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PHASE III DATA GAP INVESTIGATION REPORT FORMER DANIEL'S MILL 98 East Main Street Vernon, Connecticut

December 2019

File No. 05.0045441.06



PREPARED FOR:

Town of Vernon
Vernon, Connecticut

GZA GeoEnvironmental, Inc.

95 Glastonbury Boulevard, 3rd Floor | Glastonbury, CT 06033
860-286-8900

31 Offices Nationwide
www.gza.com

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95 Glastonbury Boulevard
3rd Floor
Glastonbury, CT 06033
T: 860.286.8900
F: 860.633.5699
www.gza.com



December 13, 2019
GZA File No. 05.0045441.06

Mr. Shaun Gately
Economic Development Director
Town of Vernon
Memorial Building
14 Park Place, 3rd Floor
Vernon, Connecticut 06066-3291

Re: Phase III Data Gap Investigation Report
Former Daniels's Mill
Vernon, Connecticut

Dear Mr. Gately:

GZA GeoEnvironmental, Inc. (GZA), on behalf of the Town of Vernon, has prepared this Phase III Data Gap Investigation Report for the former Daniel's Mill property located at 98 East Main Street in Vernon, Connecticut (Site). The investigations described herein were designed to evaluate certain data gaps identified based on our review of the available reports and our Phase II investigation program. The results of these investigations were used to determine the nature and extent of potential releases to the environment from former Site operations, evaluate the distribution and extent of polychlorinated biphenyl (PCB) impacts within interior building materials to determine the applicability of the Toxic Substances Control Act (TSCA) and potential abatement requirements for future Site development activities. GZA also assessed whether remedial actions will be required to achieve compliance with the remedial criteria established under the Connecticut Remediation Standard Regulations (RSRs).

The work outlined herein was completed in accordance with our Agreement dated November 2, 2015 and Change Notices Nos. 4, 5, and 6 and is subject to the Terms and Conditions of our Agreement and the Limitations presented in Appendix A.

Should you have any questions, please feel free to contact the undersigned.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Benjamin D. Rach
Project Manager

David Rusczyk, P.E.
Associate Principal

Kathleen Cyr, LEP, P.E.
Consultant/Reviewer



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1.0 INTRODUCTION

GZA GeoEnvironmental, Inc. (GZA), on behalf of the Town of Vernon, has prepared this Phase III Data Gap Investigation Report for the former Daniel’s Mill property located at 98 East Main Street in Vernon, Connecticut (the “Site”). The investigations described herein were designed to evaluate certain data gaps identified based on our review of the available reports and our Phase II investigation program. The results of these investigations were used to determine the nature and extent of potential releases to the environment from former Site operations and whether remedial actions will be required to achieve compliance with the remedial criteria established under the Connecticut Remediation Standard Regulations (RSRs). The investigations outlined herein were also designed to evaluate the distribution and extent of polychlorinated biphenyl (PCB) impacts within interior building materials to determine the applicability of the Toxic Substances Control Act (TSCA)¹ to potential future Site development activities.

The scope of our Phase III data gap investigation program was developed based on our review of the following reports:

- Apex Companies LLC., *Phase I Environmental Site Assessment*, Daniel’s Management, Inc., October 2011 (2011 Phase I ESA);
- Fuss & O’Neill, Inc., *Phase I Environmental Site Assessment*, Former Daniel’s Mill, December 2014 (2014 Phase I ESA); and,
- GZA GeoEnvironmental, Inc., *Phase II Environmental Site Assessment*, September 2015 (Phase II ESA).

This report is subject to the Limitations presented in Appendix A.

2.0 BACKGROUND

Site background information was obtained from a review of the 2011 and 2014 Phase I ESAs and our Phase II ESA. This information was supplemented with a review of available on-line (CT-ECO website) geologic and groundwater classification maps published by the State of Connecticut.

2.1 SITE DESCRIPTION AND HISTORY

The Site is located at 98 East Main Street in an industrial zone of Vernon, Connecticut and consists of an approximate 1-acre parcel of land about where shown on Figure 1. The Site is the location of the former Daniel’s Mill, which was built in approximately 1855. The Site is improved with a six-story (including basement and attic) historical mill building with a footprint measuring approximately 9,000 square-feet. The north side of the Site building is located approximately 8 to 10 feet off the edge of East Main Street. Several underground storage tanks (USTs) which appear to have been installed within a concrete vault(s) are present within the narrow strip of land between the East Main Street sidewalk and the building. Areas to the west of the Site building are currently predominantly asphalt paved. A narrow-grassed area is located to the east of the building. The Hockanum River runs from east to west through the abutting former Amerbelle Textile Mill property in a stone lined raceway and discharges to the American Mill Pond located adjacent to the south and west of the Site. Historically, a portion of the river was diverted through the Daniel’s Mill building via a raceway pipe to provide power to the former mill facility.

¹ TSCA is federal legislation used to regulate the manufacture, use, distribution, storage and disposal of certain substances. For this Site, 40 CFR 761 specifically regulates PCBs.



The Site is abutted by East Main Street to the north, the former Amerbelle Textile Mill to the east, American Mill Pond to the south and west, and by a former industrial facility to the west. The Site was most recently serviced by municipal water and sanitary sewer, natural gas, and electric services; however, the water service has been shut-off since the building is vacant and the building is no longer being heated.

A locus plan showing the Site location and surrounding topographic features is presented in Figure 1 and a Site plan depicting pertinent features is presented in Figure 2.

The Site was reportedly developed as a textile mill which manufactured cotton, stockinet, and wool products between 1855 and 1951. After 1951, the Site was occupied by several different tenants as follows:

Year	Name	Description
1951-1978	Albi Manufacturing Company	Producer of fire-retardant paints and mastic
1952-1971	Double B Products	Producer of insecticides and paints.
1960	Conversion Chemical Corporation	No description in previous reports
1960-1970	Outboard Shop & Sports Center	No description in previous reports
1985-2000	Hockanum Salvage, Inc.	No description in previous reports
1985	C&C Products Inc.	No description in previous reports
1985	Furnace Brokers	No description in previous reports

The 2014 Phase I ESA indicates the Site building was most recently occupied by Band Room & Studio Rentals, Sol Cantor Electric, AI Enterprises (sheet metal workshop), Daniel’s Mill Self Storage and Charity Storage in the 2014 timeframe. However, the building is currently vacant.

2.2 PHYSIOGRAPHIC SETTING

The Site is located within the Hockanum River Valley in the northeastern portion of Vernon, Connecticut. The land surface rises steeply to the north and south of the Site. Land to the east of the Site is relatively flat while the ground surface drops away steeply to the west. The elevation of the ground surface at the Site drops off steeply from approximately elevation 466 feet Mean Sea Level (MSL) to elevation 430 MSL (southwest) along the edges of the American Mill Pond which borders the Site to the south and west.

2.3 BEDROCK AND SURFICIAL GEOLOGY

The *Surficial Materials Map of Connecticut*, USGS (Stone, et. al., 1992) indicates that glacial ice-laid deposits consisting of glacial till are present at the Site. In general, overburden materials were observed to consist of sands and silts with various amounts of gravel, cobbles and boulders encountered at depth. Foreign materials, such as glass, brick, and asphalt fragments were observed in shallow soils at several borings indicating the historical placement of fill at the Site at thicknesses up to 15-feet in the southeastern portion of the Site. The thickness of the overburden materials (above bedrock) was found to vary across the Site, from less than 2 feet beneath the basement of the building to 20 feet below grade in the southeastern (at monitoring well MW-2) and southwestern (monitoring well MW-1) portions of the Site. According to the *Bedrock Geological Map of Connecticut* (Rodgers, Yale University, 1985), bedrock beneath the Site is mapped as the Glastonbury Gneiss, consisting of light-colored medium to coarse grained, well foliated, granitic gneiss.



2.4 HYDROGEOLOGY

Groundwater in the Site area is classified by the Connecticut Department of Energy and Environmental Protection (CTDEEP) as GB, which indicates that the groundwater may not be suitable for human consumption due to spills, waste discharges, or other land use impacts. According to the *Water Quality Classifications Map Vernon* (CTDEEP, October 2018), the nearest drinking water supply well is located approximately 3 miles to the southwest of the Site.

GZA’s field observations indicated that depth to groundwater ranged from approximately 19 feet below ground surface (bgs) on the west side of the Site building to approximately 32 feet bgs on the east side of the Site building and the surface of the groundwater table at the Site appears to be at or below the bedrock surface. Based on Site topography and GZA’s depth to groundwater measurements, groundwater is inferred to flow to the southwest toward American Mill Pond. The American Mill Pond is classified by the State of Connecticut as a Class B Surface Water (CTDEEP, 2013). Such inland surface waters are known or presumed to be suitable for the following designated uses: recreational use, fish and wildlife habitat, agricultural and industrial supply, and other legitimate uses (CTDEEP, 2013).

2.5 SUMMARY OF PREVIOUS INVESTIGATIONS

The 2011 Phase I ESA identified the following 8 Recognized Environmental Conditions (RECs) that could have resulted in the release of hazardous substances or petroleum products at the Site:

1. Historic Site usage as former fireproof paint, wax and insecticide manufacturers
2. 1,000-gallon aboveground storage tank (AST) located within northeast corner of basement
3. Twelve (12) 425-gallon ASTs located on an exterior concrete platform
4. Former 1,000-gallon UST located beneath collapsed building
5. Two former 2,000-gallon USTs located beneath the loading dock
6. Exterior 4,000-gallon UST located along the northern portion of building
7. Potential USTs located along northern portion of building
8. Abutting Brownfield Site

The 2014 Phase I ESA identified the following 7 RECs associated with the Site:

1. Former Furnace & Fuel-Oil AST Area (basement)
2. Former Floor Drain (basement)
3. Historical AST Storage Area
4. Former/Current USTs
5. Loading Dock
6. Former Pad-Mounted Transformer
7. Urban Fill

According to the 2014 Phase I ESA, “activities that would qualify the facility as an “establishment” have not been identified.” However, the 2014 Phase I ESA further indicates, wastes may have been generated at the Site prior to the promulgation of the Resource Conservation and Recovery Act (RCRA) in 1976.

After reviewing the findings in the 2011 and 2014 Phase I ESA reports, GZA prepared a consolidated list of RECs for the Site. Note certain RECs identified in the Phase I ESAs were combined by GZA due to their proximity to one another and their similarity in operations. The following RECs were assessed as part of GZA’s Phase II investigations in July and August 2015.



1. REC 1 - Parking lot (urban fill)
2. REC 2 - Two former fuel oil USTs below former loading dock
3. REC 3 - Loading dock
4. REC 4 – Six former/current USTs along northern side of the Site building
5. REC 5 - Former boiler and AST in northwest corner of basement
6. REC 6 - Historic use of the building
7. REC 7 - Former exterior solvent ASTs (on platform adjacent to elevator)
8. REC 8 – Former transformer area

The locations of these RECs are shown on Figure 3. In addition to these RECs, Site groundwater quality was evaluated during the Phase II investigation program

GZA’s Phase II investigation program included the performance of 20 borings, the collection and analysis of 15 soil samples, the collection and analysis of 3 sub-soil vapor samples, collection and analysis of 1 ambient indoor air sample, the installation of 2 groundwater monitoring wells, and the collection and analysis of 2 groundwater samples. Table 1 describes each REC, the conceptual mechanisms for potential releases of contaminants to the environment for each REC, indicates whether a release was detected to the environment during the Phase II investigations, and whether the release exceeded the numeric criteria within the RSRs. The following provides a brief summary of GZA’s Phase II subsurface testing program:

- Fill materials were identified below, west, and east of the Site building. These fill materials were found to contain trace concentrations of metals and polycyclic aromatic hydrocarbons (PAHs). Fill materials on the eastern side of the Site appear to be impacted with PCBs, PAHs and metals (arsenic and lead) at concentrations above the Industrial/Commercial Direct Exposure Criteria (I/C-DEC) and the GB Pollutant Mobility Criteria (GB-PMC) (PAHs only).
- A release of PCBs and volatile organic compounds (VOCs) was detected in shallow soils just below pavement within REC-3 (western loading dock). The VOC impacts were below the RSR criteria and the PCB concentration in one soil sample (B-2, 0.5-2’) was above the Residential Direct Exposure Criteria (R-DEC) of 1 mg/kg.
- A release of trimethylbenzenes from one or more of the USTs (REC-4) located between East Main Street and the Site building was identified. The sample was collected from a boring within the basement of the building in an inferred downgradient direction from the USTs at a depth of 6 to 6.5 feet below the basement floor. The detected trimethylbenzene concentrations were below the numeric RSR criteria.
- VOCs and PAHs were detected in sub-slab soil samples from certain borings located in the basement of the Site building (REC-6) at concentrations below the numeric RSR criteria but indicative of a release to the environment. Extractable total petroleum hydrocarbons (ETPH) were also detected in sub-slab soils and the detected ETPH concentration in one of the samples exceeded the R-DEC of 500 mg/kg. PCBs were detected beneath the basement floor of the Site building at concentrations ranging from 0.8 mg/kg to 91 mg/kg. The detected PCB concentrations in 3 samples were above the R-DEC of 1 mg/kg and in 2 samples also above the I/C-DEC of 10 mg/kg. The detected VOC, PAH, ETPH and PCB impacts appear to indicate releases from historic Site operations have impacted soils below the basement floor of the building.
- VOC, metals (arsenic, copper, and lead), and PAHs impacts were identified in Site groundwater at monitoring well MW-2, east of the Site building. The metals concentrations were above the numeric Surface Water Protection Criteria (SWPC).



