - 130	20	
Isophorone	ND	3.3	70	76	8.2				30 - 130	20	
N-Nitrosodimethylamine	ND	0.94	51	52	1.9				30 - 130	20	
N-Nitrosodi-n-propylamine	ND	3.3	67	74	9.9				30 - 130	20	
N-Nitrosodiphenylamine	ND	3.3	85	87	2.3				30 - 130	20	
Phenol	ND	0.94	56	60	6.9				15 - 130	20	
% 2,4,6-Tribromophenol	70	%	88	93	5.5				15 - 110	20	
% 2-Fluorobiphenyl	80	%	82	82	0.0				30 - 130	20	
% 2-Fluorophenol	56	%	42	45	6.9				15 - 110	20	
% Nitrobenzene-d5	68	%	57	63	10.0				30 - 130	20	
% Phenol-d5	65	%	53	58	9.0				15 - 110	20	
% Terphenyl-d14	96	%	95	93	2.1				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 399284 (mg/Kg), QC Sample No: BY90103 (BY90207)

TPH by GC (Extractable Products) - Soil

Ext. Petroleum H.C. (C9-C36)	ND	50	70	72	2.8	72	72	0.0	60 - 120	30	
% n-Pentacosane	72	%	75	78	3.9	79	79	0.0	50 - 150	30	

Comment:

Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

QA/QC Batch 399283 (mg/Kg), QC Sample No: BY90105 2X (BY90207)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	0.033	86	84	2.4	87	93	6.7	40 - 140	30	
PCB-1221	ND	0.033							40 - 140	30	
PCB-1232	ND	0.033							40 - 140	30	
PCB-1242	ND	0.033							40 - 140	30	
PCB-1248	ND	0.033							40 - 140	30	
PCB-1254	ND	0.033							40 - 140	30	
PCB-1260	ND	0.033	95	91	4.3	101	105	3.9	40 - 140	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
PCB-1262	ND	0.033							40 - 140	30	
PCB-1268	ND	0.033							40 - 140	30	
% DCBP (Surrogate Rec)	96	%	99	100	1.0	109	118	7.9	30 - 150	30	
% TCMX (Surrogate Rec)	90	%	98	95	3.1	97	104	7.0	30 - 150	30	
QA/QC Batch 399278 (mg/Kg), QC Sample No: BY90207 (BY90207)											
Semivolatiles - Soil											
1,2,4,5-Tetrachlorobenzene	ND	0.23	60			66	69	4.4	30 - 130	30	
1,2,4-Trichlorobenzene	ND	0.23	56			62	63	1.6	30 - 130	30	
1,2-Dichlorobenzene	ND	0.18	53			57	58	1.7	30 - 130	30	
1,2-Diphenylhydrazine	ND	0.23	61			75	71	5.5	30 - 130	30	
1,3-Dichlorobenzene	ND	0.23	50			54	55	1.8	30 - 130	30	
1,4-Dichlorobenzene	ND	0.23	51			56	57	1.8	30 - 130	30	
2,4,5-Trichlorophenol	ND	0.23	65			75	79	5.2	30 - 130	30	
2,4,6-Trichlorophenol	ND	0.13	63			75	80	6.5	30 - 130	30	
2,4-Dichlorophenol	ND	0.13	64			70	75	6.9	30 - 130	30	
2,4-Dimethylphenol	ND	0.23	64			67	71	5.8	30 - 130	30	
2,4-Dinitrophenol	ND	0.23	<10			59	58	1.7	30 - 130	30	l
2,4-Dinitrotoluene	ND	0.13	71			77	83	7.5	30 - 130	30	
2,6-Dinitrotoluene	ND	0.13	69			77	81	5.1	30 - 130	30	
2-Chloronaphthalene	ND	0.23	61			67	71	5.8	30 - 130	30	
2-Chlorophenol	ND	0.23	59			64	65	1.6	30 - 130	30	
2-Methylnaphthalene	ND	0.23	59			63	66	4.7	30 - 130	30	
2-Methylphenol (o-cresol)	ND	0.23	60			27	72	90.9	30 - 130	30	m,r
2-Nitroaniline	ND	0.33	93			90	99	9.5	30 - 130	30	
2-Nitrophenol	ND	0.23	59			65	66	1.5	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	0.23	63			69	71	2.9	30 - 130	30	
3,3'-Dichlorobenzidine	ND	0.13	80			28	27	3.6	30 - 130	30	m
3-Nitroaniline	ND	0.33	79			67	77	13.9	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	0.23	16			67	68	1.5	30 - 130	30	l
4-Bromophenyl phenyl ether	ND	0.23	64			72	75	4.1	30 - 130	30	
4-Chloro-3-methylphenol	ND	0.23	69			75	81	7.7	30 - 130	30	
4-Chloroaniline	ND	0.23	62			41	52	23.7	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	0.23	65			70	75	6.9	30 - 130	30	
4-Nitroaniline	ND	0.23	66			74	79	6.5	30 - 130	30	
4-Nitrophenol	ND	0.23	67			76	83	8.8	30 - 130	30	
Acenaphthene	ND	0.23	69			76	80	5.1	30 - 130	30	
Acenaphthylene	ND	0.13	61			69	72	4.3	30 - 130	30	
Acetophenone	ND	0.23	56			60	61	1.7	30 - 130	30	
Aniline	ND	0.33	53			30	34	12.5	30 - 130	30	
Anthracene	ND	0.23	66			76	80	5.1	30 - 130	30	
Benz(a)anthracene	ND	0.23	65			73	78	6.6	30 - 130	30	
Benzidine	ND	0.33	47			<10	<10	NC	30 - 130	30	m
Benzo(a)pyrene	ND	0.13	64			49	58	16.8	30 - 130	30	
Benzo(b)fluoranthene	ND	0.16	67			53	68	24.8	30 - 130	30	
Benzo(ghi)perylene	ND	0.23	59			45	46	2.2	30 - 130	30	
Benzo(k)fluoranthene	ND	0.23	64			54	66	20.0	30 - 130	30	
Benzoic Acid	ND	0.33	<10			38	35	8.2	30 - 130	30	l
Benzyl butyl phthalate	ND	0.23	70			79	86	8.5	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	0.23	63			67	68	1.5	30 - 130	30	
Bis(2-chloroethyl)ether	ND	0.13	52			60	62	3.3	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	0.23	50			54	54	0.0	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	0.23	73			85	95	11.1	30 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Carbazole	ND	0.23	68			77	82	6.3	30 - 130	30	
Chrysene	ND	0.23	67			80	86	7.2	30 - 130	30	
Dibenz(a,h)anthracene	ND	0.13	67			50	52	3.9	30 - 130	30	
Dibenzofuran	ND	0.23	66			72	77	6.7	30 - 130	30	
Diethyl phthalate	ND	0.23	68			75	80	6.5	30 - 130	30	
Dimethylphthalate	ND	0.23	66			72	77	6.7	30 - 130	30	
Di-n-butylphthalate	ND	0.29	80			78	82	5.0	30 - 130	30	
Di-n-octylphthalate	ND	0.23	72			64	72	11.8	30 - 130	30	
Fluoranthene	ND	0.23	67			76	82	7.6	30 - 130	30	
Fluorene	ND	0.23	65			72	77	6.7	30 - 130	30	
Hexachlorobenzene	ND	0.13	65			71	75	5.5	30 - 130	30	
Hexachlorobutadiene	ND	0.23	55			59	61	3.3	30 - 130	30	
Hexachlorocyclopentadiene	ND	0.23	55			<10	<10	NC	30 - 130	30	m
Hexachloroethane	ND	0.13	50			26	25	3.9	30 - 130	30	m
Indeno(1,2,3-cd)pyrene	ND	0.23	63			47	48	2.1	30 - 130	30	
Isophorone	ND	0.13	57			63	64	1.6	30 - 130	30	
Naphthalene	ND	0.23	57			64	65	1.6	30 - 130	30	
Nitrobenzene	ND	0.13	58			64	64	0.0	30 - 130	30	
N-Nitrosodimethylamine	ND	0.23	51			54	54	0.0	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	0.13	59			64	64	0.0	30 - 130	30	
N-Nitrosodiphenylamine	ND	0.13	70			74	79	6.5	30 - 130	30	
Pentachloronitrobenzene	ND	0.23	66			73	78	6.6	30 - 130	30	
Pentachlorophenol	ND	0.23	42			69	74	7.0	30 - 130	30	
Phenanthrene	ND	0.13	64			75	80	6.5	30 - 130	30	
Phenol	ND	0.23	59			64	65	1.6	30 - 130	30	
Pyrene	ND	0.23	67			80	85	6.1	30 - 130	30	
Pyridine	ND	0.23	38			38	39	2.6	30 - 130	30	
% 2,4,6-Tribromophenol	51	%	63			72	77	6.7	30 - 130	30	
% 2-Fluorobiphenyl	56	%	62			70	72	2.8	30 - 130	30	
% 2-Fluorophenol	42	%	52			56	55	1.8	30 - 130	30	
% Nitrobenzene-d5	53	%	58			64	63	1.6	30 - 130	30	
% Phenol-d5	49	%	59			63	63	0.0	30 - 130	30	
% Terphenyl-d14	59	%	71			78	82	5.0	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 399604 (ug/L), QC Sample No: BY90231 (BY90231)

Polychlorinated Biphenyls - Water

PCB-1016	ND	0.050	64	89	32.7				40 - 140	20	r
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	75	106	34.3				40 - 140	20	r
PCB-1262	ND	0.050							40 - 140	20	
PCB-1268	ND	0.050							40 - 140	20	
% DCBP (Surrogate Rec)	113	%	87	118	30.2				30 - 150	20	r
% TCMX (Surrogate Rec)	95	%	83	112	29.7				30 - 150	20	r

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Data

SDG I.D.: GBY90205

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 399439 (mg/Kg), QC Sample No: BY90980 (BY90207, BY90232 (50X) , BY90233)											
Volatiles - Soil											
1,1,1,2-Tetrachloroethane	ND	0.005	105	107	1.9	99	100	1.0	70 - 130	30	
1,1,1-Trichloroethane	ND	0.005	98	99	1.0	96	92	4.3	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.003	101	101	0.0	95	91	4.3	70 - 130	30	
1,1,2-Trichloroethane	ND	0.005	97	99	2.0	94	94	0.0	70 - 130	30	
1,1-Dichloroethane	ND	0.005	96	97	1.0	91	90	1.1	70 - 130	30	
1,1-Dichloroethene	ND	0.005	102	103	1.0	89	90	1.1	70 - 130	30	
1,1-Dichloropropene	ND	0.005	102	104	1.9	99	95	4.1	70 - 130	30	
1,2,3-Trichlorobenzene	ND	0.005	106	107	0.9	102	100	2.0	70 - 130	30	
1,2,3-Trichloropropane	ND	0.005	94	94	0.0	87	84	3.5	70 - 130	30	
1,2,4-Trichlorobenzene	ND	0.005	105	107	1.9	102	96	6.1	70 - 130	30	
1,2,4-Trimethylbenzene	ND	0.001	99	101	2.0	97	93	4.2	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	0.005	106	108	1.9	94	93	1.1	70 - 130	30	
1,2-Dibromoethane	ND	0.005	99	99	0.0	94	95	1.1	70 - 130	30	
1,2-Dichlorobenzene	ND	0.005	104	106	1.9	102	98	4.0	70 - 130	30	
1,2-Dichloroethane	ND	0.005	97	99	2.0	94	91	3.2	70 - 130	30	
1,2-Dichloropropane	ND	0.005	95	97	2.1	94	93	1.1	70 - 130	30	
1,3,5-Trimethylbenzene	ND	0.001	100	101	1.0	99	96	3.1	70 - 130	30	
1,3-Dichlorobenzene	ND	0.005	102	104	1.9	100	97	3.0	70 - 130	30	
1,3-Dichloropropane	ND	0.005	93	94	1.1	90	89	1.1	70 - 130	30	
1,4-Dichlorobenzene	ND	0.005	104	105	1.0	101	98	3.0	70 - 130	30	
2,2-Dichloropropane	ND	0.005	106	106	0.0	97	92	5.3	70 - 130	30	
2-Chlorotoluene	ND	0.005	100	102	2.0	100	96	4.1	70 - 130	30	
2-Hexanone	ND	0.025	78	77	1.3	71	70	1.4	70 - 130	30	
2-Isopropyltoluene	ND	0.005	109	111	1.8	107	105	1.9	70 - 130	30	
4-Chlorotoluene	ND	0.005	100	101	1.0	98	96	2.1	70 - 130	30	
4-Methyl-2-pentanone	ND	0.025	86	86	0.0	78	78	0.0	70 - 130	30	
Acetone	ND	0.01	82	75	8.9	64	64	0.0	70 - 130	30	m
Acrylonitrile	ND	0.005	92	94	2.2	89	88	1.1	70 - 130	30	
Benzene	ND	0.001	97	98	1.0	96	95	1.0	70 - 130	30	
Bromobenzene	ND	0.005	105	106	0.9	103	101	2.0	70 - 130	30	
Bromochloromethane	ND	0.005	98	99	1.0	93	94	1.1	70 - 130	30	
Bromodichloromethane	ND	0.005	101	104	2.9	93	92	1.1	70 - 130	30	
Bromoform	ND	0.005	103	107	3.8	88	87	1.1	70 - 130	30	
Bromomethane	ND	0.005	93	96	3.2	74	75	1.3	70 - 130	30	
Carbon Disulfide	ND	0.005	116	116	0.0	79	82	3.7	70 - 130	30	
Carbon tetrachloride	ND	0.005	103	106	2.9	93	92	1.1	70 - 130	30	
Chlorobenzene	ND	0.005	102	103	1.0	101	100	1.0	70 - 130	30	
Chloroethane	ND	0.005	95	97	2.1	40	40	0.0	70 - 130	30	m
Chloroform	ND	0.005	95	96	1.0	83	84	1.2	70 - 130	30	
Chloromethane	ND	0.005	87	86	1.2	83	82	1.2	70 - 130	30	
cis-1,2-Dichloroethene	ND	0.005	98	99	1.0	95	93	2.1	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.005	103	105	1.9	96	95	1.0	70 - 130	30	
Dibromochloromethane	ND	0.003	108	109	0.9	95	97	2.1	70 - 130	30	
Dibromomethane	ND	0.005	98	101	3.0	96	94	2.1	70 - 130	30	
Dichlorodifluoromethane	ND	0.005	102	102	0.0	95	95	0.0	70 - 130	30	
Ethylbenzene	ND	0.001	101	103	2.0	99	99	0.0	70 - 130	30	
Hexachlorobutadiene	ND	0.005	114	117	2.6	114	109	4.5	70 - 130	30	
Isopropylbenzene	ND	0.001	103	103	0.0	102	99	3.0	70 - 130	30	
m&p-Xylene	ND	0.002	98	99	1.0	97	96	1.0	70 - 130	30	
Methyl ethyl ketone	ND	0.005	80	78	2.5	75	72	4.1	70 - 130	30	

QA/QC Data

SDG I.D.: GBY90205

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Methyl t-butyl ether (MTBE)	ND	0.001	97	98	1.0	91	90	1.1	70 - 130	30	
Methylene chloride	ND	0.005	87	89	2.3	84	81	3.6	70 - 130	30	
Naphthalene	ND	0.005	102	103	1.0	96	96	0.0	70 - 130	30	
n-Butylbenzene	ND	0.001	107	109	1.9	104	101	2.9	70 - 130	30	
n-Propylbenzene	ND	0.001	104	106	1.9	102	100	2.0	70 - 130	30	
o-Xylene	ND	0.002	99	101	2.0	98	99	1.0	70 - 130	30	
p-Isopropyltoluene	ND	0.001	104	105	1.0	102	99	3.0	70 - 130	30	
sec-Butylbenzene	ND	0.001	106	107	0.9	104	101	2.9	70 - 130	30	
Styrene	ND	0.005	96	97	1.0	94	93	1.1	70 - 130	30	
tert-Butylbenzene	ND	0.001	102	103	1.0	101	98	3.0	70 - 130	30	
Tetrachloroethene	ND	0.005	108	111	2.7	106	106	0.0	70 - 130	30	
Tetrahydrofuran (THF)	ND	0.005	87	85	2.3	80	78	2.5	70 - 130	30	
Toluene	ND	0.001	101	104	2.9	101	101	0.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	0.005	103	101	2.0	93	93	0.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.005	102	105	2.9	93	91	2.2	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	0.005	116	117	0.9	96	94	2.1	70 - 130	30	
Trichloroethene	ND	0.005	105	107	1.9	106	104	1.9	70 - 130	30	
Trichlorofluoromethane	ND	0.005	98	95	3.1	27	26	3.8	70 - 130	30	m
Trichlorotrifluoroethane	ND	0.005	118	117	0.9	105	103	1.9	70 - 130	30	
Vinyl chloride	ND	0.005	94	93	1.1	93	92	1.1	70 - 130	30	
% 1,2-dichlorobenzene-d4	95	%	104	104	0.0	102	102	0.0	70 - 130	30	
% Bromofluorobenzene	101	%	99	99	0.0	98	100	2.0	70 - 130	30	
% Dibromofluoromethane	107	%	100	100	0.0	101	99	2.0	70 - 130	30	
% Toluene-d8	92	%	104	104	0.0	104	105	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%.

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
January 19, 2018

Friday, January 19, 2018

Criteria: CT: GAM

State: CT

Sample Criteria Exceedances Report

GBY90205 - TRC-DOT

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

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** TRC Environmental Corp.

Project Location: CONN DOT-STRATFORD SIGNALIZA ***Project Number:***

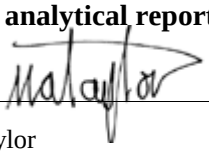
Laboratory Sample ID(s): BY90207, BY90231-BY90233 ***Sampling Date(s):*** 8/24/2017

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 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 Reasonable Confidence Protocol documents acheived? See Sections: SVOA Narration, SVOASIM 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:** Project Manager

Printed Name: Maryam Taylor **Date:** Friday, January 19, 2018

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

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

January 19, 2018

SDG I.D.: GBY90205

SDG Comments

Metals Analysis:
The client requested a shorter list of elements than the 6010 RCP list. Only the RCRA 8 Metals are reported as requested on the chain of custody.