The detected VOC and PAH impacts were below the numeric RSR criteria. Dieldrin impacts were also noted in groundwater samples from both monitoring wells MW-1 (west of the Site building) and MW-2 but at concentrations below the numeric RSR criteria.

As indicated in Table 1, the Phase II subsurface testing program did not identify evidence of releases to Site soil within REC-1, REC-2, REC-5, REC-7, and REC-8.

3.0 PHASE III SCOPE OF WORK

The objectives of our Phase III data gap investigation program were as follows:

- 1) Evaluate the extent and degree of the identified soil impacts at RECs-3, 4 and 6. Subsequent to the performance of the Phase II investigation program, these release areas were renamed as Area of Concern-3 (AOC-3), AOC-4, and AOC-6;
- 2) Further evaluate Site groundwater quality;
- 3) Assess the size of the USTs on the north side of the building and the methods used to install them; and,
- 4) Evaluate PCB concentrations in sub-slab soils and interior building materials (i.e., concrete flooring, wood flooring, and paint).

3.1 TEST BORINGS AND SOIL SAMPLING

Between 2017 and 2019, GZA advanced 56 soil borings at the Site using either a GeoProbe® direct-push unit or portable, hand-held sampling equipment. Boring locations are shown on Figure 3. The recovered soil samples were observed in the field by GZA’s staff for indicators of a release (e.g., staining, discoloration and/or odors) and grain size descriptions of the samples were recorded using a modified Burmister soil classification system. Soil samples were placed in clean glass jars and field screened for organic vapors with a photo-ionization detector (PID). Soil sample grain size descriptions, field observations and PID field screening readings were recorded on soil boring logs presented in Appendix B of this report.

The soil borings were advanced to depths ranging from 1 to 23 feet bgs. GZA notes, at many boring locations below the Site building, sampler refusal was encountered on the presumed bedrock surface. Exposed bedrock is present in the northeast corner of the basement. Subsurface materials generally consisted of fill containing fine to coarse sands and silts with varying degrees of gravel, cobbles and boulders. Debris observed in fill materials included asphalt fragments, brick and glass as noted on the soil boring logs in Appendix B.

Representative soil samples were placed in certified clean containers supplied by the analytical laboratory and preserved in accordance with the analytical methodology. All soil samples were placed on ice in coolers and submitted under chain of custody control to Phoenix Laboratories (Phoenix) of Manchester, Connecticut, a Connecticut Department of Health Services certified environmental laboratory, for analysis of one or more of the following parameters:

- VOCs via EPA Method 8260 and leachable VOCs via Methods 1312 (SPLP method)/8260B;
- Total PAHs via EPA Method 8270D and leachable PAHs via Methods 1312/8270D;
- ETPH via the Connecticut Department of Health Services methodology;
- Total and SPLP arsenic and lead using EPA Methods 6010, 7471 and 1312; and
- PCBs via EPA Method 3540 (manual soxhlet extraction)/8082.



Chain of custody control was maintained for the samples until they were received by the laboratory. Laboratory analytical reports and chain of custody records for the soil samples are provided in Appendix C. Soil analytical results are summarized in Tables 3A, 3B, 3D, and 3E.

3.2 GROUNDWATER SAMPLING

GZA sampled groundwater from existing bedrock monitoring wells MW-1 and MW-2 to further assess groundwater quality at the Site. Prior to sampling, GZA measured and recorded the depth to groundwater within each well. Groundwater was sampled using peristaltic or bladder pumps with the end of the sampler positioned at the approximate midpoint of the saturated portion of the well screen. Groundwater was purged from the well prior to collecting a sample following EPA low stress/low flow sampling procedures. Under these procedures, groundwater was extracted from the wells at low flow rates that would induce a minimum amount of groundwater drawdown (<0.3 feet) and create minimum turbidity (<5 NTUs) during sampling.

Groundwater quality parameters (oxidation reduction potential [ORP], dissolved oxygen, temperature, specific conductivity, and pH) were monitored during purging within an enclosed flow-through cell using a YSI 556 water quality meter. The turbidity of the purged groundwater was also measured outside the cell using a Micro TPI turbidity meter. Turbidity and water quality parameters were measured at approximately 3 to 5-minute intervals until field parameter readings were stable following EPA guidelines. Groundwater monitoring data was recorded on field data sheets during well purging and sampling. Copies of the field data sheets are included in Appendix D.

When groundwater monitoring parameters were shown to have reached stable conditions, samples were collected at a constant low flow extraction rate. The samples were placed in certified clean pre-preserved containers supplied by the laboratory, placed in coolers on ice, chilled to approximately 4° C and submitted under chain of custody control to Phoenix for analysis of one or more of the following parameters: VOCs via EPA Method 8260, PAHs using EPA Method 8270D, and select metals using EPA Method 6010². Chain of custody control was maintained for the samples from collection until delivery to the laboratory.

Table 5 summarizes the laboratory results for the groundwater samples. Copies of the laboratory reports with sample chains of custody records are presented in Appendix E.

3.3 BUILDING MATERIALS SAMPLING

GZA collected two rounds of samples of building materials to assess the presence and distribution of PCBs within the interior of the building. A total of 120 samples were collected from concrete and wood flooring, wood beams and columns, wood ceilings, wood trusses, mastics, brick and masonry surfaces, plaster surfaces, and paints. Samples were collected in ½-inch increments using concrete hammer drills or wood boring drill bits with the exception of caulk, paint or mastic samples. Caulks, paint, and mastic samples were collected using hand-held tools. Sampling equipment was decontaminated between sampling locations to mitigate potential cross contamination.

The samples were analyzed for PCBs via EPA Method 3540 (manual soxhlet extraction)/8082. The analytical results are summarized in Table 6 and the laboratory analytical reports for the building materials testing are presented in Appendix F.

² Metals include arsenic, barium, cadmium, chromium, copper, and lead.



4.0 SUMMARY OF PHASE III DATA GAP INVESTIGATIONS AND COMPARISON TO THE REMEDIATION STANDARD REGULATIONS (RSRs)

The following sections evaluate the results of our Phase III data gap investigation program in the context of the RSRs. Sampling locations are shown on Figure 3. The results of laboratory analyses of samples collected during this investigation are presented in Tables 3A, 3B, 3C, 3D, 3E, and 5. Boring logs documenting subsurface conditions encountered are included in Appendix B. Copies of laboratory analytical reports for soil samples are included in Appendix C and groundwater reports are in Appendix E.

4.1 AOC 3: LOADING DOCK

In 2015, GZA completed two borings (B-1 and B-2) to depths of approximately 14.5 and 20.5 feet bgs, respectively, immediately adjacent to this loading dock. Both borings were drilled to refusal (presumed to be the top of the bedrock surface). One shallow sample from directly below the asphalt pavement from each boring (0.5 to 2 feet bgs) was submitted to the laboratory for VOC, PAHs, ETPH, PCBs, metals (total and leachable) and pesticide analysis. Boring B-2 was also advanced into bedrock to a depth of 32 feet bgs and converted to a bedrock monitoring well (MW-1).

Pesticides, PAHs, and ETPH were not detected in the two soil samples at concentrations above the analytical reporting limit. In the boring B-2 sample, toluene was detected at a concentration of 0.0057 mg/kg, below the R-DEC and GB-PMC. VOCs were not detected in the sample from boring B-1. Metals (arsenic, barium, chromium, copper, lead, and mercury) were detected in the samples from both borings but at concentrations below the R-DEC. Leachable lead was detected in the sample from boring B-2 at a concentration of 0.015 mg/L below the GB-PMC of 0.15 mg/L. PCBs were also detected at a concentration of 6 mg/kg in the sample from boring B-2 above the R-DEC of 1 mg/kg. PCBs were not detected in the sample from boring B-1.

Based on these results, a release of VOCs and PCBs was identified proximate to this loading dock and further investigations were necessary to assess the potential source and the degree and extent of impacts in the vicinity of the loading dock.

Phase III Investigations

Two rounds of Phase III investigations were performed within AOC-3. During the first round, GZA performed borings B-21 through B-24 in the vicinity of the loading dock area. As indicated on Figure 3, borings B-21, B-22, and B-24 were performed to the west, south, and north of boring B-2 to evaluate the lateral extent of the VOC and PCB impacts in this area and boring B-23 was performed adjacent to boring B-2 to evaluate the vertical extent of the VOC and PCB impacts at boring B-2. Select soil samples from each boring were analyzed for VOCs (4 samples) and PCBs (5 samples).

VOCs were not detected above the laboratory reporting limits in the samples tested.

PCBs were detected in samples B-22 (0.5-2') and B-23 (2-4') at concentrations of 3.1 mg/kg and 0.3 mg/kg, respectively. The detected PCB concentration in sample B-22 (0.5-2') was above the R-DEC of 1 mg/kg. PCBs were not detected above the laboratory reporting limit in the samples from borings B-21 and B-24 and a deeper sample from boring B-22 (4-6' bgs).

The second round of investigations was designed to evaluate the potential applicability of the TSCA to this area and to further evaluate the extent of PCB impacts. The second round of investigations included the performance of 7 borings (B-22A, B-22B, B-23A, B-23B, B-35, B-35A and B-58) and the collection of soil samples in 3-inch intervals for PCB analysis. As presented in Table 3A, the analytical results indicated the following:



- PCBs were detected in each of the 4 samples from adjacent borings B-22A and B-22B at concentrations ranging from 0.3 mg/kg (B-22B, 45-48”) to 2.4 mg/kg (B-22A, 36-39”). The detected PCB concentrations in samples B-22A, 30-33” and B-22A, 36-39” were above the R-DEC of 1 mg/Kg.
- PCBs were detected in samples B-23A (12-15” and 21-24”) at concentrations of 2.8 and 1.7 mg/kg, respectively above the R-DEC of 1 mg/kg. The deeper sample from adjacent boring B-23B (33-36”) had a reported PCB concentration of 0.55 mg/kg below the R-DEC of 1 mg/kg.
- PCBs were detected in sample B-35 (10.5-13.5”) at a concentration of 26 mg/kg above the I/C-DEC of 10 mg/kg. PCBs were not detected in the deeper sample from adjacent boring B-35A (21-24”) above the laboratory reporting limit.
- PCBs were detected in sample B-58 (10-13”) at a concentration of 0.16 mg/kg below the R-DEC of 1 mg/kg.

Findings

Based upon the results of the Phase II and III investigations, a release of VOC and PCB containing materials was identified in the vicinity of this loading dock. The detected VOC impacts were below the applicable numeric RSR criteria and no further action is proposed for the identified VOC release.

The detected PCB impacts exceeded the R-DEC and the I/C-DEC (one sample) and are bounded laterally to the north by boring B-24, to the west by borings B-21 and B-58, to the east by the building, and by a retaining wall between the paved loading dock area and the steep slope down to American Mill pond to the south. We note, based on historical drawings of the facility, it appears that the loading dock in this area may have extended at one point to the southwest over 2 former USTs. The retaining wall may be remnants of the rear foundation wall for the former loading dock. The PCBs impacts extend to depths ranging from 2 feet to 4 feet bgs.

A potential source of the identified impacts within this AOC is releases of PCB and/or VOC containing materials that were formerly managed at the loading dock to the ground surface. Given this release model, the highest concentrations would be anticipated to be located directly below the asphalt pavement. However, in certain locations (B-22/B-22A, B-23/B-23A and B-35/B-35A), the highest PCB concentrations were observed approximately 10 to 39-inches bgs. Given this discrepancy in the release model, it is possible that fill was imported to backfill this area after the historic removal of the southwestern portion of the loading dock and the underlying USTs.