8270 Semi-volatile Organics:(BY90231)
In order to achieve the requested reporting levels for the target compounds, the sample was extracted and analyzed via 8270 selective ion monitoring (SIM) as well as 8270 full scan.

ETPH Narration

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

Instrument:

AU-FID1 08/25/17-1 Jeff Bucko, Chemist 08/25/17

BY90207

The initial calibration (ETPH804I) 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 08/28/17-1 Jeff Bucko, Chemist 08/28/17

BY90231

The initial calibration (ETPH819I) 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 399284 (BY90103)

BY90207

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.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

Batch 399305 (BY89356)

BY90231

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.
The MS/MSD could not be reported due to the presence of ETPH in the original sample. The LCS was within method criteria.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

Mercury Narration

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

Instrument:

MERLIN 08/28/17 08:48 Rick Schweitzer, Chemist 08/28/17

BY90207, BY90231

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Certification Report

January 19, 2018

SDG I.D.: GBY90205

Mercury Narration

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 399376 (BY90105)

BY90207

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%.

Batch 399378 (BY89741)

BY90231

All LCS recoveries were within 80 - 120 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 08/28/17 06:50 Mike Arsenault, Chemist 08/28/17

BY90207

Additional criteria for CCV and ICSAB:
Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB).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.

BLUE 08/25/17 06:21 Mike Arsenault, Chemist 08/25/17

BY90231

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

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Certification Report

January 19, 2018

SDG I.D.: GBY90205

ICP Metals Narration

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 399275 (BY90102)

BY90207

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

Batch 399306 (BY87104)

BY90231

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-ECD1 08/30/17-1 Adam Werner, Chemist 08/30/17

BY90231

The initial calibration (PC718AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC718BI) 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.

AU-ECD24 08/28/17-1 Adam Werner, Chemist 08/28/17

BY90207

The initial calibration (PC808AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC808BI) 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 399283 (BY90105)

BY90207

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.

Batch 399604 (BY90231)

BY90231

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: % DCBP (Surrogate Rec)(30.2%), % TCMX (Surrogate Rec)(29.7%), PCB-1016(32.7%), PCB-1260(34.3%)
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

SVOA Narration

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RCP Certification Report

January 19, 2018

SDG I.D.: GBY90205

SVOA Narration

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

QC Batch 399278 (Samples: BY90207): -----

The LCS/LCSD recovery for one or more analytes is below the method criteria. A low bias for these analytes is possible. (2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, Benzoic Acid, Benzidine)

The LCS and/or the LCSD recovery is below the method criteria. A low bias for these analytes is possible. (Pentachlorophenol, Pyridine)

The LCS/LCSD recovery is acceptable. One or more analytes in the site specific matrix spike recovery is below the method criteria, therefore a low bias is likely. (2-Methylphenol (o-cresol), 3,3''-Dichlorobenzidine, Hexachlorocyclopentadiene, Hexachloroethane)

The MS/MSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (2-Methylphenol (o-cresol))

QC Batch 399304 (Samples: BY90231): -----

The LCS and/or the LCSD 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. (2-Nitroaniline)

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (2,4-Dinitrophenol, Benzoic acid)

Instrument:

CHEM05 08/30/17-1 Damien Drobinski, Chemist 08/30/17

BY90231

Initial Calibration Verification (CHEM05/SPLIT_0829):
92% of target compounds met criteria.
The following compounds had %RSDs >20%: 2,4-Dinitrophenol 54% (20%), 4,6-Dinitro-2-methylphenol 38% (20%), 4-Nitrophenol 24% (20%), Benzoic acid 23% (20%)
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.045 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM05/0830_02-SPLIT_0829):
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: 2-Nitrophenol 0.042 (0.1)
The following compounds did not meet minimum response factors: None.

CHEM29 08/25/17-1 Damien Drobinski, Chemist 08/25/17

BY90207

Initial Calibration Verification (CHEM29/SPLIT_0824):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.

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RCP Certification Report

January 19, 2018

SDG I.D.: GBY90205

SVOA Narration

The following compounds did not meet recommended response factors: 2-Nitrophenol 0.052 (0.1), Hexachlorobenzene 0.078 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM29/0825_04-SPLIT_0824):
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: 2-Nitrophenol 0.053 (0.1), Hexachlorobenzene 0.077 (0.1)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 399304 (BY89940)

BY90231

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: 2-Nitroaniline(132%)
All LCS/LCSD RPDs were less than 20% with the following exceptions: 2,4-Dinitrophenol(24.1%), Benzoic acid(27.5%)
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%)

QC (Site Specific):

Batch 399278 (BY90207)

BY90207

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 4,6-Dinitro-2-methylphenol(16%), Benzoic Acid(<10%)
All MS recoveries were within 30 - 130 with the following exceptions: 2-Methylphenol (o-cresol)(27%), 3,3'-Dichlorobenzidine(28%), Benzidine(<10%), Hexachlorocyclopentadiene(<10%), Hexachloroethane(26%)
All MSD recoveries were within 30 - 130 with the following exceptions: 3,3'-Dichlorobenzidine(27%), Benzidine(<10%), Hexachlorocyclopentadiene(<10%), Hexachloroethane(25%)
All MS/MSD RPDs were less than 30% with the following exceptions: 2-Methylphenol (o-cresol)(90.9%)
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.
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%)

SVOASIM Narration

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RCP Certification Report

January 19, 2018

SDG I.D.: GBY90205

SVOASIM Narration

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

QC Batch 399304 (Samples: BY90231): -----

The LCS and/or the LCSD 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. (Pentachlorophenol)

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (Hexachloroethane, Pyridine)

The LCS/LCSD RPD exceeds the method criteria for one or more surrogates. Both recoveries are within limits. No significant bias is suspected. (% 2-Fluorophenol)

Instrument:

CHEM04 08/29/17-1 Damien Drobinski, Chemist 08/29/17

BY90231

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

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

Initial Calibration Verification (CHEM04/SIM_0825):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: Pentachlorophenol 33% (20%)
The following compounds did not meet recommended response factors: Pentachlorophenol 0.046 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM04/0829_02-SIM_0825):
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: Pentachlorophenol 122%H (30%)
The following compounds did not meet maximum % deviations: Pentachlorophenol 122%H (40%)
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 399304 (BY89940)

BY90231

All LCS recoveries were within 30 - 130 with the following exceptions: Pentachlorophenol(>200%)
All LCSD recoveries were within 30 - 130 with the following exceptions: Pentachlorophenol(191%)
All LCS/LCSD RPDs were less than 20% with the following exceptions: % 2-Fluorophenol(22.2%), Hexachloroethane(25.0%), Pyridine(27.2%)
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%)

QC (Site Specific):

Batch 399278 (BY90207)

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RCP Certification Report

January 19, 2018

SDG I.D.: GBY90205

SVOASIM Narration

BY90207

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 4,6-Dinitro-2-methylphenol(16%), Benzoic Acid(<10%)
All MS recoveries were within 30 - 130 with the following exceptions: 2-Methylphenol (o-cresol)(27%), 3,3'-Dichlorobenzidine(28%), Benzidine(<10%), Hexachlorocyclopentadiene(<10%), Hexachloroethane(26%)
All MSD recoveries were within 30 - 130 with the following exceptions: 3,3'-Dichlorobenzidine(27%), Benzidine(<10%), Hexachlorocyclopentadiene(<10%), Hexachloroethane(25%)
All MS/MSD RPDs were less than 30% with the following exceptions: 2-Methylphenol (o-cresol)(90.9%)
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.
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 08/26/17-1 Michael Hahn, Chemist 08/26/17

BY90231

Initial Calibration Verification (CHEM02/VT-P0825):
96% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 26% (20%), Bromomethane 30% (20%), trans-1,4-dichloro-2-butene 33% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.028 (0.05), 2-Hexanone 0.059 (0.1), 4-Methyl-2-pentanone 0.070 (0.1), Acetone 0.037 (0.1), Acrylonitrile 0.039 (0.05), Bromoform 0.076 (0.1), Methyl ethyl ketone 0.050 (0.1), Tetrahydrofuran (THF) 0.032 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0826P02-VT-P0825):
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 0.291 (0.3), 1,2-Dibromo-3-chloropropane 0.031 (0.05), Acrylonitrile 0.042 (0.05), Bromoform 0.082 (0.1), Tetrahydrofuran (THF) 0.032 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM18 08/27/17-1 Jane Li, Chemist 08/27/17

BY90207, BY90232, BY90233

Initial Calibration Verification (CHEM18/VT-M0814):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 23% (20%), trans-1,4-dichloro-2-butene 21% (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 (CHEM18/0827M02-VT-M0814):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.

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

January 19, 2018

SDG I.D.: GBY90205

VOA Narration

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 399429 (BY89771)

BY90231

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 399439 (BY90980)

BY90207, BY90232, BY90233

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%.

Cooler: Yes [X] No [ ]
Coolant: IPK [ ] ICE [X] No [ ]
Temp 5.4 °C Pg 1 of 3

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 #:
[X] Email: CLindahl@trcsolutions.com

Customer: TRC
Address: 21 Griffin Rd. N
Windsor, CT
06095

Project: ConnDOT - Stratford Signalization Project P.O: ConnDOT PO 179775
Report to: Chris Lindahl
Invoice to: ConnDOT - ISA Form Needed
Phone #: (860) 298-6267
Fax #: (860) 298-6399

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 8/24/17

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	VOCs	SVOCs	ETPH	PCBs	RCRA 8 Metals	Cu	Soil VOA Vials [1] methanol [2] H2O	GL Soil container (9) 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)	
90205	SIG-SB01 (0-2)	S	8/24/17	0925	X	X	X	X	X	X						3	1					4
90206	SIG-SB01 (2-4)			0935	X	X	X	X	X	X						3	1					4
90207	SIG-SB02 (0-2)			0945	X	X	X	X	X	X						3	1					4
90208	SIG-SB02 (2-4)			0955	X	X	X	X	X	X						3	1					4
90209	SIG-SB03 (0-2)			1005	X	X	X	X	X	X						3	1					4
90210	SIG-SB03 (2-4)			1010	X	X	X	X	X	X						3	1					4
90211	SIG-SB04 (0-2)			1030	X	X	X	X	X	X						3	1					4
90212	SIG-SB104 (0-2)			1035	X	X	X	X	X	X						3	1					4
90213	SIG-SB04 (2-4)			1040	X	X	X	X	X	X						3	1					4
90214	SIG-SB05 (0-2)			1055	X	X	X	X	X	X						3	1					4
90215	SIG-SB05 (2-4)			1100	X	X	X	X	X	X						3	1					4
90216	SIG-SB05 (4-6)	V	V	1105	X	X	X	X	X	X						3	1					4

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	8/24/17	16:10

Comments, Special Requirements or Regulations:
- HOLD Samples, Do NOT run. will call with instructions
- Pricing Per DAS Contract # 13PSX0173
- No Sales tax for ConnDOT
- Send invoice to TRC

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
[X] 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

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

CHAIN OF CUSTODY RECORD

Temp 5.4 °C Pg 2 of 3

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: TRC
Address: 21 Griffin Rd. N
Windsor, CT 06095

Project: ConnDOT - Stratford Signalization Project P.O: ConnDOT PO 179775
Report to: Chris Lindahl
Invoice to: ConnDOT- ISP Form Needed
Phone #: (860) 298-6267
Fax #: (860) 298-6399

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: _____ Date: 8/24/17

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	VOCs	SVOCs	ETPH	PCBs	RCRA 8 Metals	Cu	Soil VOA Vials [1] 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 [ ]250ml [ ]500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria (as is)	Bacteria (w/thio)	
90217	SIG-SB05 (6-8)	S	8/24/17	1110	X	X	X	X	X	X						3	1				4
90218	SIG-SB05 (8-10)	|	|	1115	X	X	X	X	X	X						3	1				4
90219	SIG-SB06 (0-2)	|	|	1125	X	X	X	X	X	X						3	1				4
90220	SIG-SB06 (2-4)	|	|	1130	X	X	X	X	X	X						3	1				4
90221	SIG-SB07 (0-2)	|	|	1140	X	X	X	X	X	X						3	1				4
90222	SIG-SB07 (2-4)	|	|	1145	X	X	X	X	X	X						3	1				4
90223	SIG-SB07 (4-6)	|	|	1150	X	X	X	X	X	X						3	1				4
90224	SIG-SB07 (6-8)	|	|	1155	X	X	X	X	X	X						3	1				4
90225	SIG-SB07 (8-10)	|	|	1200	X	X	X	X	X	X						3	1				4
90226	SIG-SB08 (0-2)	|	|	1310	X	X	X	X	X	X						3	1				4
90227	SIG-SB08 (2-4)	|	|	1315	X	X	X	X	X	X						3	1				4
90228	SIG-SB09 (0-2)	V	V	1325	X	X	X	X	X	X						3	1				4

Relinquished By:	Accepted by:	Date:	Time:
	Odiaradise	8/24/17	16:10

Comments, Special Requirements or Regulations:
- HOLD samples, Do NOT run, will call instructions
- Pricing per DAS Contract # 13PSX0173
- No sales tax for ConnDOT
- Send invoice to TRC

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
[X] 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

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐
Temp 5.4° C Pg 3 of 3

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: CLindahl@trcsolutions.com

Customer: TRC
Address: 21 Griffin Rd. N
Windsor, CT 06095

Project: ConnDOT - Strat Signalization
Report to: Chris Lindahl
Invoice to: ConnDOT - ISP Form Needed
Phone #: (860) 298-6267
Fax #: (860) 298-6399

Project P.O: ConnDOT PO 179775

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 8/24/17

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
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Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	VOCs	SVOCs	ETPH	PCBs	RCRA 8 Metals	Cu	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container (9) oz [ ] As is [ ] HCl	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria (as is)	Bacteria (w/thio)
90229	SIG-SB09 (2-4)	S	8/24/17	1330	X	X	X	X	X	X	3	1								4
90230	SIG-SB109 (2-4)	S		1335	X	X	X	X	X	X	3	1								4
90231	EB082417	W		1350	X	X	X	X	X	X			3	4		1				8
90232	SB082417 H	S		1355	X						3									3
90233	TB-LOW																			

Relinquished by:	Accepted by:	Date:	Time:
[signature]	Cfaradino	8/24/17	16:10

Comments, Special Requirements or Regulations:
- Hold samples Do NOT run, will call with instructions
- Pricing Per DAS Contract #13PSX0173
- No sales tax for ConnDOT

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 ☐

CHAIN OF CUSTODY RECORD

Temp 5.4°C Pg 1 of 3

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: CLindahl@trcsolutions.com

Customer: TRC
Address: 21 Griffin Rd. N
Windsor, CT
06095

Project: ConnDOT - Stratford Signalization Project P.O: ConnDOT PO 179775
Report to: Chris Lindahl
Invoice to: ConnDOT - ISF Form Needed
Phone #: (860) 298-6267
Fax #: (860) 298-6399

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 8/24/17

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
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Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	VOC	SVOC	EPH	PCBs	RCRA 8 Metals	Cu	Soil VOA Vials [ ] methanol [2] H2O	GL Soil container (9) oz [ ] HCl	40 ml VOA Vial [ ] As is [ ] H2SO4	GL Amber 1000ml [ ] As is [ ] 1000ml	PL As is [ ] 250ml [ ] 500ml	PL H2SO4 [ ] 250ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria (as is)	Bacteria (w/thio)
90205	SIG-SB01 (0-2)	S	8/24/17	0925	X	X	X	X	X	X	3	1								4
90206	SIG-SB01 (2-4)			0935	X	X	X	X	X	X	3	1								4
90207	SIG-SB02 (0-2)			0945	X	X	X	X	X	X	3	1								4
90208	SIG-SB02 (2-4)			0955	X	X	X	X	X	X	3	1								4
90209	SIG-SB03 (0-2)			1005	X	X	X	X	X	X	3	1								4
90210	SIG-SB03 (2-4)			1010	X	X	X	X	X	X	3	1								4
90211	SIG-SB04 (0-2)			1030	X	X	X	X	X	X	3	1								4
90212	SIG-SB104 (0-2)			1035	X	X	X	X	X	X	3	1								4
90213	SIG-SB04 (2-4)			1040	X	X	X	X	X	X	3	1								4
90214	SIG-SB05 (0-2)			1055	X	X	X	X	X	X	3	1								4
90215	SIG-SB05 (2-4)			1100	X	X	X	X	X	X	3	1								4
90216	SIG-SB05 (4-6)	↓	↓	1105	X	X	X	X	X	X	3	1								4

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	8/24/17	16:10

Comments, Special Requirements or Regulations:
- HOLD samples, Do NOT run samples will call with instructions per Chris
- Pricing Per DAS Contract # 13PSX0173
- No Sales tax for ConnDOT
- Send invoice to TRC

TRC 8/25/17

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

CHAIN OF CUSTODY RECORD

Temp 5.4 °C Pg 2 of 3

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: TRC
Address: 21 Griffin Rd. N, Windsor, CT 06095
Project: ConnDOT - Stratford Signalization Project P.O: ConnDOT PO 179775
Report to: Chris Lindahl
Invoice to: ConnDOT- ISP Form Needed
Phone #: (860) 298-6267
Fax #: (860) 298-6399

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 9/24/17

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
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Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	VOCs	SVOCs	EPH	PCBs	RCRA 8 Metals	Cr	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 [ ]1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria (as is)	Bacteria (w/thio)
90217	SIG-SB05 (6-8)	S	9/24/17	1110	X	X	X	X	X	X							3	1		4
90218	SIG-SB05 (8-10)			1115	X	X	X	X	X	X							3	1		4
90219	SIG-SB06 (0-2)			1125	X	X	X	X	X	X							3	1		4
90220	SIG-SB06 (2-4)			1130	X	X	X	X	X	X							3	1		4
90221	SIG-SB07 (0-2)			1140	X	X	X	X	X	X							3	1		4
90222	SIG-SB07 (2-4)			1145	X	X	X	X	X	X							3	1		4
90223	SIG-SB07 (4-6)			1150	X	X	X	X	X	X							3	1		4
90224	SIG-SB07 (6-8)			1155	X	X	X	X	X	X							3	1		4
90225	SIG-SB07 (8-10)			1200	X	X	X	X	X	X							3	1		4
90226	SIG-SB08 (0-2)			1310	X	X	X	X	X	X							3	1		4
90227	SIG-SB08 (2-4)			1315	X	X	X	X	X	X							3	1		4
90228	SIG-SB09 (0-2)	V	V	1325	X	X	X	X	X	X							3	1		4

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	8/24/17	16:10

Comments, Special Requirements or Regulations:
- HOLD samples, Do NOT run, will call instructions
- Pricing per DAS Contract # 13PSX0173
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Turnaround:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

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

CT
[X] RCP Cert
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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
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[ ] Other

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

Cooler: Yes [X] No [ ]
Coolant: IPK [ ] ICE [X] No [ ]
Temp 5.4°C Pg 3 of 3

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

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[X] Email: clindahl@trcsolutions.com

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Invoice to: ConnDOT - ISP Form Needed
Phone #: (860) 298-6267
Fax #: (860) 298-6399

Project P.O: ConnDOT PO 179775

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 8/24/17

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	VOCs	SVOCs	ETPH	PCBs	RCRA 8 Metals	Cu	Soil VOA Vials ([ ]1 methanol [X] H2O)	GL Soil container ([X] 9 oz [ ] ( ) oz)	40 ml VOA Vial [ ] As is [X] HCl	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria (as is)	Bacteria (w/thio)
90229	SIG-SB09 (2-4)	S	8/24/17	1330	X	X	X	X	X	X	3	1								4
90230	SIG-SB109 (2-4)	S		1335	X	X	X	X	X	X	3	1								4
*90231	EB082417	W		1350	X	X	X	X	X	X			3	4		1				8
*90232	SB082417 H	S		1355	X						3									3
*90233	TB-LOW																			

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	8/24/17	16:10

Comments, Special Requirements or Regulations:
- Hold samples Do NOT run, will call with instructions
- Pricing Per DAS Contract #13PSX0173 8/25/17
- No sales tax for ConnDOT
- *run samples per Chris @ TRC (8/29)

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
[X] 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

PHOENIX
Environmental Laboratories, Inc.

Friday, January 19, 2018

Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Project ID: CONN DOT-STRATFORD
Sample ID#s: BY90859 - BY90861, BY90863, BY90879, BY90882

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. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

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

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

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

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
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
UT Lab Registration #CT00007
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

January 19, 2018

SDG I.D.: GBY90859

Volatile 8260 analysis:
The reporting level for Acrylonitrile is above the GWP criteria.
1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane do not meet the GWP these compounds are 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

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		08/25/17	9:00
Location Code:	TRC-DOT	Received by:	SW	08/25/17	15:00
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90859
Phoenix ID: BY90859

Project ID: CONN DOT-STRATFORD
Client ID: EB082517

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	08/29/17	MA	SW6010C/E200.7
Arsenic	< 0.004	0.004	mg/L	1	08/29/17	MA	SW6010C/E200.7
Barium	< 0.002	0.002	mg/L	1	08/29/17	MA	SW6010C/E200.7
Cadmium	< 0.001	0.001	mg/L	1	08/29/17	MA	SW6010C/E200.7
Chromium	< 0.001	0.001	mg/L	1	08/29/17	MA	SW6010C/E200.7
Copper	< 0.005	0.005	mg/L	1	08/29/17	MA	SW6010C/E200.7
Mercury	< 0.0002	0.0002	mg/L	1	08/29/17	RS	SW7470/245.1
Lead	< 0.002	0.002	mg/L	1	08/29/17	MA	SW6010C/E200.7
Selenium	< 0.010	0.010	mg/L	1	08/29/17	MA	SW6010C/E200.7
Extraction of CT ETPH	Completed				08/28/17	P/UU	SW3510C/SW3520C
Mercury Digestion	Completed				08/29/17	Q/Q	SW7470/245.1
PCB Extraction	Completed				08/28/17	N	SW3510C
Semi-Volatile Extraction	Completed				08/28/17	P/UU	SW3520C
Total Metals Digestion	Completed				08/28/17	AG	
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	0.070	mg/L	1	08/30/17	JRB	CTETPH 8015D
Identification	ND		mg/L	1	08/30/17	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	78		%	1	08/30/17	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	0.50	ug/L	1	08/29/17	AW	SW8082A
PCB-1221	ND	0.50	ug/L	1	08/29/17	AW	SW8082A
PCB-1232	ND	0.50	ug/L	1	08/29/17	AW	SW8082A
PCB-1242	ND	0.50	ug/L	1	08/29/17	AW	SW8082A
PCB-1248	ND	0.50	ug/L	1	08/29/17	AW	SW8082A
PCB-1254	ND	0.50	ug/L	1	08/29/17	AW	SW8082A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1260	ND	0.50	ug/L	1	08/29/17	AW	SW8082A
PCB-1262	ND	0.50	ug/L	1	08/29/17	AW	SW8082A
PCB-1268	ND	0.50	ug/L	1	08/29/17	AW	SW8082A
QA/QC Surrogates							
% DCBP	105		%	1	08/29/17	AW	30 - 150 %
% TCMX	107		%	1	08/29/17	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	08/29/17	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	08/29/17	MH	SW8260C
1,2-Dibromoethane	ND	0.25	ug/L	1	08/29/17	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	08/29/17	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	08/29/17	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	08/29/17	MH	SW8260C
Acetone	ND	25	ug/L	1	08/29/17	MH	SW8260C
Acrylonitrile	ND	2.5	ug/L	1	08/29/17	MH	SW8260C
Benzene	ND	0.70	ug/L	1	08/29/17	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	08/29/17	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	08/29/17	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	08/29/17	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dibromochloromethane	ND	0.50	ug/L	1	08/29/17	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	08/29/17	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	08/29/17	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Styrene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	08/29/17	MH	SW8260C
Toluene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	08/29/17	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	08/29/17	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	08/29/17	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	08/29/17	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	08/29/17	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	08/29/17	MH	70 - 130 %
% Toluene-d8	100		%	1	08/29/17	MH	70 - 130 %
Semivolatiles							
1,2,4-Trichlorobenzene	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
1,2-Dichlorobenzene	ND	2.4	ug/L	1	08/30/17	DD	SW8270D
1,2-Diphenylhydrazine	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
1,3-Dichlorobenzene	ND	2.4	ug/L	1	08/30/17	DD	SW8270D
1,4-Dichlorobenzene	ND	2.4	ug/L	1	08/30/17	DD	SW8270D
2,4,5-Trichlorophenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
2,4,6-Trichlorophenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
2,4-Dichlorophenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
2,4-Dimethylphenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
2,4-Dinitrophenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
2,4-Dinitrotoluene	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
2,6-Dinitrotoluene	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
2-Chloronaphthalene	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
2-Chlorophenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Methylphenol (o-cresol)	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
2-Nitroaniline	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
2-Nitrophenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	9.7	ug/L	1	08/30/17	DD	SW8270D
3,3'-Dichlorobenzidine	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
3-Nitroaniline	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
4-Bromophenyl phenyl ether	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
4-Chloro-3-methylphenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
4-Chloroaniline	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
4-Nitroaniline	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
4-Nitrophenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
Acetophenone	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Aniline	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Benzidine	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Benzoic acid	ND	48	ug/L	1	08/30/17	DD	SW8270D
Benzyl butyl phthalate	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Bis(2-chloroethyl)ether	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Carbazole	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Diethyl phthalate	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Dimethylphthalate	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Di-n-butylphthalate	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Di-n-octylphthalate	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Isophorone	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
N-Nitrosodimethylamine	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
N-Nitrosodiphenylamine	ND	4.8	ug/L	1	08/30/17	DD	SW8270D
Phenol	ND	0.97	ug/L	1	08/30/17	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	78		%	1	08/30/17	DD	15 - 110 %
% 2-Fluorobiphenyl	72		%	1	08/30/17	DD	30 - 130 %
% 2-Fluorophenol	51		%	1	08/30/17	DD	15 - 110 %
% Nitrobenzene-d5	60		%	1	08/30/17	DD	30 - 130 %
% Phenol-d5	56		%	1	08/30/17	DD	15 - 110 %
% Terphenyl-d14	88		%	1	08/30/17	DD	30 - 130 %
Semivolatiles (SIM)							
1,2,4,5-Tetrachlorobenzene	ND	0.48	ug/L	1	08/30/17	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	0.97	ug/L	1	08/30/17	DD	SW8270D (SIM)
Acenaphthene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)
Acenaphthylene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)
Anthracene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.19	ug/L	1	08/30/17	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)

Project ID: CONN DOT-STRATFORD
Client ID: EB082517

Phoenix I.D.: BY90859

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Bis(2-ethylhexyl)phthalate	ND	0.48	ug/L	1	08/30/17	DD	SW8270D (SIM)	B
Chrysene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Dibenzofuran	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Fluoranthene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.48	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Hexachlorocyclopentadiene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.48	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.77	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Pyrene	ND	0.05	ug/L	1	08/30/17	DD	SW8270D (SIM)	
Pyridine	ND	0.48	ug/L	1	08/30/17	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	94		%	1	08/30/17	DD	15 - 110 %	
% 2-Fluorobiphenyl	63		%	1	08/30/17	DD	30 - 130 %	
% 2-Fluorophenol	57		%	1	08/30/17	DD	15 - 110 %	
% Nitrobenzene-d5	68		%	1	08/30/17	DD	30 - 130 %	
% Phenol-d5	63		%	1	08/30/17	DD	15 - 110 %	
% Terphenyl-d14	92		%	1	08/30/17	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:

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.

Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

Analysis Report

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		08/25/17	9:10
Location Code:	TRC-DOT	Received by:	SW	08/25/17	15:00
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90859
Phoenix ID: BY90860

Project ID: CONN DOT-STRATFORD
Client ID: SB082517-TB-HL

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.05	mg/Kg	50	08/29/17	HM	SW8260C
1,1,1-Trichloroethane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.05	mg/Kg	50	08/29/17	HM	SW8260C
1,1,2-Trichloroethane	ND	0.1	mg/Kg	50	08/29/17	HM	SW8260C
1,1-Dichloroethane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,1-Dichloroethene	ND	0.14	mg/Kg	50	08/29/17	HM	SW8260C
1,1-Dichloropropene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,2,3-Trichlorobenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,2,3-Trichloropropane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,2,4-Trichlorobenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,2,4-Trimethylbenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.05	mg/Kg	50	08/29/17	HM	SW8260C
1,2-Dibromoethane	ND	0.025	mg/Kg	50	08/29/17	HM	SW8260C
1,2-Dichlorobenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,2-Dichloroethane	ND	0.025	mg/Kg	50	08/29/17	HM	SW8260C
1,2-Dichloropropane	ND	0.1	mg/Kg	50	08/29/17	HM	SW8260C
1,3,5-Trimethylbenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,3-Dichlorobenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,3-Dichloropropane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
1,4-Dichlorobenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
2,2-Dichloropropane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
2-Chlorotoluene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
2-Hexanone	ND	0.7	mg/Kg	50	08/29/17	HM	SW8260C
2-Isopropyltoluene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
4-Chlorotoluene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
4-Methyl-2-pentanone	ND	1.3	mg/Kg	50	08/29/17	HM	SW8260C

Project ID: CONN DOT-STRATFORD
Client ID: SB082517-TB-HL

Phoenix I.D.: BY90860

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	5	mg/Kg	50	08/29/17	HM	SW8260C
Acrylonitrile	ND	0.025	mg/Kg	50	08/29/17	HM	SW8260C
Benzene	ND	0.025	mg/Kg	50	08/29/17	HM	SW8260C
Bromobenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Bromochloromethane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Bromodichloromethane	ND	0.05	mg/Kg	50	08/29/17	HM	SW8260C
Bromoform	ND	0.08	mg/Kg	50	08/29/17	HM	SW8260C
Bromomethane	ND	0.1	mg/Kg	50	08/29/17	HM	SW8260C
Carbon Disulfide	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Carbon tetrachloride	ND	0.1	mg/Kg	50	08/29/17	HM	SW8260C
Chlorobenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Chloroethane	ND	0.15	mg/Kg	50	08/29/17	HM	SW8260C
Chloroform	ND	0.12	mg/Kg	50	08/29/17	HM	SW8260C
Chloromethane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
cis-1,2-Dichloroethene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Dibromochloromethane	ND	0.05	mg/Kg	50	08/29/17	HM	SW8260C
Dibromomethane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Dichlorodifluoromethane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Ethylbenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Hexachlorobutadiene	ND	0.2	mg/Kg	50	08/29/17	HM	SW8260C
Isopropylbenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
m&p-Xylene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Methyl Ethyl Ketone	ND	3	mg/Kg	50	08/29/17	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Methylene chloride	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Naphthalene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
n-Butylbenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
n-Propylbenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
o-Xylene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
p-Isopropyltoluene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
sec-Butylbenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Styrene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
tert-Butylbenzene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Tetrachloroethene	ND	0.1	mg/Kg	50	08/29/17	HM	SW8260C
Tetrahydrofuran (THF)	ND	0.13	mg/Kg	50	08/29/17	HM	SW8260C
Toluene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Total Xylenes	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
trans-1,2-Dichloroethene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	0.5	mg/Kg	50	08/29/17	HM	SW8260C
Trichloroethene	ND	0.1	mg/Kg	50	08/29/17	HM	SW8260C
Trichlorofluoromethane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Trichlorotrifluoroethane	ND	0.25	mg/Kg	50	08/29/17	HM	SW8260C
Vinyl chloride	ND	0.04	mg/Kg	50	08/29/17	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	50	08/29/17	HM	70 - 130 %
% Bromofluorobenzene	96		%	50	08/29/17	HM	70 - 130 %
% Dibromofluoromethane	95		%	50	08/29/17	HM	70 - 130 %

Project ID: CONN DOT-STRATFORD
Client ID: SB082517-TB-HL

Phoenix I.D.: BY90860

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	94		%	50	08/29/17	HM	70 - 130 %
Field Extraction	Completed				08/25/17		SW5035A

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.

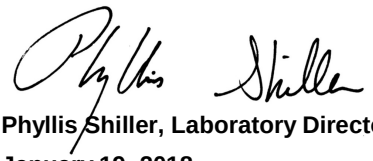
Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

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.

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.



Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

Analysis Report

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		08/25/17	9:20
Location Code:	TRC-DOT	Received by:	SW	08/25/17	15:00
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90859
Phoenix ID: BY90861

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB10 (0-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.32	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Arsenic	2.15	0.65	mg/Kg	1	08/29/17	MA	SW6010C
Barium	37.2	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Cadmium	0.45	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Chromium	16.9	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Copper	40.8	0.32	mg/kg	1	08/29/17	MA	SW6010C
Mercury	< 0.03	0.03	mg/Kg	1	08/29/17	RS	SW7471B
Lead	54.2	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Selenium	< 1.3	1.3	mg/Kg	1	08/29/17	MA	SW6010C
Percent Solid	98		%		08/28/17	Q	SW846-%Solid
Soil Extraction for PCB	Completed				08/28/17	BC/V	SW3545A
Soil Extraction for SVOA	Completed				08/28/17	BC/CKV	SW3545A
Extraction of CT ETPH	Completed				08/28/17	BC/VCK	SW3545A
Mercury Digestion	Completed				08/29/17	W/W	SW7471B
Total Metals Digest	Completed				08/28/17	L/AG	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	120	51	mg/Kg	1	08/29/17	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	08/29/17	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	57		%	1	08/29/17	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1221	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1232	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1242	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1248	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1254	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1260	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1262	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1268	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
QA/QC Surrogates							
% DCBP	90		%	10	08/29/17	AW	30 - 150 %
% TCMX	93		%	10	08/29/17	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,1,1-Trichloroethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0039	mg/Kg	1	08/29/17	HM	SW8260C
1,1,2-Trichloroethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,1-Dichloroethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,1-Dichloroethene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,1-Dichloropropene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,2,3-Trichlorobenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,2,3-Trichloropropane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,2,4-Trichlorobenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,2,4-Trimethylbenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dibromoethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dichlorobenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dichloroethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dichloropropane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,3,5-Trimethylbenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,3-Dichlorobenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,3-Dichloropropane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
1,4-Dichlorobenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
2,2-Dichloropropane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
2-Chlorotoluene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
2-Hexanone	ND	0.032	mg/Kg	1	08/29/17	HM	SW8260C
2-Isopropyltoluene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
4-Chlorotoluene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
4-Methyl-2-pentanone	ND	0.032	mg/Kg	1	08/29/17	HM	SW8260C
Acetone	ND	0.32	mg/Kg	1	08/29/17	HM	SW8260C
Acrylonitrile	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Benzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Bromobenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Bromochloromethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Bromodichloromethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Bromoform	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Bromomethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Carbon Disulfide	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Carbon tetrachloride	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Chlorobenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Chloroethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Chloroform	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Chloromethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
cis-1,2-Dichloroethene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB10 (0-2)

Phoenix I.D.: BY90861

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,3-Dichloropropene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Dibromochloromethane	ND	0.0039	mg/Kg	1	08/29/17	HM	SW8260C
Dibromomethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Dichlorodifluoromethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Ethylbenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Hexachlorobutadiene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Isopropylbenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
m&p-Xylene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Methyl Ethyl Ketone	ND	0.039	mg/Kg	1	08/29/17	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.013	mg/Kg	1	08/29/17	HM	SW8260C
Methylene chloride	ND	0.013	mg/Kg	1	08/29/17	HM	SW8260C
Naphthalene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
n-Butylbenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
n-Propylbenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
o-Xylene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
p-Isopropyltoluene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
sec-Butylbenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Styrene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
tert-Butylbenzene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Tetrachloroethene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Tetrahydrofuran (THF)	ND	0.013	mg/Kg	1	08/29/17	HM	SW8260C
Toluene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Total Xylenes	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
trans-1,2-Dichloroethene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	0.013	mg/Kg	1	08/29/17	HM	SW8260C
Trichloroethene	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Trichlorofluoromethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Trichlorotrifluoroethane	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
Vinyl chloride	ND	0.0065	mg/Kg	1	08/29/17	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	08/29/17	HM	70 - 130 %
% Bromofluorobenzene	97		%	1	08/29/17	HM	70 - 130 %
% Dibromofluoromethane	98		%	1	08/29/17	HM	70 - 130 %
% Toluene-d8	97		%	1	08/29/17	HM	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	08/28/17	DD	SW8270D
1,2,4-Trichlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
1,2-Dichlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
1,3-Dichlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
1,4-Dichlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
2,4,5-Trichlorophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dichlorophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dimethylphenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dinitrophenol	0.44	0.33	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB10 (0-2)

Phoenix I.D.: BY90861

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
2-Chloronaphthalene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
2-Chlorophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
2-Methylnaphthalene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
2-Nitroaniline	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
2-Nitrophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	0.33	mg/Kg	1	08/28/17	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
3-Nitroaniline	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
4,6-Dinitro-2-methylphenol	0.46	0.33	mg/Kg	1	08/28/17	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	0.33	mg/Kg	1	08/28/17	DD	SW8270D	
4-Chloro-3-methylphenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
4-Chloroaniline	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
4-Nitroaniline	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
4-Nitrophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Acenaphthene	0.4	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Acenaphthylene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Acetophenone	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Aniline	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Anthracene	0.62	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benz(a)anthracene	2.7	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzidine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(a)pyrene	2.6	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(b)fluoranthene	3.1	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(ghi)perylene	1.8	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(k)fluoranthene	2.6	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzoic acid	ND	0.67	mg/Kg	1	08/28/17	DD	SW8270D	
Benzyl butyl phthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	0.33	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-ethylhexyl)phthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Carbazole	0.64	0.33	mg/Kg	1	08/28/17	DD	SW8270D	
Chrysene	3.5	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Dibenz(a,h)anthracene	0.3	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Dibenzofuran	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Diethyl phthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Dimethylphthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Di-n-butylphthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	B
Di-n-octylphthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Fluoranthene	6.2	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Fluorene	0.4	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachlorobutadiene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachlorocyclopentadiene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachloroethane	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Indeno(1,2,3-cd)pyrene	2	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Isophorone	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB10 (0-2)

Phoenix I.D.: BY90861

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Naphthalene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
Pentachloronitrobenzene	ND	0.33	mg/Kg	1	08/28/17	DD	SW8270D
Pentachlorophenol	ND	0.33	mg/Kg	1	08/28/17	DD	SW8270D
Phenanthrene	4.4	0.23	mg/Kg	1	08/28/17	DD	SW8270D
Phenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
Pyrene	5	0.23	mg/Kg	1	08/28/17	DD	SW8270D
Pyridine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	60		%	1	08/28/17	DD	30 - 130 %
% 2-Fluorobiphenyl	60		%	1	08/28/17	DD	30 - 130 %
% 2-Fluorophenol	43		%	1	08/28/17	DD	30 - 130 %
% Nitrobenzene-d5	55		%	1	08/28/17	DD	30 - 130 %
% Phenol-d5	51		%	1	08/28/17	DD	30 - 130 %
% Terphenyl-d14	59		%	1	08/28/17	DD	30 - 130 %
Field Extraction	Completed				08/25/17		SW5035A

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.