4.2 REC 4: CURRENT/FORMER USTs – NORTH SIDE OF BUILDING

The Phase I ESA reports indicated 6 USTs were present along the north side of the building between the building and East Main Street. The contents of these tanks were reported to include butyl acetate, isopropanol, butanol, No. 2 fuel oil, 2-nitropropane, and formoel. The fuel oil tank reportedly had a 6,000-gallon capacity; however, the size of the other 5 USTs are not known.

As part of our Phase II investigation, GZA completed three borings (B-15, B-16, and B-17) to depths of 3, 6.5, and 5 feet below the basement floor, respectively. Due to the limited space available for the performance of explorations proximate to the USTs, the uncertainty regarding the size of the USTs, and the presence of below grade utilities along East Main



Street, the borings were performed inside the building basement in a presumed downgradient direction from the USTs. The borings were drilled to refusal (which is inferred to be the bedrock surface). The 0.5 to 2-foot samples from borings B-15 and B-17 and a deeper sample (6 to 6.5 feet) from boring B-16 were submitted to the laboratory for VOC, PAHs, alcohols, and ETPH analysis. The deeper sample from boring B-16 was selected for analysis due to elevated field screening results and the presence of a chemical odor.

Alcohols, PAHs and ETPH were not detected in the 3 soil samples analyzed at concentrations above the laboratory reporting limit. 1,2,4 trimethylbenzene (19 mg/kg), 1,3,5 trimethylbenzene (5.2 mg/kg), and n-propylbenzene (2.5 mg/kg) were detected in the deeper sample from boring B-16. These compounds do not have promulgated RSR criteria, however concentrations were below the values CTDEEP has indicated are approvable for site-specific use as Additional Polluting Substances (APS). VOCs were not detected above the laboratory reporting limit in the samples from borings B-15 and B-17.

Phase III Investigations

In order to further evaluate the nature of the VOC detections in soil beneath the basement of the building, GZA completed boring B-16A adjacent to previous boring B-16. Boring B-16A was advanced to a depth of 6.5 feet below the basement floor before encountering refusal (which is inferred to be the bedrock surface). A soil sample from 6 to 6.5-feet was submitted to the laboratory for leachable VOC analysis via the Synthetic Precipitation Leaching Procedure (SPLP). As indicated in Table 3B, leachable VOCs were not detected in the B-16A soil sample above the laboratory reporting limit.

GZA also engaged an earthwork contractor to perform test pits on the north side of the building to expose the tops of the USTs and allow evaluation of the size of the tanks and the methods used to install them. During the performance of these test pits, the interiors of the tanks were also accessed via either cutting the fill or vent pipes with a reciprocating saw to determine whether any liquids were present. Samples were collected of the liquids from three of the tanks for analytical testing for VOCs, semi-volatile organic compounds (SVOCs), RCRA-8 metals, total organic carbon, flashpoint, and BTU content. Analytical testing results are summarized in Table 3C and the laboratory analytical data report is included in Appendix G. Upon completion of the work, the fill/vent pipes were sealed with caps.

Based on the observations made during the test pitting, it appears that the USTs are potentially staged within a concrete vault(s) with sand backfill surrounding each tank and a 4 to 5-inch thick concrete pad across the top of the USTs. However due to access constraints, GZA could not excavate along the sides of the USTs or determine whether the vault is equipped with a concrete base. A description of each tank and the amount of liquid present (if any) is as follows:

- Tank No. 1 – This tank has an approximately 5-foot diameter and approximately 2-inches of liquid was present within the tank. The liquid was clear and did not have an odor. The liquid did not contain VOCs or SVOCs at concentrations above the reporting limit other than a low detection of methylene chloride (12 µg/L). The flashpoint of the liquid was greater than 200 degrees Celsius and the liquid was not flammable.
- Tank No. 2 - This tank has an approximately 5-foot diameter and approximately 2-inches of liquid was present within the tank. The liquid was clear and did not have an odor. The liquid did not contain VOCs or SVOCs at concentrations above the reporting limit other than a low detection of methylene chloride (1.3 µg/L). The flashpoint of the liquid was greater than 200 degrees Celsius and the liquid was not flammable.
- Tank No. 3 - This tank has an approximately 5-foot diameter and liquids were not present within the tank.



- Tank No. 4 - This tank has an approximately 6-foot diameter and approximately 30-inches of liquid was present within the tank. The liquid contained a fuel oil odor.
- Tank No. 5 - This tank has an approximately 5-foot diameter and liquids were not present within the tank.
- Tank No. 6 - This tank has an approximately 7-foot diameter and appeared to be full of a liquid that contained a glycol odor. The liquid contained methyl ethyl ketone at a concentration of 26,000 µg/L and toluene at a concentration of 2,500 µg/L. The flashpoint of the liquid was 112 degrees Celsius and the liquid was flammable.

Findings

A release of petroleum related VOCs (trimethylbenzenes and n-propylbenzene) was detected beneath the northwestern portion of the basement of the Site building at concentrations below APS R-DEC and GB-PMC. The source of these VOC impacts is inferred to be the fuel oil UST located directly north and upgradient of the Site building; however due to access constraints and the presence of below grade utilities, it was not feasible to collect samples directly adjacent to or below the USTs. Additional sampling will be required to assess the extent of any releases from the USTs north of the Site building and the need to perform remedial activities. This sampling would be performed after the contents of the tanks are removed and the interiors of the tanks cleaned.

4.3 REC 6: HISTORIC USE OF BUILDING

Based upon a review of the Phase I reports, the Site was first developed as a textile mill and manufactured cotton, stockinet, and wool products. After the Site ceased textile operations, it was used to produce fire retardant paints and mastic and insecticides. Other past tenants at the Site include a salvage company, outboard motor center and furnace brokers. Based on historic drawings of the basement of the building, several open top, “Fixed Century” mixers, and “Hanging Lightning” mixers and a “J.H. Day” mixers were present in the basement of the building. Additional equipment/operations identified within the basement include an exhauster, an “Abbe Ball’ mill, a dust collector, a hammer mill, loading points for a “Ball” mill, and a flipping area.

As part of our Phase II investigation, GZA collected 3 soil vapor samples (SV-1, SV-2 and SV-3) from beneath the basement of the building to assess the potential for the migration of impacted soil vapor into the building from releases from former Site operations or releases from upgradient sources. In addition, one ambient air sample (SV-AMB) was collected from the basement of the Site building. Soil vapor sample locations are provided on Figure 3. Chlorinated and aromatic VOCs were detected in the 3 soil vapor samples but at concentrations below the Residential Soil Vapor Volatilization Criteria (R-SVVC). Chlorinated and aromatic VOCs were also detected in the ambient air from the basement but at lower concentrations than the soil vapor samples and below the Residential Target Indoor Air Concentrations. A summary table of the soil vapor sampling results was presented in the Phase II Report.

GZA subsequently completed 14 borings (B-7 through B-20) to evaluate impacts from historical Site activities. Borings B-7 and B-8 were performed to assess soil quality on the east side of the Site near doorways that previously opened onto an alley between the Daniel’s Mill property and the adjacent former Amerbelle Textile Mill property and extended to depths of 20 and 14 feet bgs, respectively. Exterior boring B-7 was also extended approximately 12 feet into bedrock so that a monitoring well could be installed at this location (MW-2). Borings B-9 through B-20 were performed beneath the basement floor and extended to depths up to 3.5 feet below the basement floor. Boring B-9 was completed in the portion of the Site building that extends to the south. Boring B-10 was performed in the southeastern portion of the basement. Boring B-11 was performed in the south-central portion of the basement proximate to an elevator. Borings B-12 through



B-17 and B-20 were drilled in the northern part of the basement proximate to concrete pedestals that likely supported former equipment. Borings B-18 and B-19 were performed in the southwestern portion of the basement proximate to above grade piping associated with a former heating oil AST and a floor drain pit. Refusal was encountered (presumably on bedrock) at each of these interior borings. We note, a bedrock outcrop extends into the northwestern portion of the building and the building foundation wall was constructed on top of the bedrock outcrop. Select soil samples were submitted to the laboratory for one or more of the following analyses VOCs, pesticides, PAHs, ETPH, metals, alcohols, and PCBs.

Soils below the basement were observed to generally consist of brown to red-brown sands, similar to the soils found in the western parking lot. Soils to the east of the Site building consisted of up to 14 feet of sandy fill containing brick and asphalt consistent with urban fill overlying sands.

VOCs, PCBs, PAHs, ETPH, and metals were detected within a sample of the fill materials from 3 to 5 feet bgs from boring B-7 to the east of the Site building. The concentrations of PCBs (11 mg/kg), certain PAHs, arsenic (16 mg/kg) and lead (781 mg/kg) exceeded the R-DEC and the concentrations of PCBs, certain PAHs, and arsenic also exceeded the I/C-DEC. PAHs were also detected above the GB-PMC. Leachable lead and arsenic via SPLP were not detected above the laboratory reporting limit. A soil sample was not submitted for analytical testing from boring B-8.

Low levels of VOCs (1,2,4-trimethylbenzenes, 1,3,5-trimeithylbenzene, xylenes, ethylbenzene, n-propylbenzene and tetrachloroethene) and benzo(g,h,i)perylene were detected in the sub-slab soil samples from borings B-10, B-11 and B-17 at concentrations below the R-DEC and the GB-PMC. Petroleum hydrocarbons were detected in 3 of the 8 soil samples analyzed from beneath the basement at concentrations ranging from 72 mg/kg to 1,100 mg/kg (B-14, 0.5-2'). The detected petroleum hydrocarbon concentration in the boring B-14 sample exceeded the R-DEC.

Various metals were also detected in the 3 sub-slab soil samples analyzed. The concentration of lead (1,190 m/kg) in sample B-19, 0.5-3' exceeded the I/C-DEC. Testing of this sample via the SPLP indicated the leachable lead concentration was below the GB-PMC.

Pesticides (3 samples) and alcohols (1 sample) were not detected above the laboratory reporting limits.

PCBs were detected in 4 of the 5 sub-slab soil samples at concentrations ranging from 0.8 mg/kg (B-19, 0.5-3') to 91 mg/kg (B-11, 0.5-2'). The detected PCB concentration in the samples from borings B-11 (91 mg/kg), B-13 (6.3 mg/kg), and B-14 (21 mg/kg) exceeded the R-DEC and the PCB concentration in the samples from borings B-11 and B-14 also exceeded the I/C-DEC.

Phase III Investigations

Based on the results of the Phase II investigations, releases were detected to sub-slab soils and to the soils to the east of the Site building and, as described below, additional investigations were performed in 2017 and 2019 to further evaluate the nature and extent of these soil impacts.

East of the Site Building

To further evaluate the detected PCB, PAH, arsenic, lead, and petroleum hydrocarbon impacts detected in soils from boring B-7, GZA performed two additional rounds of explorations east of the Site building. In 2017, three additional borings (B-25A, B-26, and B-27) were performed to evaluate the vertical and lateral extent of these impacts. PAHs were detected in



3 of the 4 samples analyzed at concentrations above the I/C-DEC and in all 4 samples at concentrations above the GB-PMC. Subsequent SPLP testing did not detect the presence of leachable PAHs.

PCBs were detected in each sample analyzed (4 samples) at concentrations ranging from 0.36 mg/kg to 8.4 mg/kg. The PCB concentration in 2 of the 4 samples exceeded the R-DEC. Arsenic was detected in 2 of the 4 samples and the detected arsenic concentration in 1 of the samples was above the I/C-DEC. Lead was detected in all 4 samples and the lead concentration in 1 of the samples was above the R-DEC. Subsequent SPLP testing indicated compliance with the GB-PMC for these two metals. During these explorations, an UST was also detected proximate to boring B-27. Petroleum hydrocarbons were detected in a soil sample directly above the UST at a concentration of 398 mg/kg below the R-DEC but indicative of a release.

In 2019, 7 additional borings (B-7A, B-25B, B-27A, B-36, B-36A, B-37, and B-37A) were performed east of the Site building. Borings B-7A, B-25B, B-27A, B-36A, and B-37A were performed to evaluate the potential applicability of TSCA to soils in this area and, given this objective, soil samples were collected from these 5 borings in 3-inch intervals. Borings B-36 and B-37 were performed to evaluate the nature and extent of the petroleum hydrocarbon, PAH, lead, and arsenic soil impacts in this area.

PAHs were detected in the 3 samples analyzed from borings B-36 and B-37. The PAH concentrations in sample B-36 (0-2') were above the I/C-DEC and GB-PMC. PAH concentrations in the deeper sample at boring B-36 (4-6') and from the surface soil sample from boring B-37 (0-1.75') were below the R-DEC and GB-PMC.

Petroleum hydrocarbons were detected in 1 of the 3 samples analyzed from borings B-36 and B-37. The petroleum hydrocarbon concentration (320 mg/kg) in the surface soil sample from boring B-36 (0-2') was below the R-DEC and GB-PMC.

Arsenic and lead were detected in the surface soil samples from borings B-36 and B-37 but at concentrations below the applicable criteria.

PCBs were reported in 11 of the 14 samples analyzed from borings B-7A, B-25B, B-27A, B-36A, and B-37A at concentrations ranging from 0.79 mg/kg (B-37A, 1.5-1.75') to 17 mg/kg (B-7A, 1.75-2'). The PCB concentrations in 8 of the samples were above the R-DEC and in 2 of the samples (B-7A, 1.75-2' and B-36A, 1.75-2') also above the I/C DEC.

Findings

PCBs were detected within the fill materials east of the Site building at concentrations ranging from 0.36 mg/kg to 17 mg/kg in sample B-7A (1.75-2'). Eleven samples had PCB concentrations above the R-DEC and 3 samples (B-7, (3-5'), B-7A (1.75-2') and B-36A (1.75-2')) had concentrations also above the I/C-DEC. These PCBs impacts are bounded laterally to the north and west by the building foundation wall and to the south by boring B-37A. These PCB impacts may extend to the east onto the adjacent former Amerbelle Textile Mill property. PCB impacts above the R-DEC extend vertically to a depth of at least 5 feet bgs at borings B-7/B-7A and B-36A. The source of these PCB impacts is potentially related to releases of materials used in the former Site manufacturing operations that were managed and/or handled at a former overhead door into the building in this area.

PAHs, arsenic and lead impacts were also detected within the fill materials east of the Site building. Similar to the PCB impacts, these impacts are bounded horizontally to the north and west by the building foundation wall and south by boring B-37. However, these impacts may also extend to the east onto the former Amerbelle Textile Mill property. Similar



to the adjacent former Amerbelle Textile Mill property, the presence of these compounds may be related to the presence of coal ash in the fill. The full vertical extent of these impacts has not been delineated due to the presence of an UST and the former raceway in this area.

Petroleum hydrocarbon impacts are also present in the fill materials in this area but at concentrations below the numeric RSR criteria. The source of these petroleum hydrocarbons could be related to an UST identified in this area.

Under the Building Basement

To further evaluate the detected sub-slab PCB soil impacts, GZA performed two additional rounds of explorations within the basement of the Site building in 2017 and 2019. The first round consisted of the performance of 9 additional borings (B-11A, B-13A, B-15A, and B-28 through B-33) and the second round consisted of the performance of 20 additional borings (B-38 through B-57) in the locations depicted on Figure 3. Sub-slab soil samples were collected on an approximately 3-meter grid like pattern; however, the grid could not be completed in the eastern portion of the basement due to the thickness of the concrete floor (greater than 15 inches at boring B-34) and the presence of a sub-slab raceway.

The concrete floor was observed to range in thickness from approximately 1-inch (B-41) to greater than 15-inches. Voids were observed directly beneath the concrete floor in 6 of the borings (B-30, B-47, B-52, B-54, B-55, and B-56). These voids ranged in thickness from 4 to 22.5 inches (B-30). The 3-inch interval directly below the floor slab or below the void was collected and analyzed for PCBs from each boring except B-30. The material below the B-30 void space consisted of gravel that precluded the collection of a soil sample.

PCBs were detected in 16 of the 27 samples analyzed from the 3-inch interval directly below the floor slab or the void space at concentrations ranging from 0.09 mg/kg (B-57, 5.5-8.5”) to 11 mg/kg (B-51, 1-4”). The PCB concentrations in 9 of these samples exceeded the R-DEC of 1 mg/kg and 1 sample also exceeded the I/C-DEC of 10 mg/kg.

Deeper samples were collected from 7 of the 9 locations where PCBs were detected above 1 mg/kg in the sample directly below the floor slab or void space. PCBs were detected in 2 of these 7 samples at concentrations of 0.57 mg/kg and 0.52 mg/kg (B-11A, 2-2.25’ and B-54, 30-33”) below the R-DEC of 1 mg/kg.

Findings

PCBs were detected in sub-slab soils at concentrations ranging from 0.1 mg/kg to 91 mg/kg in sample B-11 (0.5-2’). Twelve samples contained PCB concentrations above the R-DEC and 3 samples (B-11, 0.5-2’, B-14, 0.5-2’ and B-51, 1-4”) had PCB concentrations above the I/C-DEC. One sample contained PCBs greater than 50 mg/kg (B-11, 0.5-2’). The highest PCB concentrations were observed in the north-central portion of the basement proximate to former “Ball Mill” loading points and in the south-central portion of the basement proximate to the elevator. The vertical extent of these PCBs is generally delineated except at borings B-14, B-47 and B-56. However, based upon the results from other sub-slab soil samples, the PCB impacts appear to be generally within the upper 2-feet below the concrete floor. Based on testing of the concrete floor of the basement (see Section 5.0 below), the source of these sub-slab soil impacts appears to be related to the former manufacturing activities performed within the basement and these soils, if disturbed, would likely be classified as a PCB Remediation Waste subject to the handling and disposal requirements of the TSCA Regulations included 40 CFR 761.61.

Lead and ETPH were also found in sub-slab soils above the R-DEC and the I/C-DEC (lead only). The highest petroleum hydrocarbon impacts appear to be located proximate to the north foundation wall (boring B-14) downgradient of the USTs



located between East Main Street and the Site building. The highest lead concentration was detected proximate to a floor drain pit in the southwestern portion of the basement.

4.4 SITE GROUNDWATER

As part of our Phase II investigation, GZA installed two bedrock wells (MW-1 and MW-2) in accessible exterior locations to evaluate groundwater quality at the Site³. As shown on Figure 3, monitoring well MW-1 was installed on the western side of the Site building by the loading dock and MW-2 was installed on the eastern side of the Site building, just south of the building addition formerly used as a sheet metal shop. The steep slope between the south side of the building and the American Mill Pond precluded the installation of monitoring wells in this area.

On July 27, 2015, GZA collected groundwater samples from the 2 wells for VOC, PAH, metal, and pesticide analysis. VOCs and PAHs were not detected in the sample from monitoring well MW-1 at concentrations above the laboratory reporting limit. Chromium and barium were detected in the groundwater sample from monitoring well MW-1 but at concentrations below the SWPC.

Trace concentrations of cis-1,2-dichloroethene and tetrachloroethene (5.6 µg/L and 2.5 µg/L, respectively) were detected in the sample from monitoring well MW-2 but at concentrations below the Residential Groundwater Volatilization Criteria (RES-GWVC) and the SWPC. Certain PAHs were also detected in the sample from monitoring well MW-2 at concentrations ranging from 0.03 to 0.12 µg/L and below the SWPC. Arsenic, barium, chromium, copper, and lead were detected in the sample from monitoring well MW-2. The concentration of arsenic (5 µg/L), copper (75 µg/L), and lead (78 µg/L) exceeded the SWPC. GZA notes that the sample from monitoring well MW-2 was collected with a bailer due to the presence of a limited amount of water in the well at the time of sampling. This sampling methodology may have resulted in the presence of suspended solids within the sample matrix which could have resulted in an elevated bias in the reported metals concentrations.

Dieldrin (a pesticide) was also detected in samples from both wells at concentrations of 0.002 and 0.003 µg/L, below the SWPC.

Phase III Investigations

GZA performed two additional groundwater sampling rounds on August 9, 2017 and June 11, 2019 to further evaluate seasonal variations in groundwater quality at the Site and the elevated metal concentrations in the 2015 sample from monitoring well MW-2. Groundwater samples were analyzed for metals (2017 and 2019 samples) and VOCs and PAHs (2019 samples only). The results of these sampling rounds indicate the following:

- The detected metal concentrations in both the 2017 and 2019 sampling rounds were below the SWPC, and other than the concentration of lead in samples from monitoring well MW-1, the metal concentrations were lower than those detected in 2015. The detected lead concentration in monitoring well MW-1 in June 2019 was slightly higher than the concentration detected in July 2015 (< 2 µg/L in July 2015 verses 2 µg/L in June 2019).
- PAHs were not detected in the 2019 samples from samples from monitoring wells MW-1 or MW-2 at concentrations above the laboratory reporting limit.

³ Overburden materials were observed to be dry during the performance of the Phase II explorations.



- VOCs were not detected in the 2019 sample from monitoring MW-1 at concentrations above the laboratory reporting limit. Cis-1,2-Dichloroethene was detected in the monitoring well MW-2 sample at a concentration (2 µg/L) below the SWPC of 6,200 µg/L.

Findings

Consistent with the topography in the vicinity of the Site, groundwater within the bedrock matrix at the Site is inferred to generally flow to the southwest towards the American Mill Pond. Groundwater flow within bedrock however is influenced by the location, orientation, and interconnection of bedrock fractures and, given the limited number of bedrock wells at the Site, local variations in groundwater flow direction are possible. This inferred flow direction indicates that the southeastern portion of the Site is located in a hydraulically downgradient direction from a portion of the adjacent former Amerbelle Textile Mill.

VOCs and PAHs were detected in Site groundwater to the east of the Site building (monitoring well MW-2). The source of these impacts is potentially related to the identified releases to the fill materials directly east of the Site building (AOC-6). However, this area is also located in a downgradient direction of an identified release of chlorinated VOCs on the former Amerbelle Textile Mill. Elevated levels of certain metals were also detected in the groundwater east of the Site building during a 2015 sampling event; however, based on additional testing in 2017 and 2019, the 2015 groundwater results appear to be biased high due to the entrainment of fines within the sample matrix.

5.0 BUILDING MATERIALS ASSESSMENT

In 2017, GZA performed a hazardous building materials assessment to evaluate the presence of PCBs in building materials. A total of 120 samples were collected from during this assessment and were analyzed for PCBs via EPA Method 3540 (manual soxhlet extraction)/8082. As presented in Table 6, the following is a breakdown of the number and type of building material samples:

- Wood Flooring – 35 Samples
- Concrete Flooring – 15 Samples
- Wood Beams – 10 Samples
- Wood Ceiling – 12 Samples
- Wood Columns – 5 Samples
- Wood Truss – 2 Samples
- Mastic Material – 1 Sample
- Brick – 8 Samples
- Plaster – 10 Samples
- Masonry Material – 4 Samples
- Paint – 16 Samples
- Glazing – 2 Samples

All but one of the 120 building material samples were found to contain PCBs. PCB concentrations ranged from 0.1 mg/kg to 254 mg/kg (in wood ceiling sample PCB-2-1-26 on the first floor). PCBs were detected above 1 mg/kg in 88 of the samples and above 50 mg/kg in 24 of the samples. The following table provides a breakdown of the range of detected PCB concentrations by material and by floor:



MATERIAL DESCRIPTION	PCB CONCENTRATION RANGE (PPM)	
1ST FLOOR	Low	High
Wood Floor	0.6	93.2
Concrete Floor	18.6	18.6
Wood Beam	1.3	3
Wood Column	4.6	4.6
Wood Ceiling	0.9	254
Brick	0.2	0.2
Plaster	0.5	0.5
Masonry Wall	0.1	0.1
Paint	63.8	63.8
2ND FLOOR		
Wood Floor	0.5	26.9
Concrete Floor	5.1	133
Wood Beam	1.6	6.2
Mastic	46.2	46.2
Wood Ceiling	2.2	11.7
Brick	0.3	4.1
Plaster	4.4	4.4
Paint	17	37.4
3RD FLOOR		
Wood Floor	2	88.5
Concrete Floor	79.3	79.3
Wood Beam	0.3	0.6
Wood Column	18.4	18.4
Wood Ceiling	0.5	3.7
Brick	0.5	0.5
Masonry Wall	0.2	0.2
Plaster	0.1	0.6
Glazing	5.5	5.5
Paint	32.1	102
4TH FLOOR		
Wood Floor	0.4	56.3
Wood Beam	0.4	1.6
Wood Column	2.6	2.6
Wood Ceiling	0.7	2.6
Brick	<0.1	0.2
MATERIAL DESCRIPTION	PCB CONCENTRATION RANGE (PPM)	
4TH FLOOR (Continued)		
Plaster	0.6	0.9
Glazing	171	17.1
Paint	61.4	140.3



MATERIAL DESCRIPTION	PCB CONCENTRATION RANGE (PPM)	
5TH FLOOR		
Wood Floor	1.4	29.1
Wood Truss	0.4	0.5
Wood Ceiling	0.3	0.3
Brick	0.5	0.5
Plaster	0.8	0.8
Paint	61.5	163
BASEMENT		
Concrete Floor	0.8	50.9
Wood Beam	6.1	17.1
Wood Column	28.7	96.4
Wood Ceiling	3.9	35.4
Brick	9	9
Masonry Foundation	0.1	0.3
Plaster	6.2	12.6
Paint	11.8	67.4

PCBs were detected within non-painted surfaces including the wood flooring, wood ceilings, concrete flooring, brick, plaster, wood beams, and wood columns on each floor of the building. These impacts appear to be related to releases and/or spills associated with the former operations/activities at the Site which include the production of fire-retardant paints and mastic (1950 to 1978 timeframe) and the production of insecticides and paints (1952 to 1971 timeframe). Since the source of the PCB impacts appear to be releases/spills from operations/activities prior to 1978 and the as-found PCB concentrations are greater than 50 mg/kg, these materials would be classified as a PCB Remediation Waste subject to the handling and disposal requirements of the TSCA Regulations included 40 CFR 761.61 if the building was to be renovated or demolished.