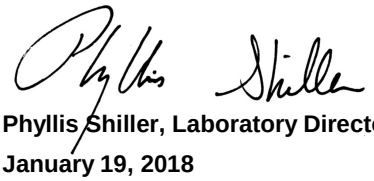
Volatile Comment:
Where the LOD justifies lowering the RL/PQL, the RL/PQL of some compounds are evaluated below the lowest calibration standard in order to meet criteria.

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.

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.



Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

Analysis Report

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		08/25/17	9:30
Location Code:	TRC-DOT	Received by:	SW	08/25/17	15:00
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90859
Phoenix ID: BY90863

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB10 (4-6)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.32	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Arsenic	1.48	0.64	mg/Kg	1	08/29/17	MA	SW6010C
Barium	20.0	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Cadmium	< 0.32	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Chromium	8.05	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Copper	15.9	0.32	mg/kg	1	08/29/17	MA	SW6010C
Mercury	< 0.03	0.03	mg/Kg	1	08/29/17	RS	SW7471B
Lead	9.80	0.32	mg/Kg	1	08/29/17	MA	SW6010C
Selenium	< 1.3	1.3	mg/Kg	1	08/29/17	MA	SW6010C
Percent Solid	98		%		08/28/17	Q	SW846-%Solid
Soil Extraction for PCB	Completed				08/28/17	BC/V	SW3545A
Soil Extraction for SVOA	Completed				08/28/17	BC/CKV	SW3545A
Extraction of CT ETPH	Completed				08/28/17	BC/VCK	SW3545A
Mercury Digestion	Completed				08/29/17	W/W	SW7471B
Total Metals Digest	Completed				08/28/17	L/AG	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	50	mg/Kg	1	08/29/17	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	08/29/17	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	59		%	1	08/29/17	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1221	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1232	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1242	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1248	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1254	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1260	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1262	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1268	ND	0.34	mg/Kg	10	08/29/17	AW	SW8082A
QA/QC Surrogates							
% DCBP	74		%	10	08/29/17	AW	30 - 150 %
% TCMX	71		%	10	08/29/17	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,1,1-Trichloroethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0032	mg/Kg	1	08/29/17	HM	SW8260C
1,1,2-Trichloroethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,1-Dichloroethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,1-Dichloroethene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,1-Dichloropropene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,2,3-Trichlorobenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,2,3-Trichloropropane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,2,4-Trichlorobenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,2,4-Trimethylbenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dibromoethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dichlorobenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dichloroethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dichloropropane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,3,5-Trimethylbenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,3-Dichlorobenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,3-Dichloropropane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
1,4-Dichlorobenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
2,2-Dichloropropane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
2-Chlorotoluene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
2-Hexanone	ND	0.027	mg/Kg	1	08/29/17	HM	SW8260C
2-Isopropyltoluene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
4-Chlorotoluene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
4-Methyl-2-pentanone	ND	0.027	mg/Kg	1	08/29/17	HM	SW8260C
Acetone	ND	0.27	mg/Kg	1	08/29/17	HM	SW8260C
Acrylonitrile	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Benzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Bromobenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Bromochloromethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Bromodichloromethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Bromoform	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Bromomethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Carbon Disulfide	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Carbon tetrachloride	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Chlorobenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Chloroethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Chloroform	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Chloromethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
cis-1,2-Dichloroethene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,3-Dichloropropene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Dibromochloromethane	ND	0.0032	mg/Kg	1	08/29/17	HM	SW8260C
Dibromomethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Dichlorodifluoromethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Ethylbenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Hexachlorobutadiene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Isopropylbenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
m&p-Xylene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Methyl Ethyl Ketone	ND	0.032	mg/Kg	1	08/29/17	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.011	mg/Kg	1	08/29/17	HM	SW8260C
Methylene chloride	ND	0.011	mg/Kg	1	08/29/17	HM	SW8260C
Naphthalene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
n-Butylbenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
n-Propylbenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
o-Xylene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
p-Isopropyltoluene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
sec-Butylbenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Styrene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
tert-Butylbenzene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Tetrachloroethene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Tetrahydrofuran (THF)	ND	0.011	mg/Kg	1	08/29/17	HM	SW8260C
Toluene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Total Xylenes	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
trans-1,2-Dichloroethene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	0.011	mg/Kg	1	08/29/17	HM	SW8260C
Trichloroethene	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Trichlorofluoromethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Trichlorotrifluoroethane	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
Vinyl chloride	ND	0.0054	mg/Kg	1	08/29/17	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	08/29/17	HM	70 - 130 %
% Bromofluorobenzene	93		%	1	08/29/17	HM	70 - 130 %
% Dibromofluoromethane	102		%	1	08/29/17	HM	70 - 130 %
% Toluene-d8	99		%	1	08/29/17	HM	70 - 130 %

Semivolatiles

1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	08/28/17	DD	SW8270D
1,2,4-Trichlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
1,2-Dichlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
1,3-Dichlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
1,4-Dichlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
2,4,5-Trichlorophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dichlorophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dimethylphenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB10 (4-6)

Phoenix I.D.: BY90863

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
2-Chloronaphthalene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
2-Chlorophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
2-Methylnaphthalene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
2-Nitroaniline	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
2-Nitrophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	0.34	mg/Kg	1	08/28/17	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
3-Nitroaniline	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	0.34	mg/Kg	1	08/28/17	DD	SW8270D	
4-Chloro-3-methylphenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
4-Chloroaniline	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
4-Nitroaniline	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
4-Nitrophenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Acenaphthene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Acenaphthylene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Acetophenone	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Aniline	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Anthracene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benz(a)anthracene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzidine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(a)pyrene	0.32	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(b)fluoranthene	0.26	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(ghi)perylene	0.24	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(k)fluoranthene	0.24	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Benzoic acid	ND	0.67	mg/Kg	1	08/28/17	DD	SW8270D	
Benzyl butyl phthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-ethylhexyl)phthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Carbazole	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Chrysene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Dibenz(a,h)anthracene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Dibenzofuran	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Diethyl phthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Dimethylphthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Di-n-butylphthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	B
Di-n-octylphthalate	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Fluoranthene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Fluorene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachlorobenzene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachlorobutadiene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachlorocyclopentadiene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachloroethane	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Indeno(1,2,3-cd)pyrene	0.3	0.23	mg/Kg	1	08/28/17	DD	SW8270D	
Isophorone	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D	

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB10 (4-6)

Phoenix I.D.: BY90863

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Naphthalene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
Pentachloronitrobenzene	ND	0.34	mg/Kg	1	08/28/17	DD	SW8270D
Pentachlorophenol	ND	0.34	mg/Kg	1	08/28/17	DD	SW8270D
Phenanthrene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
Phenol	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
Pyrene	ND	0.23	mg/Kg	1	08/28/17	DD	SW8270D
Pyridine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	40		%	1	08/28/17	DD	30 - 130 %
% 2-Fluorobiphenyl	43		%	1	08/28/17	DD	30 - 130 %
% 2-Fluorophenol	31		%	1	08/28/17	DD	30 - 130 %
% Nitrobenzene-d5	41		%	1	08/28/17	DD	30 - 130 %
% Phenol-d5	37		%	1	08/28/17	DD	30 - 130 %
% Terphenyl-d14	43		%	1	08/28/17	DD	30 - 130 %
Field Extraction	Completed				08/25/17		SW5035A

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:

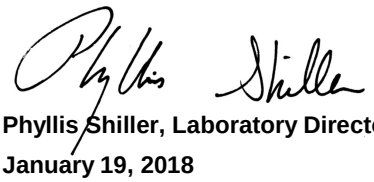
Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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.

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.

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.



Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

Analysis Report

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		08/25/17	12:40
Location Code:	TRC-DOT	Received by:	SW	08/25/17	15:00
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90859
Phoenix ID: BY90879

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB16 (0-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.38	0.38	mg/Kg	1	08/29/17	MA	SW6010C
Arsenic	3.15	0.76	mg/Kg	1	08/29/17	MA	SW6010C
Barium	36.7	0.38	mg/Kg	1	08/29/17	MA	SW6010C
Cadmium	< 0.38	0.38	mg/Kg	1	08/29/17	MA	SW6010C
Chromium	14.0	0.38	mg/Kg	1	08/29/17	MA	SW6010C
Copper	18.7	0.38	mg/kg	1	08/29/17	MA	SW6010C
Mercury	0.03	0.03	mg/Kg	1	08/29/17	RS	SW7471B
Lead	37.6	0.38	mg/Kg	1	08/29/17	MA	SW6010C
Selenium	< 1.5	1.5	mg/Kg	1	08/29/17	MA	SW6010C
Percent Solid	94		%		08/28/17	Q	SW846-%Solid
Soil Extraction for PCB	Completed				08/28/17	BC/V	SW3545A
Soil Extraction for SVOA	Completed				08/28/17	BC/CKV	SW3545A
Extraction of CT ETPH	Completed				08/28/17	BC/VCK	SW3545A
Mercury Digestion	Completed				08/29/17	W/W	SW7471B
Total Metals Digest	Completed				08/28/17	L/AG	SW3050B
TPH by GC (Extractable Products)							
Ext. Petroleum H.C. (C9-C36)	ND	53	mg/Kg	1	08/29/17	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	08/29/17	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	63		%	1	08/29/17	JRB	50 - 150 %
Polychlorinated Biphenyls							
PCB-1016	ND	0.35	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1221	ND	0.35	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1232	ND	0.35	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1242	ND	0.35	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1248	ND	0.35	mg/Kg	10	08/29/17	AW	SW8082A

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
PCB-1254	ND	0.35	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1260	ND	0.35	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1262	ND	0.35	mg/Kg	10	08/29/17	AW	SW8082A
PCB-1268	ND	0.35	mg/Kg	10	08/29/17	AW	SW8082A
QA/QC Surrogates							
% DCBP	78		%	10	08/29/17	AW	30 - 150 %
% TCMX	80		%	10	08/29/17	AW	30 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,1,1-Trichloroethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.0033	mg/Kg	1	08/29/17	JLI	SW8260C
1,1,2-Trichloroethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,1-Dichloroethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,1-Dichloroethene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,1-Dichloropropene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
1,2,3-Trichloropropane	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	08/29/17	JLI	SW8260C
1,2-Dibromoethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,2-Dichlorobenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
1,2-Dichloroethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,2-Dichloropropane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
1,3-Dichlorobenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
1,3-Dichloropropane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
1,4-Dichlorobenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
2,2-Dichloropropane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
2-Chlorotoluene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
2-Hexanone	ND	0.027	mg/Kg	1	08/29/17	JLI	SW8260C
2-Isopropyltoluene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
4-Chlorotoluene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
4-Methyl-2-pentanone	ND	0.027	mg/Kg	1	08/29/17	JLI	SW8260C
Acetone	ND	0.27	mg/Kg	1	08/29/17	JLI	SW8260C
Acrylonitrile	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Benzene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Bromobenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
Bromochloromethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Bromodichloromethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Bromoform	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Bromomethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Carbon Disulfide	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Carbon tetrachloride	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Chlorobenzene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Chloroethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Chloroform	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Chloromethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
cis-1,2-Dichloroethene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB16 (0-2)

Phoenix I.D.: BY90879

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
cis-1,3-Dichloropropene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Dibromochloromethane	ND	0.0033	mg/Kg	1	08/29/17	JLI	SW8260C
Dibromomethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Dichlorodifluoromethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Ethylbenzene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Hexachlorobutadiene	ND	0.2	mg/Kg	50	08/29/17	JLI	SW8260C
Isopropylbenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
m&p-Xylene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Methyl Ethyl Ketone	ND	0.033	mg/Kg	1	08/29/17	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.011	mg/Kg	1	08/29/17	JLI	SW8260C
Methylene chloride	ND	0.011	mg/Kg	1	08/29/17	JLI	SW8260C
Naphthalene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
n-Butylbenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
n-Propylbenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
o-Xylene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
p-Isopropyltoluene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
sec-Butylbenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
Styrene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
tert-Butylbenzene	ND	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
Tetrachloroethene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Tetrahydrofuran (THF)	ND	0.011	mg/Kg	1	08/29/17	JLI	SW8260C
Toluene	0.32	0.27	mg/Kg	50	08/29/17	JLI	SW8260C
Total Xylenes	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
trans-1,2-Dichloroethene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
trans-1,3-Dichloropropene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.55	mg/Kg	50	08/29/17	JLI	SW8260C
Trichloroethene	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Trichlorofluoromethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Trichlorotrifluoroethane	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
Vinyl chloride	ND	0.0054	mg/Kg	1	08/29/17	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	50	08/29/17	JLI	70 - 130 %
% Bromofluorobenzene	99		%	50	08/29/17	JLI	70 - 130 %
% Dibromofluoromethane	103		%	1	08/29/17	JLI	70 - 130 %
% Toluene-d8	92		%	1	08/29/17	JLI	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	0.1	mg/Kg	1	08/28/17	DD	SW8270D
1,2,4-Trichlorobenzene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
1,2-Dichlorobenzene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
1,2-Diphenylhydrazine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
1,3-Dichlorobenzene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
1,4-Dichlorobenzene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
2,4,5-Trichlorophenol	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
2,4,6-Trichlorophenol	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dichlorophenol	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dimethylphenol	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dinitrophenol	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D
2,4-Dinitrotoluene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
2,6-Dinitrotoluene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB16 (0-2)

Phoenix I.D.: BY90879

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
2-Chloronaphthalene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
2-Chlorophenol	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
2-Methylnaphthalene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
2-Nitroaniline	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
2-Nitrophenol	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	0.35	mg/Kg	1	08/28/17	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
3-Nitroaniline	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	0.35	mg/Kg	1	08/28/17	DD	SW8270D	
4-Chloro-3-methylphenol	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
4-Chloroaniline	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
4-Nitroaniline	ND	0.3	mg/Kg	1	08/28/17	DD	SW8270D	
4-Nitrophenol	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Acenaphthene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Acenaphthylene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Acetophenone	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Aniline	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Anthracene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Benz(a)anthracene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Benzidine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(a)pyrene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(b)fluoranthene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(ghi)perylene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Benzo(k)fluoranthene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Benzoic acid	ND	0.7	mg/Kg	1	08/28/17	DD	SW8270D	
Benzyl butyl phthalate	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	0.35	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Bis(2-ethylhexyl)phthalate	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Carbazole	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Chrysene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Dibenz(a,h)anthracene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Dibenzofuran	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Diethyl phthalate	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Dimethylphthalate	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Di-n-butylphthalate	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	B
Di-n-octylphthalate	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Fluoranthene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Fluorene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachlorobenzene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachlorobutadiene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachlorocyclopentadiene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Hexachloroethane	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Indeno(1,2,3-cd)pyrene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	
Isophorone	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D	

Project ID: CONN DOT-STRATFORD
Client ID: SIG-SB16 (0-2)

Phoenix I.D.: BY90879

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Naphthalene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
Nitrobenzene	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
N-Nitrosodimethylamine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
N-Nitrosodiphenylamine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
Pentachloronitrobenzene	ND	0.35	mg/Kg	1	08/28/17	DD	SW8270D
Pentachlorophenol	ND	0.35	mg/Kg	1	08/28/17	DD	SW8270D
Phenanthrene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
Phenol	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
Pyrene	ND	0.25	mg/Kg	1	08/28/17	DD	SW8270D
Pyridine	ND	0.2	mg/Kg	1	08/28/17	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	64		%	1	08/28/17	DD	30 - 130 %
% 2-Fluorobiphenyl	63		%	1	08/28/17	DD	30 - 130 %
% 2-Fluorophenol	46		%	1	08/28/17	DD	30 - 130 %
% Nitrobenzene-d5	59		%	1	08/28/17	DD	30 - 130 %
% Phenol-d5	55		%	1	08/28/17	DD	30 - 130 %
% Terphenyl-d14	65		%	1	08/28/17	DD	30 - 130 %
Field Extraction	Completed				08/25/17		SW5035A

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:

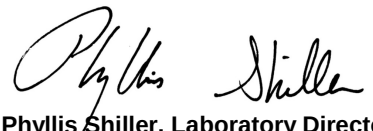
Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

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.