PCBs were also detected in paints throughout the building at concentrations above 50 mg/kg. It is unclear whether these paints were manufactured with PCBs or whether the PCB paint impacts were the result of spills or releases from the former operations/activities at the Site. If the paints were manufactured with PCBs, the paints would be classified as a PCB Bulk Product Waste subject to the handling and disposal requirements of the TSCA Regulations included 40 CFR 761.62 which provides more flexibility with respect to disposal. If the PCB paint impacts were however the result of spills/releases from former Site operations/activities, the paint would then be classified as a PCB Remediation Waste. PCBs were also detected in the substrate materials beneath the painted surfaces (wood beams, wood columns, wood ceilings, brick, and plaster) at varying concentrations but in general less than 50 mg/kg. These PCB impacted substrates would be classified similar to the overlying paints provided they were managed as a single unit. If paints were separately managed, the underlying PCB impacted substrates would be PCB remediation wastes.

PCBs were also detected in the limited number of window glazing samples at concentrations up to 17.1 mg/kg. This material was likely manufactured with PCBs and would be classified as an Excluded PCB Product.

6.0 CONCLUSIONS AND RECOMMENDATIONS

GZA completed a Phase III Data Gap Investigation program at the former Daniel’s Mill property located at 98 East Main Street in Vernon, Connecticut. This investigation program was designed to evaluate certain data gaps identified based on



our review of a 2011 Phase I ESA, a 2014 Phase I ESA, and our Phase II investigation program. The results of these investigations were used to determine the nature and extent of potential releases to the environment from former Site operations and whether remedial actions will be required to achieve compliance with the remedial criteria established under the RSRs. These investigations were also designed to evaluate the distribution and extent of PCB impacts within interior building materials to determine the applicability of TSCA and potential abatement requirements for future Site development activities. Table 4 presents the Phase III data gap investigation program, including whether a release has occurred and if the release has been fully delineated.

The Phase III Data Gap Investigation program was completed between August 2017 and June 2019 and included the performance of 56 soil borings and the analysis of 79 soil samples from AOCs-3, 4, and 6; the assessment of the contents of and the methods used to install 6 USTs on the north side of the building; and the collection and analysis of 2 rounds of groundwater samples. The Phase III program also included the collection and analysis of 120 samples of interior building materials. The following summarizes the results of our Phase III subsurface testing program and provides our opinion whether remedial actions will be necessary to comply with the RSRs and TSCA.

AOC-3: Loading Dock

A release of VOC and PCB containing materials was identified in the vicinity of this loading dock. The detected VOC impacts were below the applicable numeric RSR criteria and no further action is proposed for the identified VOC release.

The detected PCB impacts exceeded the R-DEC and the I/C-DEC (one sample) and are bounded laterally to the north by boring B-24, to the west by borings B-21 and B-58, to the east by the building, and by a retaining wall between the paved loading dock area and the steep slope down to American Mill pond to the south. The PCBs impacts extend to depths ranging from 2 feet to 4 feet bgs. A potential source of the identified PCB impacts is releases of PCB containing materials that were formerly managed at the loading dock to the ground surface.

Remedial actions will be required to address these identified PCB soil impacts and to comply with the RSRs

AOC-4: Current/Former USTs – North Side of Building

Six USTs are located within a narrow strip of the property directly north of the Site building. Two of the tanks contained approximately 2-inches of unknown liquid, one tank contained approximately 30-inches of a liquid that appeared to be fuel oil, and another tank contained approximately 84-inches of a flammable liquid. The tanks appear to be staged within a concrete vault(s) that is backfilled with sand; however, we were not able to access whether the vaults have a bottom due to the limited space between the USTs and the building and the presence of below grade utilities adjacent to East Main Street.

A release of petroleum related VOCs was detected beneath the northwestern portion of the basement of the Site building at concentrations below the RSR criteria in an inferred downgradient direction from the fuel oil UST. However, additional sampling will be required to access the extent of any releases from the USTs north of the Site building and the need to perform remedial activities. This sampling would be performed after the contents of the tanks are removed and the interiors of the tanks cleaned.



AOC-6: Historic Use of Building – Exterior Area East of the Site Building

PCBs were detected within the fill materials east of the Site building at concentrations up to 17 mg/kg and above the R-DEC and the I/C-DEC. These PCB impacts are bounded laterally to the north and west by the building foundation wall and to the south by boring B-37A. These PCB impacts may extend to the east onto the adjacent former Amerbelle Textile Mill property. PCB impacts above the R-DEC extend vertically to a depth of at least 5 feet bgs; however, the vertical extent of these impacts was not determined due to the presence of an UST and the former raceway. The source of these PCB impacts is potentially related to releases of materials used in the former Site manufacturing operations that were managed and/or handled at a former overhead door into the building in this area.

PAHs, arsenic and lead impacts were also detected within the fill materials east of the Site building. Similar to the PCB impacts, these impacts are bounded horizontally to the north and west by the building foundation wall and south by boring B-37 and may also extend to the east onto the former Amerbelle property. Similar to the adjacent former Amerbelle Textile Mill property, the presence of these compounds may be related to the presence of coal ash in the fill. The full vertical extent of these impacts has not been delineated due to the presence of an apparent fuel oil UST identified in this area and the former raceway.

Remedial actions will be required to address the soil impacts in this area and to comply with the RSRs. The PCB, PAH, lead, and arsenic impacts appear to be commingled within the fill materials and the remedial compliance approach for this area will be driven by the PCBs. We also note based on the proximity of the property line these remedial activities may potentially need to extend onto the adjacent former Amerbelle Textile Mill property.

During the performance of these remedial activities, the identified UST in this area should be exposed, pumped out, cleaned, and either abandoned in-place or removed.

AOC-6: Historic Use of Building - Under the Building Basement

PCBs were detected in sub-slab soils at concentrations up to 91 mg/kg and above the R-DEC and the I/C-DEC. The highest PCB concentrations were observed in the north-central portion of the basement proximate to former "Ball Mill" loading points and in the south-central portion of the basement proximate to the elevator. The vertical extent of these PCBs appears to be generally within the upper 2-feet below the concrete floor. As described below, elevated concentrations of PCBs were also detected within the concrete floor of the basement and the source of these sub-slab soil impacts appears to be related to releases and/or spills associated with the former operations/activities at the Site which include the production of fire retardant paints and mastic (1950 to 1978 timeframe) and the production of insecticides and paints (1952 to 1971 timeframe). Since the source of the PCB impacts appear to be releases/spills from operations/activities prior to 1978 and the concentrations are greater than 50 mg/kg, if disturbed, the concrete floor and the underlying soil would be classified as a PCB Remediation Waste subject to the handling and disposal requirements of the TSCA Regulations included in 40 CFR 761.61.

Apparently localized lead and ETPH were also found in sub-slab soils above the R-DEC and the I/C-DEC (lead only). The highest petroleum hydrocarbon impacts appear to be located proximate to the north foundation wall (boring B-14) downgradient of the USTs located between East Main Street and the Site building. The highest lead concentration was detected proximate to a floor drain pit in the southwestern portion of the basement.

Remedial actions will be required to address the sub-slab PCB soil impacts and to comply with the RSRs and TSCA.



Site Groundwater

Consistent with the Site and regional topography, groundwater within the bedrock is inferred to flow to the southwest across the Site towards American Mill Pond. Bedrock groundwater flow however is complex and dependent on the location, orientation, and interconnection of bedrock fractures. Relatively low-level concentrations of chlorinated VOCs were detected within groundwater on the east side of the building at concentrations below the applicable regulatory criteria. Based on the inferred groundwater flow direction and the apparent lack of chlorinated VOCs within the fill materials on the east Site of the building, the source of these VOC impacts appears to be from an upgradient source likely the former Amerbelle Textile Mill. Certain metals (arsenic, lead, and copper) were also detected in groundwater on the east Site of the building during the July 2015 sampling event at concentrations above the SWPC; however, these concentrations appear to have biased high due to the entrainment of fines within the sample matrix. The detected metal concentrations were below the SWPC during two subsequent monitoring events. Low concentrations of dieldrin and PAHs were also detected in Site groundwater but at concentrations below the SWPC.

No additional actions are recommended for Site groundwater. However, post remedial groundwater monitoring will be required upon completion of the remedial soil activities within AOCs-3, 4 (if necessary), and 6.

Building Materials

PCBs were detected within interior building materials throughout the building at varying concentrations and up to 254 mg/kg from a wood ceiling sample collected on the 1st floor. Non-painted surfaces impacted with PCBs appear to be related to releases and/or spills associated with the former operations/activities at the Site which included the production of fire-retardant paints and mastic (1950 to 1978 timeframe) and the production of insecticides and paints (1952 to 1971 timeframe). Since the source of the PCB impacts appear to be releases/spills from operations/activities prior to 1978, these materials would be classified as a PCB Remediation Waste subject to the handling and disposal requirements of the TSCA Regulations included 40 CFR 761.61.

PCBs were also detected in paints at concentrations above 50 mg/kg. It is unclear whether these paints were manufactured with PCBs or whether the PCB paint impacts were the result of spills or releases from the former operations/activities at the Site. If the paints were manufactured with PCBs, the paints would be classified as PCB Bulk Product Waste subject to the handling and disposal requirements of the TSCA Regulations included 40 CFR 761.62 which provides more flexibility with respect to disposal. If the PCB paint impacts were however the result of spills/releases from former Site operations/activities, the paint would then be classified as a PCB Remediation Waste. PCBs were also detected in underlying substrate materials (wood beams, wood columns, wood ceilings, brick, and plaster) at varying concentrations. The PCB impacted substrates would be classified similar to the overlying paints so long as the paint and substrate were removed as a single unit. If paints are removed separately, the underlying substrate would require management as a PCB Remediation Waste.

PCBs were also detected in window glazing samples at concentrations up to 17.1 mg/kg. This material was likely manufactured with PCBs and would be classified as an Excluded PCB Product.

Given the premium costs associated with removal, handling and disposal of PCB Remediation and Bulk Product Wastes, the approach to address these impacted materials should be integrated into any Site development or building renovation plan. We also note some of these PCB impacted building materials could be left in place and encapsulated/sealed; however, EPA approval, air monitoring for PCB vapors, and long-term maintenance of the sealed surfaces would be required.