Volatile Comment:
There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

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.



Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

Analysis Report

January 19, 2018

FOR: Attn: Chris Lindahl
TRC Environmental Corp.
21 Griffin Rd North
Windsor, CT 06095

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		08/25/17	
Location Code:	TRC-DOT	Received by:	SW	08/25/17	15:00
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	179775				

Laboratory Data

SDG ID: GBY90859
Phoenix ID: BY90882

Project ID: CONN DOT-STRATFORD
Client ID: SB082517-TB-LL

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,1,1-Trichloroethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.003	mg/Kg	1	08/29/17	HM	SW8260C
1,1,2-Trichloroethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,1-Dichloroethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,1-Dichloroethene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,1-Dichloropropene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2,3-Trichlorobenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2,3-Trichloropropane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2,4-Trichlorobenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2,4-Trimethylbenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dibromoethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dichlorobenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dichloroethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,2-Dichloropropane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,3,5-Trimethylbenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,3-Dichlorobenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,3-Dichloropropane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
1,4-Dichlorobenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
2,2-Dichloropropane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
2-Chlorotoluene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
2-Hexanone	ND	0.025	mg/Kg	1	08/29/17	HM	SW8260C
2-Isopropyltoluene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
4-Chlorotoluene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
4-Methyl-2-pentanone	ND	0.025	mg/Kg	1	08/29/17	HM	SW8260C

Project ID: CONN DOT-STRATFORD
Client ID: SB082517-TB-LL

Phoenix I.D.: BY90882

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	0.25	mg/Kg	1	08/29/17	HM	SW8260C
Acrylonitrile	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Benzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Bromobenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Bromochloromethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Bromodichloromethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Bromoform	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Bromomethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Carbon Disulfide	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Carbon tetrachloride	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Chlorobenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Chloroethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Chloroform	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Chloromethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
cis-1,2-Dichloroethene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Dibromochloromethane	ND	0.003	mg/Kg	1	08/29/17	HM	SW8260C
Dibromomethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Dichlorodifluoromethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Ethylbenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Hexachlorobutadiene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Isopropylbenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
m&p-Xylene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Methyl Ethyl Ketone	ND	0.03	mg/Kg	1	08/29/17	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	0.01	mg/Kg	1	08/29/17	HM	SW8260C
Methylene chloride	ND	0.01	mg/Kg	1	08/29/17	HM	SW8260C
Naphthalene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
n-Butylbenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
n-Propylbenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
o-Xylene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
p-Isopropyltoluene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
sec-Butylbenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Styrene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
tert-Butylbenzene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Tetrachloroethene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Tetrahydrofuran (THF)	ND	0.01	mg/Kg	1	08/29/17	HM	SW8260C
Toluene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Total Xylenes	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
trans-1,2-Dichloroethene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	0.01	mg/Kg	1	08/29/17	HM	SW8260C
Trichloroethene	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Trichlorofluoromethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Trichlorotrifluoroethane	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
Vinyl chloride	ND	0.005	mg/Kg	1	08/29/17	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	08/29/17	HM	70 - 130 %
% Bromofluorobenzene	97		%	1	08/29/17	HM	70 - 130 %
% Dibromofluoromethane	102		%	1	08/29/17	HM	70 - 130 %

Project ID: CONN DOT-STRATFORD
Client ID: SB082517-TB-LL

Phoenix I.D.: BY90882

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	98		%	1	08/29/17	HM	70 - 130 %
Field Extraction	Completed				08/25/17		SW5035A

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:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

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.

Phyllis Shiller, Laboratory Director
January 19, 2018
Reviewed and Released by: Loreen Fay, Project Manager

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

January 19, 2018

QA/QC Data

SDG I.D.: GBY90859

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 399479 (mg/L), QC Sample No: BY89873 (BY90859)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	94.4			112			75 - 125	20
Barium	BRL	0.002	0.069	0.069	0	101			93.3			75 - 125	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	99.4			96.4			75 - 125	20
Chromium	BRL	0.001	<0.001	<0.001	NC	97.9			95.6			75 - 125	20
Copper	BRL	0.005	<0.005	<0.005	NC	97.3			106			75 - 125	20
Lead	BRL	0.002	<0.002	<0.002	NC	97.4			90.7			75 - 125	20
Selenium	BRL	0.010	<0.010	<0.010	NC	90.8			106			75 - 125	20
Silver	BRL	0.001	<0.001	<0.001	NC	93.5			114			75 - 125	20
QA/QC Batch 399527 (mg/L), QC Sample No: BY90859 (BY90859)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	83.0			81.1			80 - 120	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 399524 (mg/kg), QC Sample No: BY91254 (BY90861, BY90863, BY90879)													
Mercury - Soil	BRL	0.03	0.08	0.30	NC	91.1	87.4	4.1	85.7			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 399464 (mg/kg), QC Sample No: BY91258 (BY90861, BY90863, BY90879)													
ICP Metals - Soil													
Arsenic	BRL	0.66	3.04	2.78	NC	90.5			83.2			75 - 125	30
Barium	BRL	0.33	49.3	50.5	2.40	95.7			94.7			75 - 125	30
Cadmium	BRL	0.33	<0.32	<0.35	NC	100			93.0			75 - 125	30
Chromium	BRL	0.33	10.3	9.98	3.20	105			93.8			75 - 125	30
Copper	BRL	0.33	88.0	83.1	5.70	104			94.5			75 - 125	30
Lead	BRL	0.33	11.1	11.0	0.90	95.8			92.5			75 - 125	30
Selenium	BRL	1.3	<1.3	<1.4	NC	83.0			76.4			75 - 125	30
Silver	BRL	0.33	<0.32	<0.35	NC	96.1			89.3			75 - 125	30

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QA/QC Report

January 19, 2018

QA/QC Data

SDG I.D.: GBY90859

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 399463 (ug/L), QC Sample No: BY89826 (BY90859)											
Semivolatiles (SIM) - Water											
1,2,4,5-Tetrachlorobenzene	ND	0.47	52	54	3.8				30 - 130	20	
2-Methylnaphthalene	ND	0.02	53	62	15.7				30 - 130	20	
Acenaphthene	ND	0.02	85	87	2.3				30 - 130	20	
Acenaphthylene	ND	0.02	86	87	1.2				30 - 130	20	
Anthracene	ND	0.02	91	95	4.3				30 - 130	20	
Benz(a)anthracene	ND	0.02	94	100	6.2				30 - 130	20	
Benzo(a)pyrene	ND	0.02	87	91	4.5				30 - 130	20	
Benzo(b)fluoranthene	ND	0.02	89	95	6.5				30 - 130	20	
Benzo(ghi)perylene	ND	0.02	82	85	3.6				30 - 130	20	
Benzo(k)fluoranthene	ND	0.02	88	94	6.6				30 - 130	20	
Bis(2-ethylhexyl)phthalate	0.15	0.09	116	125	7.5				30 - 130	20	
Chrysene	ND	0.02	84	88	4.7				30 - 130	20	
Dibenz(a,h)anthracene	ND	0.01	95	94	1.1				30 - 130	20	
Dibenzofuran	ND	0.05	81	83	2.4				30 - 130	20	
Fluoranthene	ND	0.02	90	94	4.3				30 - 130	20	
Fluorene	ND	0.02	87	89	2.3				30 - 130	20	
Hexachlorobenzene	ND	0.02	87	91	4.5				30 - 130	20	
Hexachlorobutadiene	ND	0.05	47	58	21.0				30 - 130	20	r
Hexachlorocyclopentadiene	ND	0.05	34	30	12.5				30 - 130	20	
Hexachloroethane	ND	0.05	50	44	12.8				30 - 130	20	
Indeno(1,2,3-cd)pyrene	ND	0.02	88	88	0.0				30 - 130	20	
Naphthalene	ND	0.02	64	63	1.6				30 - 130	20	
Nitrobenzene	ND	0.05	80	72	10.5				30 - 130	20	
Pentachloronitrobenzene	ND	0.09	94	98	4.2				30 - 130	20	
Pentachlorophenol	ND	0.19	100	102	2.0				30 - 130	20	
Phenanthrene	ND	0.02	82	86	4.8				30 - 130	20	
Pyrene	ND	0.02	92	96	4.3				30 - 130	20	
Pyridine	ND	0.47	56	49	13.3				30 - 130	20	
% 2,4,6-Tribromophenol	93	%	99	104	4.9				15 - 110	20	
% 2-Fluorobiphenyl	68	%	77	80	3.8				30 - 130	20	
% 2-Fluorophenol	49	%	54	45	18.2				15 - 110	20	
% Nitrobenzene-d5	66	%	70	63	10.5				30 - 130	20	
% Phenol-d5	49	%	58	54	7.1				15 - 110	20	
% Terphenyl-d14	90	%	93	98	5.2				30 - 130	20	

Comment:

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

QA/QC Batch 399463 (ug/L), QC Sample No: BY89826 (BY90859)											
Semivolatiles - Water											
1,2,4-Trichlorobenzene	ND	3.3	68	62	9.2				30 - 130	20	
1,2-Dichlorobenzene	ND	0.94	60	53	12.4				30 - 130	20	

QA/QC Data

SDG I.D.: GBY90859

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2-Diphenylhydrazine	ND	1.5	84	87	3.5				30 - 130	20
1,3-Dichlorobenzene	ND	0.94	59	52	12.6				30 - 130	20
1,4-Dichlorobenzene	ND	0.94	61	54	12.2				30 - 130	20
2,4,5-Trichlorophenol	ND	0.94	87	94	7.7				30 - 130	20
2,4,6-Trichlorophenol	ND	0.94	81	87	7.1				30 - 130	20
2,4-Dichlorophenol	ND	0.94	73	77	5.3				30 - 130	20
2,4-Dimethylphenol	ND	0.94	73	77	5.3				30 - 130	20
2,4-Dinitrophenol	ND	0.94	82	88	7.1				30 - 130	20
2,4-Dinitrotoluene	ND	3.3	92	98	6.3				30 - 130	20
2,6-Dinitrotoluene	ND	3.3	86	95	9.9				30 - 130	20
2-Chloronaphthalene	ND	3.3	76	80	5.1				30 - 130	20
2-Chlorophenol	ND	0.94	56	54	3.6				30 - 130	20
2-Methylphenol (o-cresol)	ND	0.94	60	62	3.3				30 - 130	20
2-Nitroaniline	ND	3.3	134	144	7.2				30 - 130	20
2-Nitrophenol	ND	0.94	69	69	0.0				30 - 130	20
3&4-Methylphenol (m&p-cresol)	ND	0.94	66	73	10.1				30 - 130	20
3,3'-Dichlorobenzidine	ND	4.7	70	75	6.9				30 - 130	20
3-Nitroaniline	ND	4.7	105	107	1.9				30 - 130	20
4,6-Dinitro-2-methylphenol	ND	0.94	90	96	6.5				30 - 130	20
4-Bromophenyl phenyl ether	ND	3.3	85	88	3.5				30 - 130	20
4-Chloro-3-methylphenol	ND	0.94	83	87	4.7				30 - 130	20
4-Chloroaniline	ND	3.3	75	71	5.5				30 - 130	20
4-Chlorophenyl phenyl ether	ND	0.94	86	89	3.4				30 - 130	20
4-Nitroaniline	ND	4.7	83	91	9.2				30 - 130	20
4-Nitrophenol	ND	0.94	87	96	9.8				15 - 130	20
Acetophenone	ND	3.3	62	65	4.7				30 - 130	20
Aniline	ND	3.3	62	63	1.6				30 - 130	20
Benzidine	ND	4.2	99	91	8.4				30 - 130	20
Benzoic acid	ND	9.4	53	46	14.1				30 - 130	20
Benzyl butyl phthalate	ND	1.4	92	98	6.3				30 - 130	20
Bis(2-chloroethoxy)methane	ND	3.3	75	74	1.3				30 - 130	20
Bis(2-chloroethyl)ether	ND	0.94	53	50	5.8				30 - 130	20
Bis(2-chloroisopropyl)ether	ND	0.94	55	51	7.5				30 - 130	20
Carbazole	ND	4.7	93	101	8.2				30 - 130	20
Diethyl phthalate	ND	1.4	92	93	1.1				30 - 130	20
Dimethylphthalate	ND	1.4	88	93	5.5				30 - 130	20
Di-n-butylphthalate	ND	1.4	93	97	4.2				30 - 130	20
Di-n-octylphthalate	ND	1.4	97	99	2.0				30 - 130	20
Isophorone	ND	3.3	74	75	1.3				30 - 130	20
N-Nitrosodimethylamine	ND	0.94	56	50	11.3				30 - 130	20
N-Nitrosodi-n-propylamine	ND	3.3	67	71	5.8				30 - 130	20
N-Nitrosodiphenylamine	ND	3.3	86	88	2.3				30 - 130	20
Phenol	ND	0.94	54	56	3.6				15 - 130	20
% 2,4,6-Tribromophenol	77	%	91	98	7.4				15 - 110	20
% 2-Fluorobiphenyl	70	%	81	83	2.4				30 - 130	20
% 2-Fluorophenol	42	%	49	44	10.8				15 - 110	20
% Nitrobenzene-d5	54	%	60	63	4.9				30 - 130	20
% Phenol-d5	42	%	56	57	1.8				15 - 110	20
% Terphenyl-d14	95	%	95	100	5.1				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 Data

SDG I.D.: GBY90859

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 399466 (mg/L), QC Sample No: BY90084 (BY90859)										
TPH by GC (Extractable Products) - Water										
Ext. Petroleum H.C. (C9-C36)	ND	0.094	85	75	12.5	72	71	1.4	60 - 120	30
% n-Pentacosane	74	%	83	74	11.5	78	71	9.4	50 - 150	20
Comment:										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 399724 (ug/L), QC Sample No: BY90834 (BY90859)										
Volatiles - Water										
1,1,1,2-Tetrachloroethane	ND	1.0	101	113	11.2				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	97	113	15.2				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	105	116	10.0				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	101	115	13.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	97	110	12.6				70 - 130	30
1,1-Dichloroethene	ND	1.0	97	113	15.2				70 - 130	30
1,1-Dichloropropene	ND	1.0	99	113	13.2				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	109	119	8.8				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	98	111	12.4				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	105	116	10.0				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	98	110	11.5				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	110	128	15.1				70 - 130	30
1,2-Dibromoethane	ND	1.0	102	116	12.8				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	100	111	10.4				70 - 130	30
1,2-Dichloroethane	ND	1.0	99	113	13.2				70 - 130	30
1,2-Dichloropropane	ND	1.0	98	109	10.6				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	100	111	10.4				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	102	113	10.2				70 - 130	30
1,3-Dichloropropane	ND	1.0	96	108	11.8				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	99	111	11.4				70 - 130	30
2,2-Dichloropropane	ND	1.0	105	121	14.2				70 - 130	30
2-Chlorotoluene	ND	1.0	99	111	11.4				70 - 130	30
2-Hexanone	ND	5.0	92	107	15.1				70 - 130	30
2-Isopropyltoluene	ND	1.0	103	116	11.9				70 - 130	30
4-Chlorotoluene	ND	1.0	99	110	10.5				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	96	112	15.4				70 - 130	30
Acetone	ND	5.0	87	103	16.8				70 - 130	30
Acrylonitrile	ND	5.0	103	125	19.3				70 - 130	30
Benzene	ND	0.70	101	114	12.1				70 - 130	30
Bromobenzene	ND	1.0	101	114	12.1				70 - 130	30
Bromochloromethane	ND	1.0	100	115	14.0				70 - 130	30
Bromodichloromethane	ND	0.50	103	116	11.9				70 - 130	30
Bromoform	ND	1.0	107	123	13.9				70 - 130	30
Bromomethane	ND	1.0	107	126	16.3				70 - 130	30
Carbon Disulfide	ND	1.0	105	122	15.0				70 - 130	30
Carbon tetrachloride	ND	1.0	96	113	16.3				70 - 130	30
Chlorobenzene	ND	1.0	97	109	11.7				70 - 130	30
Chloroethane	ND	1.0	100	113	12.2				70 - 130	30
Chloroform	ND	1.0	97	111	13.5				70 - 130	30
Chloromethane	ND	1.0	93	105	12.1				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	99	110	10.5				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	105	119	12.5				70 - 130	30
Dibromochloromethane	ND	0.50	106	121	13.2				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Dibromomethane	ND	1.0	100	113	12.2				70 - 130	30	
Dichlorodifluoromethane	ND	1.0	102	117	13.7				70 - 130	30	
Ethylbenzene	ND	1.0	98	111	12.4				70 - 130	30	
Hexachlorobutadiene	ND	0.40	108	121	11.4				70 - 130	30	
Isopropylbenzene	ND	1.0	99	112	12.3				70 - 130	30	
m&p-Xylene	ND	1.0	99	111	11.4				70 - 130	30	
Methyl ethyl ketone	ND	5.0	99	116	15.8				70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	103	119	14.4				70 - 130	30	
Methylene chloride	ND	1.0	91	103	12.4				70 - 130	30	
Naphthalene	ND	1.0	112	126	11.8				70 - 130	30	
n-Butylbenzene	ND	1.0	101	113	11.2				70 - 130	30	
n-Propylbenzene	ND	1.0	99	111	11.4				70 - 130	30	
o-Xylene	ND	1.0	100	113	12.2				70 - 130	30	
p-Isopropyltoluene	ND	1.0	100	113	12.2				70 - 130	30	
sec-Butylbenzene	ND	1.0	102	115	12.0				70 - 130	30	
Styrene	ND	1.0	101	113	11.2				70 - 130	30	
tert-Butylbenzene	ND	1.0	99	111	11.4				70 - 130	30	
Tetrachloroethene	ND	1.0	101	115	13.0				70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	103	118	13.6				70 - 130	30	
Toluene	ND	1.0	101	114	12.1				70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	99	114	14.1				70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	104	118	12.6				70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	118	138	15.6				70 - 130	30	I
Trichloroethene	ND	1.0	100	115	14.0				70 - 130	30	
Trichlorofluoromethane	ND	1.0	84	96	13.3				70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	95	109	13.7				70 - 130	30	
Vinyl chloride	ND	1.0	96	112	15.4				70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%	102	100	2.0				70 - 130	30	
% Bromofluorobenzene	96	%	98	98	0.0				70 - 130	30	
% Dibromofluoromethane	103	%	101	100	1.0				70 - 130	30	
% Toluene-d8	101	%	100	100	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 399496 (ug/L), QC Sample No: BY90859 (BY90859)

Polychlorinated Biphenyls - Water

PCB-1016	ND	0.050	83	74	11.5				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	92	89	3.3				40 - 140	20	
PCB-1262	ND	0.050							40 - 140	20	
PCB-1268	ND	0.050							40 - 140	20	
% DCBP (Surrogate Rec)	83	%	124	98	23.4				30 - 150	20	r
% TCMX (Surrogate Rec)	81	%	100	77	26.0				30 - 150	20	r

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Data

SDG I.D.: GBY90859

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 399433 (mg/Kg), QC Sample No: BY90899 (BY90861, BY90863, BY90879)											
TPH by GC (Extractable Products) - Soil											
Ext. Petroleum H.C. (C9-C36)	ND	50	88	86	2.3	92	91	1.1	60 - 120	30	
% n-Pentacosane	77	%	79	82	3.7	81	78	3.8	50 - 150	30	
Comment:											
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.											
QA/QC Batch 399557 (mg/Kg), QC Sample No: BY91249 (BY90860 (50X) , BY90861, BY90863, BY90882)											
Volatiles - Soil											
1,1,1,2-Tetrachloroethane	ND	0.005	97	99	2.0	98	98	0.0	70 - 130	30	
1,1,1-Trichloroethane	ND	0.005	98	92	6.3	97	98	1.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.003	108	108	0.0	95	103	8.1	70 - 130	30	
1,1,2-Trichloroethane	ND	0.005	96	97	1.0	99	96	3.1	70 - 130	30	
1,1-Dichloroethane	ND	0.005	82	74	10.3	92	94	2.2	70 - 130	30	
1,1-Dichloroethene	ND	0.005	104	103	1.0	105	96	9.0	70 - 130	30	
1,1-Dichloropropene	ND	0.005	98	99	1.0	101	99	2.0	70 - 130	30	
1,2,3-Trichlorobenzene	ND	0.005	103	104	1.0	64	63	1.6	70 - 130	30	m
1,2,3-Trichloropropane	ND	0.005	96	101	5.1	101	103	2.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	0.005	98	106	7.8	68	64	6.1	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	0.001	101	101	0.0	91	96	5.3	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	0.005	113	111	1.8	103	103	0.0	70 - 130	30	
1,2-Dibromoethane	ND	0.005	102	103	1.0	98	101	3.0	70 - 130	30	
1,2-Dichlorobenzene	ND	0.005	99	103	4.0	87	86	1.2	70 - 130	30	
1,2-Dichloroethane	ND	0.005	91	94	3.2	95	91	4.3	70 - 130	30	
1,2-Dichloropropane	ND	0.005	96	97	1.0	97	98	1.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	0.001	101	99	2.0	98	95	3.1	70 - 130	30	
1,3-Dichlorobenzene	ND	0.005	97	102	5.0	92	92	0.0	70 - 130	30	
1,3-Dichloropropane	ND	0.005	100	99	1.0	97	97	0.0	70 - 130	30	
1,4-Dichlorobenzene	ND	0.005	98	97	1.0	92	92	0.0	70 - 130	30	
2,2-Dichloropropane	ND	0.005	104	100	3.9	105	95	10.0	70 - 130	30	
2-Chlorotoluene	ND	0.005	101	104	2.9	101	101	0.0	70 - 130	30	
2-Hexanone	ND	0.025	88	92	4.4	76	73	4.0	70 - 130	30	
2-Isopropyltoluene	ND	0.005	106	105	0.9	100	103	3.0	70 - 130	30	
4-Chlorotoluene	ND	0.005	99	103	4.0	99	99	0.0	70 - 130	30	
4-Methyl-2-pentanone	ND	0.025	95	95	0.0	89	89	0.0	70 - 130	30	
Acetone	ND	0.01	88	84	4.7	73	71	2.8	70 - 130	30	
Acrylonitrile	ND	0.005	80	75	6.5	90	92	2.2	70 - 130	30	
Benzene	ND	0.001	96	92	4.3	98	92	6.3	70 - 130	30	
Bromobenzene	ND	0.005	101	101	0.0	100	99	1.0	70 - 130	30	
Bromochloromethane	ND	0.005	103	102	1.0	99	95	4.1	70 - 130	30	
Bromodichloromethane	ND	0.005	99	97	2.0	97	98	1.0	70 - 130	30	
Bromoform	ND	0.005	93	99	6.3	87	96	9.8	70 - 130	30	
Bromomethane	ND	0.005	102	90	12.5	104	97	7.0	70 - 130	30	
Carbon Disulfide	ND	0.005	111	113	1.8	111	108	2.7	70 - 130	30	
Carbon tetrachloride	ND	0.005	101	103	2.0	104	98	5.9	70 - 130	30	
Chlorobenzene	ND	0.005	98	96	2.1	98	98	0.0	70 - 130	30	
Chloroethane	ND	0.005	91	80	12.9	91	88	3.4	70 - 130	30	
Chloroform	ND	0.005	103	98	5.0	103	99	4.0	70 - 130	30	
Chloromethane	ND	0.005	82	80	2.5	82	80	2.5	70 - 130	30	
cis-1,2-Dichloroethene	ND	0.005	101	100	1.0	96	97	1.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.005	97	99	2.0	99	96	3.1	70 - 130	30	
Dibromochloromethane	ND	0.003	103	107	3.8	102	108	5.7	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Dibromomethane	ND	0.005	95	94	1.1	96	96	0.0	70 - 130	30	
Dichlorodifluoromethane	ND	0.005	82	80	2.5	80	81	1.2	70 - 130	30	
Ethylbenzene	ND	0.001	96	96	0.0	98	99	1.0	70 - 130	30	
Hexachlorobutadiene	ND	0.005	104	106	1.9	67	71	5.8	70 - 130	30	m
Isopropylbenzene	ND	0.001	102	97	5.0	106	104	1.9	70 - 130	30	
m&p-Xylene	ND	0.002	96	95	1.0	95	97	2.1	70 - 130	30	
Methyl ethyl ketone	ND	0.005	88	87	1.1	75	78	3.9	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	0.001	90	91	1.1	88	85	3.5	70 - 130	30	
Methylene chloride	ND	0.005	98	93	5.2	90	89	1.1	70 - 130	30	
Naphthalene	ND	0.005	116	115	0.9	79	81	2.5	70 - 130	30	
n-Butylbenzene	ND	0.001	103	106	2.9	96	95	1.0	70 - 130	30	
n-Propylbenzene	ND	0.001	100	104	3.9	101	98	3.0	70 - 130	30	
o-Xylene	ND	0.002	102	101	1.0	101	102	1.0	70 - 130	30	
p-Isopropyltoluene	ND	0.001	101	105	3.9	102	99	3.0	70 - 130	30	
sec-Butylbenzene	ND	0.001	108	111	2.7	104	102	1.9	70 - 130	30	
Styrene	ND	0.005	101	99	2.0	92	92	0.0	70 - 130	30	
tert-Butylbenzene	ND	0.001	98	101	3.0	104	103	1.0	70 - 130	30	
Tetrachloroethene	ND	0.005	98	100	2.0	104	100	3.9	70 - 130	30	
Tetrahydrofuran (THF)	ND	0.005	100	100	0.0	91	90	1.1	70 - 130	30	
Toluene	ND	0.001	97	98	1.0	99	97	2.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	0.005	102	103	1.0	103	97	6.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.005	95	95	0.0	93	90	3.3	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	0.005	110	110	0.0	96	97	1.0	70 - 130	30	
Trichloroethene	ND	0.005	96	100	4.1	101	100	1.0	70 - 130	30	
Trichlorofluoromethane	ND	0.005	94	90	4.3	96	90	6.5	70 - 130	30	
Trichlorotrifluoroethane	ND	0.005	102	104	1.9	108	102	5.7	70 - 130	30	
Vinyl chloride	ND	0.005	94	94	0.0	95	93	2.1	70 - 130	30	
% 1,2-dichlorobenzene-d4	102	%	101	105	3.9	99	100	1.0	70 - 130	30	
% Bromofluorobenzene	97	%	97	96	1.0	91	99	8.4	70 - 130	30	
% Dibromofluoromethane	99	%	93	100	7.3	99	97	2.0	70 - 130	30	
% Toluene-d8	97	%	99	95	4.1	98	100	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 399454 (mg/Kg), QC Sample No: BY91498 2X (BY90861, BY90863, BY90879)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	0.033	80	77	3.8	81	80	1.2	40 - 140	30	
PCB-1221	ND	0.033							40 - 140	30	
PCB-1232	ND	0.033							40 - 140	30	
PCB-1242	ND	0.033							40 - 140	30	
PCB-1248	ND	0.033							40 - 140	30	
PCB-1254	ND	0.033							40 - 140	30	
PCB-1260	ND	0.033	96	90	6.5	96	100	4.1	40 - 140	30	
PCB-1262	ND	0.033							40 - 140	30	
PCB-1268	ND	0.033							40 - 140	30	
% DCBP (Surrogate Rec)	76	%	94	89	5.5	93	93	0.0	30 - 150	30	
% TCMX (Surrogate Rec)	75	%	89	86	3.4	88	86	2.3	30 - 150	30	

QA/QC Batch 399726 (mg/Kg), QC Sample No: BY91498 (BY90879 (1X, 50X))

Volatiles - Soil

1,1,1,2-Tetrachloroethane	ND	0.005	105	107	1.9	98	98	0.0	70 - 130	30	
1,1,1-Trichloroethane	ND	0.005	98	100	2.0	96	98	2.1	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.003	109	107	1.9	103	107	3.8	70 - 130	30	

QA/QC Data

SDG I.D.: GBY90859

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,1,2-Trichloroethane	ND	0.005	105	93	12.1	104	94	10.1	70 - 130	30	
1,1-Dichloroethane	ND	0.005	83	98	16.6	98	78	22.7	70 - 130	30	
1,1-Dichloroethene	ND	0.005	108	106	1.9	100	101	1.0	70 - 130	30	
1,1-Dichloropropene	ND	0.005	107	96	10.8	97	93	4.2	70 - 130	30	
1,2,3-Trichlorobenzene	ND	0.005	108	108	0.0	90	90	0.0	70 - 130	30	
1,2,3-Trichloropropane	ND	0.005	107	100	6.8	99	95	4.1	70 - 130	30	
1,2,4-Trichlorobenzene	ND	0.005	109	106	2.8	85	81	4.8	70 - 130	30	
1,2,4-Trimethylbenzene	ND	0.001	100	103	3.0	86	85	1.2	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	0.005	118	114	3.4	112	111	0.9	70 - 130	30	
1,2-Dibromoethane	ND	0.005	105	103	1.9	98	96	2.1	70 - 130	30	
1,2-Dichlorobenzene	ND	0.005	103	101	2.0	90	85	5.7	70 - 130	30	
1,2-Dichloroethane	ND	0.005	103	87	16.8	94	90	4.3	70 - 130	30	
1,2-Dichloropropane	ND	0.005	102	95	7.1	97	91	6.4	70 - 130	30	
1,3,5-Trimethylbenzene	ND	0.001	100	103	3.0	90	88	2.2	70 - 130	30	
1,3-Dichlorobenzene	ND	0.005	104	98	5.9	89	90	1.1	70 - 130	30	
1,3-Dichloropropane	ND	0.005	100	100	0.0	96	97	1.0	70 - 130	30	
1,4-Dichlorobenzene	ND	0.005	105	100	4.9	92	90	2.2	70 - 130	30	
2,2-Dichloropropane	ND	0.005	105	105	0.0	95	98	3.1	70 - 130	30	
2-Chlorotoluene	ND	0.005	101	104	2.9	88	90	2.2	70 - 130	30	
2-Hexanone	ND	0.025	94	88	6.6	87	81	7.1	70 - 130	30	
2-Isopropyltoluene	ND	0.005	108	106	1.9	100	97	3.0	70 - 130	30	
4-Chlorotoluene	ND	0.005	101	101	0.0	92	88	4.4	70 - 130	30	
4-Methyl-2-pentanone	ND	0.025	103	87	16.8	100	90	10.5	70 - 130	30	
Acetone	ND	0.01	89	83	7.0	51	51	0.0	70 - 130	30	m
Acrylonitrile	ND	0.005	84	104	21.3	107	87	20.6	70 - 130	30	
Benzene	ND	0.001	101	94	7.2	98	94	4.2	70 - 130	30	
Bromobenzene	ND	0.005	104	102	1.9	97	95	2.1	70 - 130	30	
Bromochloromethane	ND	0.005	106	106	0.0	101	101	0.0	70 - 130	30	
Bromodichloromethane	ND	0.005	110	101	8.5	97	94	3.1	70 - 130	30	
Bromoform	ND	0.005	107	113	5.5	98	100	2.0	70 - 130	30	
Bromomethane	ND	0.005	101	107	5.8	106	103	2.9	70 - 130	30	
Carbon Disulfide	ND	0.005	119	115	3.4	101	111	9.4	70 - 130	30	
Carbon tetrachloride	ND	0.005	109	109	0.0	93	97	4.2	70 - 130	30	
Chlorobenzene	ND	0.005	99	100	1.0	96	91	5.3	70 - 130	30	
Chloroethane	ND	0.005	88	90	2.2	83	86	3.6	70 - 130	30	
Chloroform	ND	0.005	106	102	3.8	96	98	2.1	70 - 130	30	
Chloromethane	ND	0.005	94	97	3.1	87	85	2.3	70 - 130	30	
cis-1,2-Dichloroethene	ND	0.005	103	103	0.0	95	101	6.1	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.005	105	99	5.9	100	95	5.1	70 - 130	30	
Dibromochloromethane	ND	0.003	114	117	2.6	100	107	6.8	70 - 130	30	
Dibromomethane	ND	0.005	106	92	14.1	100	91	9.4	70 - 130	30	
Dichlorodifluoromethane	ND	0.005	105	100	4.9	91	94	3.2	70 - 130	30	
Ethylbenzene	ND	0.001	96	101	5.1	94	93	1.1	70 - 130	30	
Hexachlorobutadiene	ND	0.005	109	107	1.9	85	93	9.0	70 - 130	30	
Isopropylbenzene	ND	0.001	100	103	3.0	89	92	3.3	70 - 130	30	
m&p-Xylene	ND	0.002	95	104	9.0	90	89	1.1	70 - 130	30	
Methyl ethyl ketone	ND	0.005	92	90	2.2	87	88	1.1	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	0.001	99	93	6.3	89	93	4.4	70 - 130	30	
Methylene chloride	ND	0.005	95	95	0.0	90	92	2.2	70 - 130	30	
Naphthalene	ND	0.005	119	114	4.3	31	21	38.5	70 - 130	30	m,r
n-Butylbenzene	ND	0.001	108	107	0.9	78	82	5.0	70 - 130	30	
n-Propylbenzene	ND	0.001	105	102	2.9	91	90	1.1	70 - 130	30	
o-Xylene	ND	0.002	104	107	2.8	94	95	1.1	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
p-Isopropyltoluene	ND	0.001	102	101	1.0	86	92	6.7	70 - 130	30	
sec-Butylbenzene	ND	0.001	109	104	4.7	92	95	3.2	70 - 130	30	
Styrene	ND	0.005	104	102	1.9	85	85	0.0	70 - 130	30	
tert-Butylbenzene	ND	0.001	104	101	2.9	98	98	0.0	70 - 130	30	
Tetrachloroethene	ND	0.005	109	93	15.8	95	92	3.2	70 - 130	30	
Tetrahydrofuran (THF)	ND	0.005	99	92	7.3	93	99	6.3	70 - 130	30	
Toluene	ND	0.001	106	93	13.1	94	92	2.2	70 - 130	30	
trans-1,2-Dichloroethene	ND	0.005	109	103	5.7	97	102	5.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.005	102	96	6.1	96	92	4.3	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	0.005	111	111	0.0	99	104	4.9	70 - 130	30	
Trichloroethene	ND	0.005	105	97	7.9	100	95	5.1	70 - 130	30	
Trichlorofluoromethane	ND	0.005	94	95	1.1	87	91	4.5	70 - 130	30	
Trichlorotrifluoroethane	ND	0.005	108	106	1.9	95	103	8.1	70 - 130	30	
Vinyl chloride	ND	0.005	103	103	0.0	95	93	2.1	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%	101	105	3.9	98	97	1.0	70 - 130	30	
% Bromofluorobenzene	98	%	96	100	4.1	95	96	1.0	70 - 130	30	
% Dibromofluoromethane	99	%	101	105	3.9	102	98	4.0	70 - 130	30	
% Toluene-d8	93	%	102	98	4.0	104	99	4.9	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 399476 (mg/Kg), QC Sample No: BY91498 (BY90861, BY90863, BY90879)