TABLES

Table 1
 Summary of Phase II Investigation Program
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Recognized Environmental Condition (REC)	REC Description	Release Mechanism	Release Detected (yes/no)	Released Compound & RSR Exceedance
REC 1 - Parking lot (Urban Fill)	The parking lot area on the west side of the Site was filled between 1892 and 1897 according to Sanborn Map data.	Presence of poor quality fill and leaching of contaminants from fill to groundwater.	No	--
REC 2 - Two former fuel oil USTs	Either one or two former USTs were reported beneath a former storage building on the west side of the building. A 1,000-gallon UST oil tank fell into American Mill Pond when a portion of the storage building collapsed in 2008. The tank was reported as empty in Town response documents.	1. Release to ground surface due to overfills. 2. Release to sub-surface soils from tank or line leaks. Infiltration to groundwater.	No	--
REC 3 - Loading Dock	A loading dock is located on the west side of the building.	Release of contaminants to the parking lot and seepage through cracks or joints to soils below. Infiltration to groundwater.	Yes	VOCs below the RSRs. PCBs above the R-DEC.
REC 4 - Former/current USTs along northern side of the Site building	Previous Phase I ESA reports by others indicate several USTs are present along the north side of the building between the building and East Main Street.	1. Release to ground surface due to overfills. 2. Release to sub-surface soils from tank or line leaks. Infiltration to groundwater.	Yes	VOCs below the RSRs.
REC 5 - Former Boiler and AST in northwest corner of basement	A boiler and 1,000-gallon AST were formerly located in the northwest corner of the building basement.	Release of contaminants to the floor and seepage through cracks or joints to soils. Infiltration to groundwater.	No	--
REC 6 - Historic use of the building	Based upon prior reports, the Site was first developed as a textile mill which manufactured cotton, stockinet, and wool products. After the Site ceased textile operations, it was used to produce fire retardant paints and mastic and insecticides. Other tenants at the Site have been a salvage company, outboard motor center, and furnace brokers.	1. Release of contaminants to the floor and seepage through cracks or joints to soils. Infiltration to groundwater. 2. Release of contaminants to the ground surface and infiltration to groundwater.	Yes	Interior: PCBs above the R-DEC & I/C-DEC. VOCs below RSRs. ETPH above R-DEC. Exterior: PAHs above R-DEC, I/C-DEC and GB-PMC. PCBs above the I/C-DEC. Arsenic above R-DEC and I/C-DEC. Lead above R-DEC and I/C-DEC
REC 7 - Former exterior solvent ASTs	Twelve 425-gallon ASTs were formerly located on an exterior concrete platform on the south side of the building next to the elevator shaft. The American Mill Pond is below this platform. These tanks are no longer present.	Release of contaminants to the floor and seepage through cracks or joints thru platform. No soils below platform (only pond).	No	--
REC 8 - Former Transformer Area	Transformers were formerly located outside the southwest corner of the building. These transformers were first pad-mounted but later relocated to a pole.	Release of contaminants to the ground surface and infiltration to groundwater.	No	--
Site Groundwater	-	Impacts related to historic site activities.	Yes	VOCs below the RSRs. PAHs below the RSRs. Arsenic above SWPC. Copper above SWPC. Lead above SWPC.

Legend:

VOCs = Volatile Organic Compounds
 PAHs = Polycyclic Aromatic Hydrocarbons
 R-DEC = Residential Direct Exposure Criteria
 I/C-DEC = Industrial/Commercial Direct Exposure Criteria
 PCBs = Polychlorinated biphenyls
 ETPH = Extractable Total Petroleum Hydrocarbons

AST = Aboveground Storage Tank
 SWPC = Surface Water Protection Criteria
 UST = Underground Storage Tank
 GB-PMC = GB Pollutant Mobility Criteria
 RSRs = Remediation Standard Regulations

Table 2
Monitoring Well Construction Summary and Groundwater Elevations
Former Daniel's Mill
98 East Main Street
Vernon, Connecticut

Monitoring Well No.	Installation Date	PVC Elevation (feet)	Borehole Depth (feet)	Depth to Bedrock (feet)	Bedrock Elevation (feet)	Screened Medium	Screen Length (feet)	Screen Interval (feet)	Screened Elevation Interval	Nominal Well Diameter (inches)	Screen Slot Size (inches)	July 27, 2015		August 5, 2015		August 9, 2017		June 11, 2019	
												Depth To Water (feet)	Groundwater Elevation (feet)	Depth To Water (feet)	Groundwater Elevation (feet)	Depth To Water (feet)	Groundwater Elevation (feet)	Depth To Water (feet)	Groundwater Elevation (feet)
MW-1	7/22/2015	83.47	32.25	20	63.47	BR	10	22.25-32.25	51.22-61.22	2	0.010	19.87	63.6	19.92	63.6	19.69	63.8	19.51	64.0
MW-2	7/22/2015	100.00	33.75	20	80.00	BR	10	23.75-33.75	66.25-76.25	2	0.010	32.84	67.2	32.66	67.3	30.93	69.1	29.45	70.6
American Mill Pond	-	77.44 (6)	-	-	-	-	-	-	-	-	-	NM	-	13.98	63.5	NM	-	NM	-

Notes:

1. BR indicates well screen is installed in bedrock.
2. Top of PVC riser pipe elevations were surveyed by GZA relative to a benchmark at MW-2 which was assigned an arbitrary elevation of 100 feet.
3. Measurements are from the top of the PVC riser pipe and top of concrete for the American Mill Pond.
4. Depth to bedrock and screened interval elevations are based on field observations and measurements made during well construction.
5. MW-1 & MW-2 were installed by GZA.
6. Measurements for the American Mill Pond were taken from the concrete platform to the west of the elevator along the pond.

Table 3A
 Summary of Soil Analytical Data - Area of Concern 3
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern				AOC-3								
Sample ID	RSR Criteria			B-1	B-2	B-21	B-22	B-22	B-22A			B-22B
	R-DEC	I/C-DEC	GB-PMC	7/20/2015	7/20/2015	8/7/2017	8/7/2017	8/7/2017	6/3/2019			6/24/2019
Depth (feet)				0.5-2	0.5-2	0.5-2	0.5-2	4-6	6-9"	30-33"	36-39"	45-48"
Volatile Organic Compounds (VOCs) (mg/kg)												
1,1,1-Trichloroethane	500	1,000	40	ND<0.0049	ND<0.0044	ND<0.0048	ND<0.0042	-	-	-	-	-
Carbon Tetrachloride	5	44	1	ND<0.0049	ND<0.0044	ND<0.0048	ND<0.0042	-	-	-	-	-
1,2,4 Trimethylbenzene	500*	1,000*	28*	ND<0.0049	ND<0.0044	ND<0.0048	ND<0.0042	-	-	-	-	-
1,3,5 Trimethylbenzene	500*	1,000*	28*	ND<0.0049	ND<0.0044	ND<0.0048	ND<0.0042	-	-	-	-	-
Ethylbenzene	500	1,000	10.1	ND<0.0049	ND<0.0044	ND<0.0048	ND<0.0042	-	-	-	-	-
n-Propylbenzene	500*	1,000*	10*	ND<0.0049	ND<0.0044	ND<0.0048	ND<0.0042	-	-	-	-	-
Tetrachloroethene	12	110	1	ND<0.0049	ND<0.0044	ND<0.0048	ND<0.0042	-	-	-	-	-
Toluene	500	1,000	67	ND<0.0049	0.0057	ND<0.0048	ND<0.0042	-	-	-	-	-
Xylene	500	1,000	19.5	ND<0.0049	ND<0.0044	ND<0.0048	ND<0.0042	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) (mg/kg)												
Aroclor 1254	1	10	NE	ND<0.36	6	ND<0.06	3.1	ND<0.05	0.57	1.2	2.4	0.3
Aroclor 1260	1	10	NE	ND<0.36	ND<1.7	ND<0.06	ND<0.06	ND<0.05	<0.072	<0.36	<0.36	<0.07
Total PCBs	1	10	NE	ND<0.36	6	ND<0.06	3.1	ND<0.05	0.57	1.2	2.4	0.3
Pesticides (mg/kg)												
Pesticides	varies	varies	varies	ND	ND	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)												
2-Methylnaphthalene	270*	1,000*	5.6*	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Acenaphthene	1,000*	2,500*	84*	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Anthracene	1,000	2,500	400	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Benzo(a)anthracene	1	7.8	1	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Benzo(a)pyrene	1	1	1	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	7.8	1	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	8.4*	78*	1.0*	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Benzo(k)fluoranthene	8.4	78	1	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Chrysene	84*	780*	1*	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	1*	1*	1*	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Fluoranthene	1,000	2,500	56	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Fluorene	1,000	2,500	56	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Indeno(1,2,3-cd)Pyrene	1*	7.8*	1.0*	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Naphthalene	1,000	2,500	5.6	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Phenanthrene	1,000	2,500	40	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Pyrene	1,000	2,500	40	ND<0.25	ND<0.25	-	-	-	-	-	-	-
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)												
ETPH	500	2,500	2,500	ND<54	ND<53	-	-	-	-	-	-	-
Total Metals (mg/kg)												
Arsenic	10	10	NE	1.9	3.1	-	-	-	-	-	-	-
Barium	4,700	140,000	NE	39.2	179	-	-	-	-	-	-	-
Cadmium	34	1,000	NE	ND<0.36	ND<0.34	-	-	-	-	-	-	-
Chromium	100/3,900 ⁸	100/51,000 ⁸	NE	30.9	16.9	-	-	-	-	-	-	-
Copper	2,500	76,000	NE	12.5	50.5	-	-	-	-	-	-	-
Lead	400	1,000	NE	19.3	173	-	-	-	-	-	-	-
Mercury	20	610	NE	ND<0.03	0.2	-	-	-	-	-	-	-
Selenium	340	10,000	NE	ND<1.4	ND<1.4	-	-	-	-	-	-	-
Silver	340	10,000	NE	ND<0.36	ND<0.34	-	-	-	-	-	-	-
SPLP Metals (mg/L)												
Arsenic	NE	NE	0.5	-	-	-	-	-	-	-	-	-
Barium	NE	NE	10	-	-	-	-	-	-	-	-	-
Lead	NE	NE	0.15	-	0.015	-	-	-	-	-	-	-

Notes:

1. R-DEC is the Residential Direct Exposure Criteria
2. I/C-DEC is the Industrial/Commercial Direct Exposure Criteria
3. GB-PMC is the Class GB Pollutant Mobility Criteria
4. "*" = From the 2018 Additional Polluting Substances list (required DEEP approval)
5. "NE" = Criteria are not-established
6. "-" = Sample was not analyzed for this parameter
7. **Bold** and shaded indicates sample was detected above RSR Criteria.
8. Criteria for total chromium are not established. As a conservative approach, the criteria for hexavalent chromium is used.
9. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical laboratory reports.

Table 3A
 Summary of Soil Analytical Data - Area of Concern 3
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern				AOC-3									
Sample ID	RSR Criteria			B-23	B-23A			B-23B	B-24	B-35		B-35A	B-58
Date	R-DEC	I/C-DEC	GB-PMC	8/7/2017	6/3/2019			6/24/2019	8/7/2017	6/3/2019		6/24/2019	6/24/2019
Depth (feet)				2-4	6-9"	12-15"	21-24"	33-36"	0.5-2	6-9"	10.5-13.5"	21-24"	10-13"
Volatile Organic Compounds (VOCs) (mg/kg)													
1,1,1-Trichloroethane	500	1,000	40	ND<0.0052	-	-	-	-	ND<0.0051	-	-	-	-
Carbon Tetrachloride	5	44	1	ND<0.0052	-	-	-	-	ND<0.0051	-	-	-	-
1,2,4 Trimethylbenzene	500*	1,000*	28*	ND<0.0052	-	-	-	-	ND<0.0051	-	-	-	-
1,3,5 Trimethylbenzene	500*	1,000*	28*	ND<0.0052	-	-	-	-	ND<0.0051	-	-	-	-
Ethylbenzene	500	1,000	10.1	ND<0.0052	-	-	-	-	ND<0.0051	-	-	-	-
n-Propylbenzene	500*	1,000*	10*	ND<0.0052	-	-	-	-	ND<0.0051	-	-	-	-
Tetrachloroethene	12	110	1	ND<0.0052	-	-	-	-	ND<0.0051	-	-	-	-
Toluene	500	1,000	67	ND<0.0052	-	-	-	-	ND<0.0051	-	-	-	-
Xylene	500	1,000	19.5	ND<0.0052	-	-	-	-	ND<0.0051	-	-	-	-
Polychlorinated Biphenyls (PCBs) (mg/kg)													
Aroclor 1254	1	10	NE	0.3	<0.071	2.8	1.7	0.55	ND<0.06	0.13	26	<0.07	0.16
Aroclor 1260	1	10	NE	ND<0.06	<0.071	<0.34	<0.56	<0.07	ND<0.06	<0.072	<6.8	<0.07	<0.069
Total PCBs	1	10	NE	0.3	<0.071	2.8	1.7	0.55	ND<0.06	0.13	26	<0.07	0.16
Pesticides (mg/kg)													
Pesticides	varies	varies	varies	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)													
2-Methylnaphthalene	270*	1,000*	5.6*	-	-	-	-	-	-	-	-	-	-
Acenaphthene	1,000*	2,500*	84*	-	-	-	-	-	-	-	-	-	-
Anthracene	1,000	2,500	400	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	1	7.8	1	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	1	1	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	7.8	1	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	8.4*	78*	1.0*	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	8.4	78	1	-	-	-	-	-	-	-	-	-	-
Chrysene	84*	780*	1*	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	1*	1*	1*	-	-	-	-	-	-	-	-	-	-
Fluoranthene	1,000	2,500	56	-	-	-	-	-	-	-	-	-	-
Fluorene	1,000	2,500	56	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)Pyrene	1*	7.8*	1.0*	-	-	-	-	-	-	-	-	-	-
Naphthalene	1,000	2,500	5.6	-	-	-	-	-	-	-	-	-	-
Phenanthrene	1,000	2,500	40	-	-	-	-	-	-	-	-	-	-
Pyrene	1,000	2,500	40	-	-	-	-	-	-	-	-	-	-
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)													
ETPH	500	2,500	2,500	-	-	-	-	-	-	-	-	-	-
Total Metals (mg/kg)													
Arsenic	10	10	NE	-	-	-	-	-	-	-	-	-	-
Barium	4,700	140,000	NE	-	-	-	-	-	-	-	-	-	-
Cadmium	34	1,000	NE	-	-	-	-	-	-	-	-	-	-
Chromium	100/3,900 ⁸	100/51,000 ⁸	NE	-	-	-	-	-	-	-	-	-	-
Copper	2,500	76,000	NE	-	-	-	-	-	-	-	-	-	-
Lead	400	1,000	NE	-	-	-	-	-	-	-	-	-	-
Mercury	20	610	NE	-	-	-	-	-	-	-	-	-	-
Selenium	340	10,000	NE	-	-	-	-	-	-	-	-	-	-
Silver	340	10,000	NE	-	-	-	-	-	-	-	-	-	-
SPLP Metals (mg/L)													
Arsenic	NE	NE	0.5	-	-	-	-	-	-	-	-	-	-
Barium	NE	NE	10	-	-	-	-	-	-	-	-	-	-
Lead	NE	NE	0.15	-	-	-	-	-	-	-	-	-	-

Notes:

1. R-DEC is the Residential Direct Exposure Criteria
2. I/C-DEC is the Industrial/Commercial Direct Exposure Criteria
3. GB-PMC is the Class GB Pollutant Mobility Criteria
4. "*" = From the 2018 Additional Polluting Substances list (required DEEP approval)
5. "NE" = Criteria are not-established
6. "-" = Sample was not analyzed for this parameter
7. **Bold** and shaded indicates sample was detected above RSR Criteria.
8. Criteria for total chromium are not established. As a conservative approach, the criteria for hexavalent chromium is used.
9. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical laboratory reports.