Semivolatiles - Soil

1,2,4,5-Tetrachlorobenzene	ND	0.23	66	65	1.5	64			30 - 130	30	
1,2,4-Trichlorobenzene	ND	0.23	61	61	0.0	59			30 - 130	30	
1,2-Dichlorobenzene	ND	0.18	59	59	0.0	55			30 - 130	30	
1,2-Diphenylhydrazine	ND	0.23	73	73	0.0	71			30 - 130	30	
1,3-Dichlorobenzene	ND	0.23	57	57	0.0	53			30 - 130	30	
1,4-Dichlorobenzene	ND	0.23	58	58	0.0	54			30 - 130	30	
2,4,5-Trichlorophenol	ND	0.23	69	70	1.4	68			30 - 130	30	
2,4,6-Trichlorophenol	ND	0.13	70	69	1.4	67			30 - 130	30	
2,4-Dichlorophenol	ND	0.13	69	69	0.0	68			30 - 130	30	
2,4-Dimethylphenol	ND	0.23	69	69	0.0	66			30 - 130	30	
2,4-Dinitrophenol	ND	0.23	<10	<10	NC	10			30 - 130	30	l,m
2,4-Dinitrotoluene	ND	0.13	77	76	1.3	76			30 - 130	30	
2,6-Dinitrotoluene	ND	0.13	76	75	1.3	74			30 - 130	30	
2-Chloronaphthalene	ND	0.23	65	65	0.0	63			30 - 130	30	
2-Chlorophenol	ND	0.23	65	65	0.0	62			30 - 130	30	
2-Methylnaphthalene	ND	0.23	63	63	0.0	62			30 - 130	30	
2-Methylphenol (o-cresol)	ND	0.23	71	65	8.8	69			30 - 130	30	
2-Nitroaniline	ND	0.33	103	99	4.0	98			30 - 130	30	
2-Nitrophenol	ND	0.23	66	65	1.5	63			30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	0.23	70	68	2.9	67			30 - 130	30	
3,3'-Dichlorobenzidine	ND	0.13	86	84	2.4	81			30 - 130	30	
3-Nitroaniline	ND	0.33	86	84	2.4	83			30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	0.23	13	23	55.6	15			30 - 130	30	l,m,r
4-Bromophenyl phenyl ether	ND	0.23	69	68	1.5	68			30 - 130	30	
4-Chloro-3-methylphenol	ND	0.23	76	74	2.7	74			30 - 130	30	
4-Chloroaniline	ND	0.23	69	67	2.9	67			30 - 130	30	
4-Chlorophenyl phenyl ether	ND	0.23	69	68	1.5	68			30 - 130	30	
4-Nitroaniline	ND	0.23	73	72	1.4	72			30 - 130	30	
4-Nitrophenol	ND	0.23	72	70	2.8	69			30 - 130	30	
Acenaphthene	ND	0.23	73	73	0.0	71			30 - 130	30	

QA/QC Data

SDG I.D.: GBY90859

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Acenaphthylene	ND	0.13	66	66	0.0	64			30 - 130	30	
Acetophenone	ND	0.23	61	61	0.0	59			30 - 130	30	
Aniline	ND	0.33	64	61	4.8	59			30 - 130	30	
Anthracene	ND	0.23	70	70	0.0	70			30 - 130	30	
Benz(a)anthracene	ND	0.23	70	70	0.0	70			30 - 130	30	
Benzidine	ND	0.33	61	59	3.3	33			30 - 130	30	
Benzo(a)pyrene	ND	0.13	68	69	1.5	69			30 - 130	30	
Benzo(b)fluoranthene	ND	0.16	71	72	1.4	72			30 - 130	30	
Benzo(ghi)perylene	ND	0.23	62	62	0.0	65			30 - 130	30	
Benzo(k)fluoranthene	ND	0.23	70	70	0.0	69			30 - 130	30	
Benzoic Acid	ND	0.33	<10	<10	NC	<10			30 - 130	30	l,m
Benzyl butyl phthalate	ND	0.23	77	75	2.6	76			30 - 130	30	
Bis(2-chloroethoxy)methane	ND	0.23	69	68	1.5	67			30 - 130	30	
Bis(2-chloroethyl)ether	ND	0.13	52	54	3.8	49			30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	0.23	55	55	0.0	52			30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	0.23	80	80	0.0	79			30 - 130	30	
Carbazole	ND	0.23	73	72	1.4	72			30 - 130	30	
Chrysene	ND	0.23	73	72	1.4	72			30 - 130	30	
Dibenz(a,h)anthracene	ND	0.13	69	69	0.0	73			30 - 130	30	
Dibenzofuran	ND	0.23	71	70	1.4	69			30 - 130	30	
Diethyl phthalate	ND	0.23	75	73	2.7	72			30 - 130	30	
Dimethylphthalate	ND	0.23	72	71	1.4	70			30 - 130	30	
Di-n-butylphthalate	0.35	0.23	86	86	0.0	76			30 - 130	30	
Di-n-octylphthalate	ND	0.23	80	78	2.5	78			30 - 130	30	
Fluoranthene	ND	0.23	70	70	0.0	70			30 - 130	30	
Fluorene	ND	0.23	70	69	1.4	68			30 - 130	30	
Hexachlorobenzene	ND	0.13	70	69	1.4	69			30 - 130	30	
Hexachlorobutadiene	ND	0.23	60	60	0.0	57			30 - 130	30	
Hexachlorocyclopentadiene	ND	0.23	60	59	1.7	60			30 - 130	30	
Hexachloroethane	ND	0.13	56	57	1.8	52			30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	0.23	66	64	3.1	70			30 - 130	30	
Isophorone	ND	0.13	62	62	0.0	61			30 - 130	30	
Naphthalene	ND	0.23	63	63	0.0	61			30 - 130	30	
Nitrobenzene	ND	0.13	65	65	0.0	62			30 - 130	30	
N-Nitrosodimethylamine	ND	0.23	58	57	1.7	54			30 - 130	30	
N-Nitrosodi-n-propylamine	ND	0.13	67	65	3.0	63			30 - 130	30	
N-Nitrosodiphenylamine	ND	0.13	76	74	2.7	73			30 - 130	30	
Pentachloronitrobenzene	ND	0.23	70	69	1.4	70			30 - 130	30	
Pentachlorophenol	ND	0.23	49	55	11.5	54			30 - 130	30	
Phenanthrene	ND	0.13	69	69	0.0	69			30 - 130	30	
Phenol	ND	0.23	64	64	0.0	62			30 - 130	30	
Pyrene	ND	0.23	70	70	0.0	70			30 - 130	30	
Pyridine	ND	0.23	43	43	0.0	40			30 - 130	30	
% 2,4,6-Tribromophenol	61	%	69	69	0.0	67			30 - 130	30	
% 2-Fluorobiphenyl	62	%	68	68	0.0	65			30 - 130	30	
% 2-Fluorophenol	47	%	59	59	0.0	56			30 - 130	30	
% Nitrobenzene-d5	59	%	67	65	3.0	62			30 - 130	30	
% Phenol-d5	55	%	67	66	1.5	63			30 - 130	30	
% Terphenyl-d14	67	%	77	75	2.6	74			30 - 130	30	

QA/QC Data

SDG I.D.: GBY90859

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

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%)

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
January 19, 2018

Friday, January 19, 2018

Criteria: CT: GAM, GWP

State: CT

Sample Criteria Exceedances Report

GBY90859 - TRC-DOT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BY90859	$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	0.50	0.2	0.2	ug/L
BY90859	$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	0.25	0.05	0.05	ug/L
BY90859	$8260GWR	Acrylonitrile	CT / RSR GWPC (ug/l) / Volatiles	ND	2.5	0.5	0.5	ug/L
BY90861	$8270-SMR	Carbazole	CT / RSR GA,GAA (mg/kg) / APS Organics	640	330	200	200	ug/Kg
BY90861	$8270-SMR	2,4-Dinitrophenol	CT / RSR GA,GAA (mg/kg) / APS Organics	440	330	300	300	ug/Kg
BY90861	$8270-SMR	4,6-Dinitro-2-methylphenol	CT / RSR GA,GAA (mg/kg) / APS Organics	460	330	300	300	ug/Kg
BY90861	$8270-SMR	Benzo(ghi)perylene	CT / RSR GA,GAA (mg/kg) / APS Organics	1800	230	1000	1000	ug/Kg
BY90861	$8270-SMR	Chrysene	CT / RSR GA,GAA (mg/kg) / APS Organics	3500	230	1000	1000	ug/Kg
BY90861	$8270-SMR	Dibenzofuran	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	230	200	200	ug/Kg
BY90861	$8270-SMR	Indeno(1,2,3-cd)pyrene	CT / RSR GA,GAA (mg/kg) / APS Organics	2000	230	1000	1000	ug/Kg
BY90861	$8270-SMR	Pentachloronitrobenzene	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	330	140	140	ug/Kg
BY90861	$8270-SMR	Fluoranthene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	6200	230	5600	5600	ug/Kg
BY90861	$8270-SMR	Benzo(b)fluoranthene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	3100	230	1000	1000	ug/Kg
BY90861	$8270-SMR	Benzo(a)pyrene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	2600	230	1000	1000	ug/Kg
BY90861	$8270-SMR	Benz(a)anthracene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	2700	230	1000	1000	ug/Kg
BY90861	$8270-SMR	Phenanthrene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	4400	230	4000	4000	ug/Kg
BY90861	$8270-SMR	Pyrene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	5000	230	4000	4000	ug/Kg
BY90861	$8270-SMR	Benzo(k)fluoranthene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	2600	230	1000	1000	ug/Kg
BY90863	$8270-SMR	Pentachloronitrobenzene	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	340	140	140	ug/Kg
BY90879	$8270-SMR	Pentachloronitrobenzene	CT / RSR GA,GAA (mg/kg) / APS Organics	ND	350	140	140	ug/Kg

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** TRC Environmental Corp.

Project Location: CONN DOT-STRATFORD ***Project Number:***

Laboratory Sample ID(s): BY90859-BY90861, BY90863, BY90879, BY90882 ***Sampling Date(s):*** 8/25/2017

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 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 Reasonable Confidence Protocol documents acheived? See Sections: PCB Narration, SVOA Narration, SVOASIM 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: Ethan Lee **Position:** Project Manager

Printed Name: Ethan Lee **Date:** Friday, January 19, 2018

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

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

January 19, 2018

SDG I.D.: GBY90859

SDG Comments

Metals Analysis:
The client requested a shorter list of elements than the 6010 RCP list. Only the RCRA 8 Metals plus Copper are reported as requested on the chain of custody.

ETPH Narration

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

Instrument:

AU-FID1 08/29/17-1 Jeff Bucko, Chemist 08/29/17

BY90861, BY90863, BY90879

The initial calibration (ETPH804I) 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 08/30/17-1 Jeff Bucko, Chemist 08/30/17

BY90859

The initial calibration (ETPH804I) 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 399433 (BY90899)

BY90861, BY90863, BY90879

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.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

Batch 399466 (BY90084)

BY90859

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.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

Mercury Narration

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

Instrument:

MERLIN 08/29/17 09:27 Rick Schweitzer, Chemist 08/29/17

BY90859, BY90861, BY90863, BY90879

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

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Certification Report

January 19, 2018

SDG I.D.: GBY90859

Mercury Narration

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 399524 (BY91254)

BY90861, BY90863, BY90879

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 399527 (BY90859)

BY90859

All LCS recoveries were within 80 - 120 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

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

Instrument:

ARCOS 08/28/17 06:50 Mike Arsenault, Chemist 08/28/17

BY90861, BY90863, BY90879

Additional criteria for CCV and ICSAB:
Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB).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 08/29/17 09:48 Mike Arsenault, Chemist 08/29/17

BY90861, BY90863, BY90879

Additional criteria for CCV and ICSAB:
Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB).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.

BLUE 08/28/17 08:00 Mike Arsenault, Chemist 08/28/17

BY90859

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

January 19, 2018

SDG I.D.: GBY90859

ICP Metals Narration

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.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 399464 (BY91258)

BY90861, BY90863, BY90879

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

Batch 399479 (BY89873)

BY90859

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? No.

QC Batch 399496 (Samples: BY90859): -----

The LCS/LCSD RPD exceeds the method criteria for one or more surrogates, therefore there may be variability in the reported result. (% DCBP (Surrogate Rec), % TCMX (Surrogate Rec))

Instrument:

AU-ECD1 08/29/17-1 Adam Werner, Chemist 08/29/17

BY90861, BY90863, BY90879

The initial calibration (PC718AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC718BI) 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.

AU-ECD24 08/29/17-1 Adam Werner, Chemist 08/29/17

BY90859

The initial calibration (PC808AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC808BI) 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 399454 (BY91498)

BY90861, BY90863, BY90879

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.

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RCP Certification Report

January 19, 2018

SDG I.D.: GBY90859

PCB Narration

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

Batch 399496 (BY90859)

BY90859

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: % DCBP (Surrogate Rec)(23.4%), % TCMX (Surrogate Rec)(26.0%)
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

SVOA Narration

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

QC Batch 399463 (Samples: BY90859): -----

The LCS and/or the LCSD 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. (2-Nitroaniline)

QC Batch 399476 (Samples: BY90861, BY90863, BY90879): -----

The QC recoveries for one or more analytes are below method criteria. A low bias is possible. (2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, Benzoic Acid)

A trace amount of an analyte was found in blank but were not reported in the sample(s), therefore no bias is suspected. (Di-n-butylphthalate)

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (4,6-Dinitro-2-methylphenol)

Instrument:

CHEM19 08/30/17-1 Damien Drobinski, Chemist 08/30/17

BY90859

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/SPLIT_0825):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.061 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM19/0830_02A-SPLIT_0825):
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: 2-Nitrophenol 0.063 (0.1)
The following compounds did not meet minimum response factors: None.

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RCP Certification Report

January 19, 2018

SDG I.D.: GBY90859

SVOA Narration

CHEM29 08/28/17-1 Damien Drobinski, Chemist 08/28/17

BY90861, BY90863, BY90879

Initial Calibration Verification (CHEM29/SPLIT_0824):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: 2-Nitrophenol 0.052 (0.1), Hexachlorobenzene 0.078 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM29/0828_04-SPLIT_0824):
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: 2-Nitrophenol 0.053 (0.1), Hexachlorobenzene 0.077 (0.1)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 399463 (BY89826)

BY90859

All LCS recoveries were within 30 - 130 with the following exceptions: 2-Nitroaniline(134%)
All LCSD recoveries were within 30 - 130 with the following exceptions: 2-Nitroaniline(144%)
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%)

Batch 399476 (BY91498)

BY90861, BY90863, BY90879

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 4,6-Dinitro-2-methylphenol(13%), Benzoic Acid(<10%)
All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 4,6-Dinitro-2-methylphenol(23%), Benzoic Acid(<10%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: 4,6-Dinitro-2-methylphenol(55.6%)
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%)

SVOASIM Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

January 19, 2018

SDG I.D.: GBY90859

SVOASIM Narration

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

QC Batch 399463 (Samples: BY90859): -----

A trace amount of an analyte was found in blank but were not reported in the sample(s), therefore no bias is suspected. (Bis(2-ethylhexyl)phthalate)

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (Hexachlorobutadiene)

Instrument:

CHEM04 08/30/17-1 Damien Drobinski, Chemist 08/30/17

BY90859

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

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

Initial Calibration Verification (CHEM04/SIM_0825):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: Pentachlorophenol 33% (20%)
The following compounds did not meet recommended response factors: Pentachlorophenol 0.046 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM04/0830_02-SIM_0825):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
94% of target compounds met criteria.
The following compounds did not meet % deviation criteria: Pentachlorophenol 117%H (30%)
The following compounds did not meet maximum % deviations: Pentachlorophenol 117%H (40%)
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 399463 (BY89826)

BY90859

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: Hexachlorobutadiene(21.0%)
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

Environmental Laboratories, Inc.
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RCP Certification Report

January 19, 2018

SDG I.D.: GBY90859

VOA Narration

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

QC Batch 399724 (Samples: BY90859): -----

The LCS and/or the LCSD 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. (trans-1,4-dichloro-2-butene)

Instrument:

CHEM02 08/29/17-1 Michael Hahn, Chemist 08/29/17

BY90859

Initial Calibration Verification (CHEM02/VT-P0825):
96% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 26% (20%), Bromomethane 30% (20%), trans-1,4-dichloro-2-butene 33% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.028 (0.05), 2-Hexanone 0.059 (0.1), 4-Methyl-2-pentanone 0.070 (0.1), Acetone 0.037 (0.1), Acrylonitrile 0.039 (0.05), Bromoform 0.076 (0.1), Methyl ethyl ketone 0.050 (0.1), Tetrahydrofuran (THF) 0.032 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0829P02-VT-P0825):
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 0.287 (0.3), 1,2-Dibromo-3-chloropropane 0.030 (0.05), Acrylonitrile 0.041 (0.05), Bromoform 0.080 (0.1), Tetrahydrofuran (THF) 0.031 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM03 08/28/17-2 Harry Mullin, Chemist 08/28/17

BY90860, BY90861, BY90863, BY90882

Initial Calibration Verification (CHEM03/VT-L0819):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: Acetone 0.083 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM03/0828L36-VT-L0819):
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 0.097 (0.1)
The following compounds did not meet minimum response factors: None.

CHEM03 08/29/17-1 Harry Mullin, Chemist 08/29/17

BY90879

Initial Calibration Verification (CHEM03/VT-L0819):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: Acetone 0.083 (0.1)

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NY # 11301

RCP Certification Report

January 19, 2018

SDG I.D.: GBY90859

VOA Narration

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

Continuing Calibration Verification (CHEM03/0829L02-VT-L0819):
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 399557 (BY91249)

BY90860, BY90861, BY90863, BY90882

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 399724 (BY90834)

BY90859

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: trans-1,4-dichloro-2-butene(138%)
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 399726 (BY91498)

BY90879

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%.