Table 3B
 Summary of Soil Analytical Data - Area of Concern 4
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern				AOC-4			
Sample ID	RSR Criteria			B-15	B-16	B-16A	B-17
Date	R-DEC	I/C-DEC	GB-PMC	7/21/2015	7/21/2015	8/8/2017	8/8/2017
Depth (feet)				0.5-2'	6-6.5'	6-6.5'	6-6.5'
Volatile Organic Compounds (VOCs) (mg/kg)							
1,1,1-Trichloroethane	500	1,000	40	ND<0.0047	ND<0.28	-	ND<0.0051
Carbon Tetrachloride	5	44	1	ND<0.0047	ND<0.28	-	ND<0.0051
1,2,4 Trimethylbenzene	500*	1,000*	28*	ND<0.0047	19	-	ND<0.0051
1,3,5 Trimethylbenzene	500*	1,000*	28*	ND<0.0047	5.2	-	ND<0.0051
Ethylbenzene	500	1,000	10.1	ND<0.0047	ND<0.28	-	ND<0.0051
n-Propylbenzene	500*	1,000*	10*	ND<0.0047	2.5	-	ND<0.0051
Tetrachloroethene	12	110	1	ND<0.0047	ND<0.28	-	ND<0.0051
Toluene	500	1,000	67	ND<0.0047	ND<0.28	-	ND<0.0051
Xylene	500	1,000	19.5	ND<0.0047	ND<0.28	-	ND<0.0051
SPLP VOCs (mg/L)							
Various	varies	varies	varies	-	-	ND	-
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)							
2-Methylnaphthalene	270*	1,000*	5.6*	ND<0.25	ND<0.24	-	ND<0.25
Acenaphthene	1,000*	2,500*	84*	ND<0.25	ND<0.24	-	ND<0.25
Anthracene	1,000	2,500	400	ND<0.25	ND<0.24	-	ND<0.25
Benzo(a)anthracene	1	7.8	1	ND<0.25	ND<0.24	-	ND<0.25
Benzo(a)pyrene	1	1	1	ND<0.25	ND<0.24	-	ND<0.25
Benzo(b)fluoranthene	1	7.8	1	ND<0.25	ND<0.24	-	ND<0.25
Benzo(g,h,i)perylene	8.4*	78*	1.0*	ND<0.25	ND<0.24	-	ND<0.25
Benzo(k)fluoranthene	8.4	78	1	ND<0.25	ND<0.24	-	ND<0.25
Chrysene	84*	780*	1*	ND<0.25	ND<0.24	-	ND<0.25
Dibenz(a,h)anthracene	1*	1*	1*	ND<0.25	ND<0.24	-	ND<0.25
Fluoranthene	1,000	2,500	56	ND<0.25	ND<0.24	-	ND<0.25
Fluorene	1,000	2,500	56	ND<0.25	ND<0.24	-	ND<0.25
Indeno(1,2,3-cd)Pyrene	1*	7.8*	1.0*	ND<0.25	ND<0.24	-	ND<0.25
Naphthalene	1,000	2,500	5.6	ND<0.25	ND<0.24	-	ND<0.25
Phenanthrene	1,000	2,500	40	ND<0.25	ND<0.24	-	ND<0.25
Pyrene	1,000	2,500	40	ND<0.25	ND<0.24	-	ND<0.25
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)							
ETPH	500	2,500	2,500	ND< 53	ND< 53	-	ND< 53
Alcohols (mg/kg)							
Alcohols	varies	varies	varies	ND	ND	-	ND

Notes:

1. R-DEC is the Residential Direct Exposure Criteria
2. I/C-DEC is the Industrial/Commercial Direct Exposure Criteria
3. GB-PMC is the Class GB Pollutant Mobility Criteria
4. "*" = From the 2018 Additional Polluting Substances list (required DEEP approval)
5. "NE" = Criteria are not-established
6. "-" = Sample was not analyzed for this parameter
7. **Bold** and shaded indicates sample was detected above RSR Criteria.
8. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical laboratory reports.

Table 3C
 Summary of UST Analytical Data - Area of Concern 4
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern	AOC-4		
Sample ID	Tank #1	Tank #2	Tank #6
Date	12/8/2017	12/8/2017	12/8/2017
Volatile Organic Compounds (VOCs) (µg/L)			
Methylene Chloride	12	1.3	< 2,000
Methyl Ethyl Ketone	< 5.0	< 5.0	26,000
Toluene	< 1.0	< 1.0	2,500
Semi-Volatile Organic Compounds (µg/L)			
	ND	ND	ND
Total Metals (mg/L)			
Arsenic	< 0.010	< 0.040	0.045
Barium	0.217	0.048	0.041
Cadmium	0.307	0.127	< 0.010
Chromium	0.221	0.133	< 0.010
Lead	0.853	0.447	< 0.020
Mercury	< 0.002	< 0.002	< 0.002
Selenium	< 0.50	< 0.50	< 0.10
Silver	< 0.010	< 0.010	< 0.010
Miscellaneous			
Flashpoint (°F)	> 200	> 200	112
Ignitability	Passed	Passed	Failed
BTU Value (BTU/lb)	< 500	< 500	< 500
Total Organic Carbon (mg/L)	< 10	< 5	7,100

Notes:

1. "-" = Sample was not analyzed for this parameter
2. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical laboratory reports.
3. ND = Not detected above reporting limit.

Table 3D
 Summary of Soil Analytical Data - Area of Concern 6 - Exterior Area
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern				AOC-6											
Sample ID	RSR Criteria			Outside											
	R-DEC	I/C-DEC	GB-PMC	B-7	B-7A			B-25A	B-25B		B-26	B-27		B-27A	
Date				7/22/2015	6/12/2019			8/9/2017	6/12/2019		8/9/2017	8/7/2017	8/7/2017	6/12/2019	
Depth (feet)				3-5'	0-0.25	1.75-2	2.75-3	0-1	0-0.25	0.75-1	5-6	0-2	3-5	0-0.25	1.75-2
Volatile Organic Compounds (VOCs) (mg/kg)															
1,1,1-Trichloroethane	500	1,000	40	0.32	-	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	5	44	1	0.0056	-	-	-	-	-	-	-	-	-	-	-
1,2,4 Trimethylbenzene	500*	1,000*	28*	ND<0.0049	-	-	-	-	-	-	-	-	-	-	-
1,3,5 Trimethylbenzene	500*	1,000*	28*	ND<0.0049	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	500	1,000	10.1	ND<0.0049	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	500*	1,000*	10*	ND<0.0049	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	12	110	1	ND<0.0049	-	-	-	-	-	-	-	-	-	-	-
Toluene	500	1,000	67	ND<0.0049	-	-	-	-	-	-	-	-	-	-	-
Xylene	500	1,000	19.5	0.0077	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) (mg/kg)															
Aroclor 1254	1	10	NE	11	2.8	17	<0.39	8.4	1.7	0.93	0.6	4.8	0.3	8.5	<0.38
Aroclor 1260	1	10	NE	ND<1.8	<1.8	<2.1	<0.39	ND<1.2	<0.38	<0.4	ND<0.06	ND<0.06	0.06	<1.9	<0.38
Total PCBs	1	10	NE	11	2.8	17	<0.39	8.4	1.7	0.93	0.6	4.8	0.36	8.5	<0.38
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)															
2-Methylnaphthalene	270*	1,000*	5.6*	--	-	-	-	2.22	-	-	ND<0.372	ND<0.801	ND<0.838	-	-
Acenaphthene	1,000*	2,500*	84*	--	-	-	-	7.08	-	-	ND<0.372	ND<0.801	ND<0.838	-	-
Anthracene	1,000	2,500	400	0.65	-	-	-	14.8	-	-	0.412	ND<0.801	1.2	-	-
Benzo(a)anthracene	1	7.8	1	1.4	-	-	-	43.2	-	-	1.14	1.35	4.71	-	-
Benzo(a)pyrene	1	1	1	1.9	-	-	-	37	-	-	0.983	1.47	4.39	-	-
Benzo(b)fluoranthene	1	7.8	1	1.9	-	-	-	35.8	-	-	1.04	1.81	5.74	-	-
Benzo(g,h,i)perylene	8.4*	78*	1.0*	1.6	-	-	-	16.3	-	-	0.456	ND<0.801	1.83	-	-
Benzo(k)fluoranthene	8.4	78	1	1.3	-	-	-	37.9	-	-	0.899	1.33	3.82	-	-
Chrysene	84*	780*	1*	1.8	-	-	-	37.6	-	-	1.06	1.38	5.3	-	-
Dibenz(a,h)anthracene	1*	1*	1*	0.38	-	-	-	10.3	-	-	0.233	ND<0.402	1.11	-	-
Fluoranthene	1,000	2,500	56	2.7	-	-	-	92.4	-	-	3.04	3.06	13	-	-
Fluorene	1,000	2,500	56	0.28	-	-	-	7.07	-	-	ND<0.372	ND<0.801	ND<0.838	-	-
Indeno(1,2,3-cd)Pyrene	1*	7.8*	1.0*	1.6	-	-	-	15.9	-	-	0.42	ND<0.801	1.79	-	-
Naphthalene	1,000	2,500	5.6	0.64	-	-	-	5.26	-	-	ND<0.372	ND<0.801	ND<0.838	-	-
Phenanthrene	1,000	2,500	40	2.5	-	-	-	67.2	-	-	1.9	1.36	7.79	-	-
Pyrene	1,000	2,500	40	2.3	-	-	-	78.1	-	-	2.26	1.93	7.83	-	-
SPLP Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)															
Various	varies	varies	varies	-	-	-	-	ND	-	-	-	-	ND	-	-
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)															
ETPH	500	2,500	2,500	280	-	-	-	-	-	-	-	-	398	-	-
Total Metals (mg/kg)															
Arsenic	10	10	NE	16	-	-	-	3.5	-	-	ND<2.27	ND<2.74	15.9	-	-
Barium	4,700	140,000	NE	105	-	-	-	-	-	-	-	-	-	-	-
Cadmium	34	1,000	NE	0.74	-	-	-	-	-	-	-	-	-	-	-
Chromium	100/3,900 ^s	100/51,000 ^s	NE	36.9	-	-	-	-	-	-	-	-	-	-	-
Copper	2,500	76,000	NE	46.5	-	-	-	-	-	-	-	-	-	-	-
Lead	400	1,000	NE	781	-	-	-	425	-	-	67.9	150	323	-	-
Mercury	20	610	NE	0.11	-	-	-	0.11	-	-	-	-	-	-	-
Selenium	340	10,000	NE	ND<1.4	-	-	-	-	-	-	-	-	-	-	-
Silver	340	10,000	NE	ND<0.36	-	-	-	-	-	-	-	-	-	-	-
SPLP Metals (mg/L)															
Arsenic	NE	NE	0.5	ND<0.004	-	-	-	-	-	-	-	-	<0.025	-	-
Barium	NE	NE	10	-	-	-	-	-	-	-	-	-	-	-	-
Lead	NE	NE	0.15	ND<0.01	-	-	-	0.025	-	-	-	-	<0.010	-	-

Notes:

1. R-DEC is the Residential Direct Exposure Criteria
2. I/C-DEC is the Industrial/Commercial Direct Exposure Criteria
3. GB-PMC is the Class GB Pollutant Mobility Criteria
4. "*" = From the 2018 Additional Polluting Substances list (required DEEP approval)
5. "NE" = Criteria are not-established
6. "-" = Sample was not analyzed for this parameter
7. **Bold** and shaded indicates sample was detected above RSR Criteria.
8. Criteria for total chromium are not established. As a conservative approach, the criteria for hexavalent chromium is used.
9. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical laboratory reports.