Temperature Narration

The samples were received at 4.2C 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: Clindall@trcsolutions.com

Customer: TRC
Address: 21 Griffin Rd N
Windsor, CT 06095

Project: ConnDOT - Stratford Signalization
Report to: Chris Lindall
Invoice to: ConnDOT ISA Form Needed
Phone #: (860) 298-6267
Fax #: (860) 298-6399

Project P.O: ConnDOT PO 179775

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 8/25/17

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	VOCs	SVOCs	ETPH	PCBs	RCRA 8 Metals	Cr	Soil VOA Vials [ ] methanol [X] H2O	GL Soil container (8) oz [X] HCl	40 ml VOA Vial [ ] As is [X] HCl	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ]250ml [ ]500ml [ ]1000ml	PL H2SO4 [ ]250ml [ ]250ml [ ]500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria (as is)	Bacteria (w/thio)	
90859	EB082517	W	8/25/17	0900	X	X	X	X	X	X			3	4			1				8
90860	SB082517-H	S		0910	X						3										3
90861	SIG-SB10 (0-2)	S		0920	X	X	X	X	X	X	3	1									4
90862	SIG-SB10 (2-4)			0925	X	X	X	X	X	X	3	1									4
90863	SIG-SB10 (4-6)			0930	X	X	X	X	X	X	3	1									4
90864	SIG-SB11 (0-2)			0940	X	X	X	X	X	X	3	1									4
90865	SIG-SB11 (2-4)			0945	X	X	X	X	X	X	3	1									4
90866	SIG-SB11 (4-6)			0950	X	X	X	X	X	X	3	1									4
90867	SIG-SB11 (6-8)			0955	X	X	X	X	X	X	3	1									4
90868	SIG-SB11 (8-9)			1000	X	X	X	X	X	X	3	1									4
90869	SIG-SB12 (0-2)			1030	X	X	X	X	X	X	3	1									4
90870	SIG-SB112 (0-2)	↓	↓	1035	X	X	X	X	X	X	3	1									4

Relinquished by:	Accepted by:	Date:	Time:
[signature]	Paradise	8/25/17	15:00

Comments, Special Requirements or Regulations:
- HOLD samples. Do NOT run. Will call with instructions
- Pricing per DAS contract #13PSX0173
- No sales tax for ConnDOT
- Send invoice to TRC

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 2 °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

Data Delivery:
☐ Fax #:
☒ Email: Clindahl@trcsolutions.com

Customer: TRC
Address: 21 Griffin Rd. N
Windsor, CT 06095

Project: ConnDOT - Stratford Signalization Project P.O: ConnDOT PO 179775
Report to: Chris Lindahl
Invoice to: ConnDOT ISP Form Needed
Phone #: (860) 298-6267
Fax #: (860) 298-6399

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: [signature] Date: 8/25/17

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	VOCs	SVOCs	ETPH	PCBs	RCRA 8 Metals Cr	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 [ ]1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria (as is)	Bacteria (w/thio)
90871	SIG-SB13 (0-2)	S	8/25/17	1040	X	X	X	X	X	X	3	1							4
90872	SIG-SB14 (0-2)			1045	X	X	X	X	X	X	3	1							4
90873	SIG-SB15 (0-2)			1210	X	X	X	X	X	X	3	1							4
90874	SIG-SB15 (2-4)			1215	X	X	X	X	X	X	3	1							4
	~~SIG-SB15 SIG~~			~~1220~~															(3R)
90875	SIG-SB115 (2-4)	S	8/25/17	1220	X	X	X	X	X	X	3	1							4
90876	SIG-SB15 (4-6)			1225	X	X	X	X	X	X	3	1							4
90877	SIG-SB15 (6-8)			1230	X	X	X	X	X	X	3	1							4
90878	SIG-SB15 (8-10)			1235	X	X	X	X	X	X	3	1							4
90879	SIG-SB16 (0-2)			1240	X	X	X	X	X	X	3	1							4
90880	SIG-SB16 (2-4)			1245	X	X	X	X	X	X	3	1							4
90881	SIG-SB16 (4-4.8)			1250	X	X	X	X	X	X	3	1							4

Relinquished by:	Accepted by:	Date:	Time:
[signature]	Paradise	8/25/17	15:00

Comments, Special Requirements or Regulations:
- HOLD samples. DO NOT run. Will call with instructions.
- Pricing Per DAS contract # 13PSX0173
- No sales tax for ConnDOT TB-LOW-90882
- Send invoice to TRC.

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

Loreen Fay

From: Loreen Fay
Sent: Monday, August 28, 2017 11:26 AM
To: Shannon Wilhelm (shannon@phoenixlabs.com)
Subject: FW: GBY90859
Attachments: Sample Acknowledgement.pdf

Shannon-Please see below, and take off hold thanks..

Loreen Fay
Administrative Assistant to the Vice President
Client Services - Project Manager
Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
Manchester, CT 06040
Ph: 860-645-3513
Fax: 860-645-0823

From: Lindahl, Christopher [mailto:CLindahl@trcsolutions.com]
Sent: Monday, August 28, 2017 11:20 AM
To: Loreen Fay
Subject: GBY90859

Please run the following samples from this group for all of the indicated analyses:

Phoenix ID	TRC ID
90861	SIG- SB10 (0-2)
90863	SIG- SB10 (4-6)
90879	SIG- SB16 (0-2)
90859	EB082517
90860	SB082517
90882	TB-Low

Thank you,

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APPENDIX C

DEFINITION OF RAYMARK WASTE

DEFINITION OF RAYMARK WASTE

Raymark Industries, Inc. Superfund Site

Stratford, Connecticut

The 33.5 acre Raymark Industries Inc. Superfund Site (Site) located in Stratford, Connecticut, has a long history of disposal of Raymark waste. Low lying areas on the property were filled in with Raymark waste for facility building expansions between 1919 and 1974. The Raymark waste used as fill was the by-product of on-site manufacturing operations and has been determined to contain volatile organic compounds, semi-volatile organic compounds, asbestos, lead, copper, and other metals, waste acids (pickling waste from metal parts cleaning), caustics (used to clean process kettles), and PCBs.

During the initial investigations of the Site, the on-site soils were characterized as fill (imported and process), native materials, and peat. These distinctions were the result of soil borings and an attempt to develop an understanding of which soils contained Raymark waste (ELI RCRA Facility Investigation Report, February 10, 1995) (See Attached Table 1).

When the on-site drilling was occurring, the soils that were categorized as fill were identified as either a granular imported fill (oftentimes with construction debris) or a fibrous process fill (manufacturing waste). The distinctions in fill type are described below:

> **Imported fill** – consisted predominately of sand, or sand and gravel, and may have included construction material (i.e. bricks, metal, etc). The level of chemical constituents (contamination) detected within this fill were generally lower (by an order of magnitude) than the process fill. Generally, imported fill was found directly below the pavement at over seventy-five percent of the Site (due to the systematic filling of the property over the years) and varied in thickness from one to two feet. Because the imported fill overlaid the process fill it is considered to have been placed in its location more recently than the process fill.
>
> **Process fill** – consisted of a black, fine grained aggregate that contained asbestos. This unit was typically fibrous and spongy in nature and contained asbestos rope, metal wire, and friction material fragments (brake liners). The distinguishing feature of this material was the visible asbestos fibers and black organic material that is similar in texture to peat. The process fill was found on approximately fifty percent of the Site, usually beneath the imported fill.

RJ draft 5/13/10
JK Comments 5/4/10
RJ draft 4/30/10

Data in historic reports presenting the results of these soil borings indicated that both fill units contained contamination, however, the process fill contained more of the manufacturing wastes from Raymark. In 2004, EPA, in consultation with CTDEP and a technical consultant of the Raymark Advisory Committee (RAC), performed an evaluation of the OU1 soil sampling results comparing historic data of process fill in an effort to develop a definition of Raymark waste (See Attached Table 1). From EPA's previous sampling and work at the Site, it was known that lead, asbestos, PCBs, and copper were the most common constituents of Raymark waste. The 2004 effort focused on these four constituents in an effort to determine the frequency of finding concentrations above risk based levels and to evaluate the frequency of these four constituents being located together (co-location). The risk based levels were lead above 400 ppm (residential exposure level), asbestos above 1% (NESHAPS criteria for indoor workplace), PCBs (Aroclor 1268 only) above 1 ppm (residential exposure level), and copper above 288 ppm (10x background, not risk based). These four constituents were individually found in a high percentage of the samples as follows:

- Lead above 400 ppm was found in 22 of the 27 samples;
- Asbestos (chrysotile only) above 1% was found in 27 of the 27 samples;
- Copper above 288 ppm was found in 23 of the 27 samples; and
- PCBs (Aroclor 1268) above 1 ppm were found in 19 of the 22 samples.

The issue of co-location of the individual constituents was then evaluated. Individually, lead above background (81 ppm) was found consistently in process fill (96% frequency, 26 of 27 samples) as was asbestos above 1% (100% frequency, 27 of 27 samples). However, a strong relationship was observed in their co-location (97% frequency, 26 of 27 samples). When the risk based level of 400 ppm for lead was applied (with asbestos remaining greater than 1%), their relationship remained significant (81% frequency, 22 of 27 samples). Because it was known that both lead and asbestos were widely used by Raymark in their manufacturing processes and because of the frequency of co-location of these two constituents, both lead and asbestos were determined to be inherent components in the identification of Raymark waste. These two constituents alone, however, were not unique to Raymark. Other manufacturers in Stratford (Tilo Industries, Carpenter Steel, and perhaps others) had also disposed of manufacturing wastes as fill throughout the Town that contained asbestos and/or lead as well.

Other constituents that were also used widely in the manufacturing processes at Raymark were then examined. Individually, copper 10x background (288 ppm) was found fairly consistently in process fill (85% frequency, 23 of 27 samples) as was PCBs (Aroclor 1268) above background (background was non-detect) (100% frequency, 27 of 27 samples). The following observations

were made concerning the co-location of copper and PCBs (Aroclor 1268) with that of lead and asbestos:

- The frequency of co-location of lead (400 ppm), asbestos (greater than 1%), **and** copper (above 288 ppm) was slightly less (78% frequency, 21 of 27 samples) than that of lead and asbestos alone (81% frequency, 22 of 27 samples).

- The frequency of co-location of lead (400 ppm), asbestos (greater than 1%), **and** PCBs (Aroclor 1268) was also slightly less (77% frequency, 17 of 22 samples) than that of lead and asbestos alone (81% frequency, 22 of 27 samples).

- The frequency of co-location of lead (400 ppm), asbestos (greater than 1%), **and either** copper (288 ppm) **or** PCBs (Aroclor 1268) was found to be the same as that of lead and asbestos alone (81% frequency, 22 of 27 samples).

With the frequency of the co-location of either copper and/or PCBs (Aroclor 1268) with both lead and asbestos (81%) being similar to that of observing just lead and asbestos together (81%), a definition of Raymark waste was determined. Given that there are other possible non-Raymark sources of lead and asbestos, requiring either copper and/or PCBs (Aroclor 1268) to be co-located with both lead and asbestos, provides further certainty that the waste originated from the former Raymark facility.

Based on the above, the following is the definition of Raymark waste:

> *Raymark waste in soil is defined as a single soil sample containing lead above 400 parts per million (ppm), and asbestos (chrysotile only) greater than 1 percent, and either copper above 288 ppm or polychlorinated biphenyls (PCBs) (Aroclor 1268 only) above 1 ppm.*

While other contaminants are present in Raymark waste, these four constituents are used as a "fingerprint" to identify Raymark waste locations. Again, the frequency of process fill meeting this definition was 81% (22 of 27 samples).

TABLE 1

EVALUATION OF SOIL RESULTS FROM RAYMARK OU1
LEAD, ASBESTOS, COPPER AND **AROCLOR 1268 IN COLOCATED SAMPLES**
RAYMARK INDUSTRIES, INC. SITE
STRATFORD, CONNECTICUT

			Process Fill				Imported Fill				Native Materials			
BORING	DEPTH_RANGE	Raymark Waste Present?	Lead (mg/kg)	Asbestos(%)	Copper (mg/kg)	Aroclor 1268 (ug/kg)	Lead (mg/kg)	Asbestos(%)	Copper (mg/kg)	Aroclor 1268 (ug/kg)	Lead (mg/kg)	Asbestos(%)	Copper (mg/kg)	Aroclor 1268 (ug/kg)
MW G4	2 - 10	No					23.2	**5**	34.4	**2800**				
MW I4	0 - 6	No					197	**10**	116	**1200**				
MW J4	2 - 8	**Yes**	**26000**	**20**	**28000**	**4300**								
MW K4-1	2 - 4	**Yes**	**23500**	**10**	**23900**	**60000**								
MW K4-1	6 - 12	No	284	**5**	**257**									
MW L4	2 - 8	**Yes**	**52700**	**20**	**1580**									
MW M4	4 - 8	**Yes**	**10900**	**10**	**8520**	**97000**								
MW O4	2 - 4	**Yes**					**3840**	**5**	**4010**					
MW W4	2 - 8	**Yes**	**34500**	**15**	**16900**	**130000**								
SB 1	2 - 6	**Yes**	**10800**	**10**	**7220**	**2800**								
SB 6	4 - 10	**Yes**	**16200**	**10**	**7530**	**43000**								
SB 7	8 - 12	**Yes**	**16700**	**15**	**7680**	**750000**								
SB 8	4 - 10	**Yes**	**10300**	**15**	**19900**									
SB 9-1	0 - 2	**Yes**					**5840**	**10**	**18300**	**6200**				
SB 10	2 - 6	No	374	**5**	113	**6400000**								
SB 12	6 - 10	**Yes**	**8760**	**10**	**13200**									
SB 13	2 - 6	**Yes**	**31700**	**20**	**19300**	**16000**								
SB 14	1 - 2	**Yes**	**1910**	**15**	**1960**	**15000**								
SB 19	6 - 10	**Yes**	**2450**	**10**	**4050**	1000								
SB 20	6 - 8	**Yes**	**47100**	**15**	**56900**	**150000**								
SB 21	2 - 8	**Yes**	**33000**	**15**	**8510**	**150000**								
SB 23	3 - 5	**Yes**					**900**	**15**	65.5	**4800**				
SB 24	2 - 6	No	122	**5**	**440**	**2700**								
SB 26	4 - 8	**Yes**	**16500**	**15**	**2480**	**130000**								
SB 26-1	0.5 - 2	No					57.2	**20**	49	**25000**				
SB 29	3 - 5	No					206	**5**	22.6	177				
SB 30	0.583 - 3	**Yes**					**5060**	**5**	**2380**	**60000**				
SB 30	5 - 7	**Yes**	**43800**	**20**	**3360**	**450000**								
SB 33	1 - 4	**Yes**					**740**	**10**	**4100**	**1100**				
SB 41	4 - 6	**Yes**	**1990**	**25**	82.7	**160000**								
SB 42	0 - 6	**Yes**	**2530**	**15**	**2970**	**39000**								
SB 44	1.5 - 4	No					320	**5**	**360**	**1100**				
SB 47	2 - 4	No					208	**5**	46.6					
SB 48-2	1 - 2	**Yes**					**3180**	**20**	**1220**	**99000**				
SB 48-2	5 - 6	No	319	**10**	**8240**	380								
SB 49	8 - 9.5	**Yes**									**2090**	**10**	**713**	
SB 50	2 - 6	No					151	**10**	55.1	**2700**				
SB 52-1	2 - 6	**Yes**	**7940**	**15**	**19200**									
SB 54	2 - 6	**Yes**	**5220**	**20**	**3300**	**2300**								
SB 55	2 - 6	No					149	**5**	14.8	**3300**				
SB 58	2 - 4	No					8.9	**5**	16	0				

TABLE 1

EVALUATION OF SOIL RESULTS FROM RAYMARK OU1
LEAD, ASBESTOS, COPPER AND **AROCLOR 1268 IN COLOCATED SAMPLES**
RAYMARK INDUSTRIES, INC. SITE
STRATFORD, CONNECTICUT

			Process Fill				Imported Fill				Native Materials			
BORING	DEPTH_RANGE	Raymark Waste Present?	Lead (mg/kg)	Asbestos(%)	Copper (mg/kg)	Aroclor 1268 (ug/kg)	Lead (mg/kg)	Asbestos(%)	Copper (mg/kg)	Aroclor 1268 (ug/kg)	Lead (mg/kg)	Asbestos(%)	Copper (mg/kg)	Aroclor 1268 (ug/kg)
SB 60	1 - 4	No					297	**5**	228	**1800**				
SB 68	4 - 8	**Yes**	**30200**	**10**	**13400**	**230000**								
SB 70	4 - 8	No					5.2	**15**	17.5	40				
SB 71	2 - 4	No					18	0	13.9	470				
SB 75	5 - 6	No					1.7	0	13.5	0				
SB 77	1 - 4	No					79.9	**10**	63.8	**4400**				
SB 77	5.25 - 8	No	55.2	**10**	146	220								
# Samples			27	27	27	22	20	20	20	18	1	1	1	0
#Detects			27	27	27	22	20	18	20	16	1	1	1	0
minimum concentration (mg/kg)			55	5	83	220	2	0	14	0	2,090	10	713	0
maximum concentration (mg/kg)			52,700	25	56,900	6,400,000	5,840	20	18,300	99,000	2,090	10	713	0
mean concentration (mg/kg)			16,143	14	10,338	401,532	1,064	8	1,556	11,894	2,090	10	713	
median concentration (mg/kg)			10,800	15	7,530	51,500	202	5	59	2,250	2,090	10	713	
# Samples>bkg			26 (96%)	27 (100%)	27 (100%)	22 (100%)	13 (65%)	18 (90%)	14 (70%)	16 (89%)	1 (100%)	1 (100%)	1 (100%)	NA
# Samples>10xbkg			22 (81%)	27 (100%)	23 (85%)	22 (100%)	7 (21%)	18 (90%)	6 (30%)	16 (89%)	1 (100%)	1 (100%)	1 (100%)	NA
# Samples>100xbkg			16 (59%)	27 (100%)	19 (70%)	22 (100%)	0 (0%)	18 (90%)	3 (15%)	16 (89%)	0 (0%)	1 (100%)	0 (0%)	NA
# Samples>Raymark Waste Criterion			22 (81%)	27 (100%)	23 (85%)	19 (86%)	6 (30%)	18 (90%)	5 (25%)	13 (72%)	1 (100%)	1 (100%)	1 (100%)	NA
# Samples with Lead>bkg where Asb>1			26 of 27 (97%)				13 of 20 (65%)				1 of 1 (100%)			
# Samples with Lead>400 mg/kg where Asb>1			22 of 27 (81%)				6 of 20 (30 %)				1 of 1 (100%)			
# Samples Meeting the Definition of Raymark Waste (Exceeding lead, asbestos, and copper)			21 of 27 (78%)				5 of 20 (25 %)				1 of 1 (100%)			
# Samples Meeting the Definition of Raymark Waste (Exceeding lead, asbestos, and Aroclor 1268)			17 of 22 (77%)				5 of 18 (28%)				0 of 0 (0%)			
# Samples Meeting the Definition of Raymark Waste (Exceeding lead, asbestos, and either copper or Aroclor 1268)			22 of 27 (81%)				6 of 20 (30%)				1 of 1 (100%)			

Notes:

-Evaluated data only include Phase IIB soil samples collected by ELI from OU1.

-Bolded values exceed the criterion from the Raymark Waste definition (400mg/kg lead; 1% asbestos; 288 mg/kg copper; 1,000 ug/kg Aroclor 1268).

-Background (bkg) lead and copper concentrations were calculated as the average of results from samples collected at schools, daycare facilities and parks where it was assumed Raymark waste was not disposed (80.8 mg/kg lead;28.8 mg/kg copper; No PCBs and No asbestos).

-48 samples were analyzed for both lead and asbestos. Only 2 samples analyzed for asbestos had no asbestos. Those samples also had lead less than background.

-26 of 27 samples from process fill contained lead above background and asbestos >1.

-22 of 27 samples from process fill contained lead above 400 mg/kg and asbestos >1.

-22 of 27 samples from process fill met the definition of Raymark Waste.