Table 3D
 Summary of Soil Analytical Data - Area of Concern 6 - Exterior Area
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern				AOC-6									
Sample ID	RSR Criteria			Outside									
				B-36		B-36A				B-37	B-37A		
	Date	R-DEC	I/C-DEC	GB-PMC	6/12/2019		6/12/2019				6/12/2019	6/12/2019	
Depth (feet)				0-2	4-6	0-0.25	1.75-2	2.75-3'	4-4.25'	6-6.25	0-1.75	0-0.25	1.5-1.75
Volatle Organic Compounds (VOCs) (mg/kg)													
1,1,1-Trichloroethane	500	1,000	40	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	5	44	1	-	-	-	-	-	-	-	-	-	-
1,2,4 Trimethylbenzene	500*	1,000*	28*	-	-	-	-	-	-	-	-	-	-
1,3,5 Trimethylbenzene	500*	1,000*	28*	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	500	1,000	10.1	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	500*	1,000*	10*	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	12	110	1	-	-	-	-	-	-	-	-	-	-
Toluene	500	1,000	67	-	-	-	-	-	-	-	-	-	-
Xylene	500	1,000	19.5	-	-	-	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) (mg/kg)													
Aroclor 1254	1	10	NE	-	-	8.8	12	8.4	1.4	0.84	-	<0.37	0.79
Aroclor 1260	1	10	NE	-	-	<1.9	<1.9	<0.81	<0.79	<0.38	-	<0.37	<0.36
Total PCBs	1	10	NE	-	-	8.8	12	8.4	1.4	0.84	-	<0.37	0.79
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)													
2-Methylnaphthalene	270*	1,000*	5.6*	0.33	< 0.23	-	-	-	-	-	< 0.25	-	-
Acenaphthene	1,000*	2,500*	84*	0.54	< 0.23	-	-	-	-	-	< 0.25	-	-
Anthracene	1,000	2,500	400	1.3	< 0.23	-	-	1.3	-	-	< 0.25	-	-
Benzo(a)anthracene	1	7.8	1	4.7	0.29	-	-	-	-	-	0.4	-	-
Benzo(a)pyrene	1	1	1	5.3	0.3	-	-	-	-	-	0.43	-	-
Benzo(b)fluoranthene	1	7.8	1	5.4	0.32	-	-	1	-	-	0.38	-	-
Benzo(g,h,i)perylene	8.4*	78*	1.0*	4.9	< 0.23	-	-	-	-	-	< 0.25	-	-
Benzo(k)fluoranthene	8.4	78	1	4.3	0.27	-	-	-	-	-	0.38	-	-
Chrysene	84*	780*	1*	5.1	0.33	-	-	1*	-	-	0.39	-	-
Dibenz(a,h)anthracene	1*	1*	1*	1.3	< 0.23	-	-	-	-	-	< 0.25	-	-
Fluoranthene	1,000	2,500	56	6.3	0.53	-	-	-	-	-	0.65	-	-
Fluorene	1,000	2,500	56	0.46	< 0.23	-	-	-	-	-	< 0.25	-	-
Indeno(1,2,3-cd)Pyrene	1*	7.8*	1.0*	4.3	< 0.23	-	-	-	-	-	0.25	-	-
Naphthalene	1,000	2,500	5.6	0.56	< 0.23	-	-	-	-	-	< 0.25	-	-
Phenanthrene	1,000	2,500	40	6	0.48	-	-	-	-	-	0.42	-	-
Pyrene	1,000	2,500	40	5.6	0.46	-	-	-	-	-	0.57	-	-
SPLP Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)													
Various	varies	varies	varies	-	-	-	-	-	-	-	-	-	-
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)													
ETPH	500	2,500	2,500	320	<49	-	-	-	-	-	<53	-	-
Total Metals (mg/kg)													
Arsenic	10	10	NE	2.96	-	-	-	-	-	-	1.96	-	-
Barium	4,700	140,000	NE	-	-	-	-	-	-	-	-	-	-
Cadmium	34	1,000	NE	-	-	-	-	-	-	-	-	-	-
Chromium	100/3,900 ⁸	100/51,000 ⁸	NE	-	-	-	-	-	-	-	-	-	-
Copper	2,500	76,000	NE	-	-	-	-	-	-	-	-	-	-
Lead	400	1,000	NE	183	-	-	-	-	-	-	12.1	-	-
Mercury	20	610	NE	-	-	-	-	-	-	-	-	-	-
Selenium	340	10,000	NE	-	-	-	-	-	-	-	-	-	-
Silver	340	10,000	NE	-	-	-	-	-	-	-	-	-	-
SPLP Metals (mg/L)													
Arsenic	NE	NE	0.5	-	-	-	-	-	-	-	-	-	-
Barium	NE	NE	10	-	-	-	-	-	-	-	-	-	-
Lead	NE	NE	0.15	-	-	-	-	-	-	-	-	-	-

Notes:

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4. "*" = From the 2018 Additional Polluting Substances list (required DEEP approval)
5. "NE" = Criteria are not-established
6. "-" = Sample was not analyzed for this parameter
7. **Bold** and shaded indicates sample was detected above RSR Criteria.
8. Criteria for total chromium are not established. As a conservative approach, the criteria for hexavalent chromium is used.
9. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical laboratory reports.

Table 3E
 Summary of Soil Analytical Data - Area of Concern 6 - Interior Area
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern				AOC-6															
Sample ID	RSR Criteria			Inside															
	R-DEC	I/C-DEC	GB-PMC	B-10	B-11	B-11A	B-12	B-13	B-13A	B-14	B-15	B-15A	B-16	B-16A	B-17	B-19	B-28	B-29	B-31
Date				7/21/2015	7/21/2015	8/8/2017	7/21/2015	7/21/2015	8/8/2017	7/21/2015	7/21/2015	8/8/2017	7/21/2015	8/8/2017	7/21/2015	7/21/2015	8/8/2017	8/8/2017	8/8/2017
Depth (feet)				0.5-2	0.5-2	2-2.25	0.5-1.5	0.25-1	0-0.25	0.5-2	0.5-2'	0-0.25	6-6.5'	6-6.5'	0.5-2	0.5-3	0-0.25	0-0.25	0-0.25
Volatile Organic Compounds (VOCs) (mg/kg)																			
1,1,1-Trichloroethane	500	1,000	40	ND<0.0059	ND<0.01	-	ND<0.006	ND<0.0057	-	ND<0.0059	ND<0.0047	-	ND<0.28	-	ND<0.0051	ND<0.006	-	-	-
Carbon Tetrachloride	5	44	1	ND<0.0059	ND<0.01	-	ND<0.006	ND<0.0057	-	ND<0.0059	ND<0.0047	-	ND<0.28	-	ND<0.0051	ND<0.006	-	-	-
1,2,4 Trimethylbenzene	500*	1,000*	28*	0.56	ND<0.01	-	ND<0.006	ND<0.0057	-	ND<0.0059	ND<0.0047	-	19	-	ND<0.0051	ND<0.006	-	-	-
1,3,5 Trimethylbenzene	500*	1,000*	28*	ND<0.26	ND<0.01	-	ND<0.006	ND<0.0057	-	ND<0.0059	ND<0.0047	-	5.2	-	ND<0.0051	ND<0.006	-	-	-
Ethylbenzene	500	1,000	10.1	ND<0.26	0.029	-	ND<0.006	ND<0.0057	-	ND<0.0059	ND<0.0047	-	ND<0.28	-	ND<0.0051	ND<0.006	-	-	-
n-Propylbenzene	500*	1,000*	10*	ND<0.26	ND<0.01	-	ND<0.006	ND<0.0057	-	ND<0.0059	ND<0.0047	-	2.5	-	ND<0.0051	ND<0.006	-	-	-
Tetrachloroethene	12	110	1	0.015	ND<0.01	-	ND<0.006	ND<0.0057	-	ND<0.0059	ND<0.0047	-	ND<0.28	-	ND<0.0051	ND<0.006	-	-	-
Toluene	500	1,000	67	ND<0.0059	ND<0.01	-	ND<0.006	ND<0.0057	-	ND<0.0059	ND<0.0047	-	ND<0.28	-	ND<0.0051	ND<0.006	-	-	-
Xylene	500	1,000	19.5	0.0078	0.123	-	ND<0.006	ND<0.0057	-	ND<0.0059	ND<0.0047	-	ND<0.28	-	ND<0.0051	ND<0.006	-	-	-
SPLP VOCs (mg/L)																			
Various	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	ND	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) (mg/kg)																			
Aroclor 1254	1	10	NE	ND<0.36	91	0.5	-	6.3	ND<0.06	21	-	ND<0.06	-	-	-	0.8	0.2	0.2	0.2
Aroclor 1260	1	10	NE	ND<0.36	< 14	0.07	-	< 1.8	ND<0.06	< 1.9	-	ND<0.06	-	-	-	< 0.36	ND<0.06	ND<0.06	ND<0.06
Total PCBs	1	10	NE	ND<0.36	91	0.57	-	6.3	ND<0.06	21	-	ND<0.06	-	-	-	0.8	0.2	0.2	0.2
Pesticides (mg/kg)																			
Pesticides	varies	varies	varies	ND	-	-	-	ND	-	-	-	-	-	-	ND	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)																			
2-Methylnaphthalene	270*	1,000*	5.6*	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Acenaphthene	1,000*	2,500*	84*	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Anthracene	1,000	2,500	400	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Benzo(a)anthracene	1	7.8	1	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Benzo(a)pyrene	1	1	1	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Benzo(b)fluoranthene	1	7.8	1	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Benzo(g,h,i)perylene	8.4*	78*	1.0*	0.43	0.42	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Benzo(k)fluoranthene	8.4	78	1	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Chrysene	84*	780*	1*	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Dibenz(a,h)anthracene	1*	1*	1*	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Fluoranthene	1,000	2,500	56	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Fluorene	1,000	2,500	56	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Indeno(1,2,3-cd)Pyrene	1*	7.8*	1.0*	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Naphthalene	1,000	2,500	5.6	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Phenanthrene	1,000	2,500	40	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
Pyrene	1,000	2,500	40	ND<0.26	ND<0.38	-	ND<0.24	ND<0.25	-	ND<0.27	ND<0.25	-	ND<0.24	-	ND<0.25	ND<0.26	-	-	-
SPLP Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)																			
Various	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	-	ND< 53	-	-	-	-
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)																			
ETPH	500	2,500	2,500	360	-	-	ND< 52	ND< 53	-	1,100	ND< 53	-	ND< 53	-	ND< 53	72	-	-	-
Total Metals (mg/kg)																			
Arsenic	10	10	NE	2.1	-	-	-	2.1	-	-	-	-	-	-	-	1.4	-	-	-
Barium	4,700	140,000	NE	83.8	-	-	-	62.9	-	-	-	-	-	-	-	1440	-	-	-
Cadmium	34	1,000	NE	ND< 0.34	-	-	-	ND< 0.37	-	-	-	-	-	-	-	1.85	-	-	-
Chromium	100/3,900 ⁸	100/51,000 ⁸	NE	19.4	-	-	-	74.3	-	-	-	-	-	-	-	54.9	-	-	-
Copper	2,500	76,000	NE	20.4	-	-	-	24.2	-	-	-	-	-	-	-	59	-	-	-
Lead	400	1,000	NE	58.7	-	-	-	34.6	-	-	-	-	-	-	-	1,190	-	-	-
Mercury	20	610	NE	0.06	-	-	-	0.15	-	-	-	-	-	-	-	0.11	-	-	-
Selenium	340	10,000	NE	ND< 1.4	-	-	-	ND< 1.5	-	-	-	-	-	-	-	ND< 1.5	-	-	-
Silver	340	10,000	NE	ND< 0.34	-	-	-	ND< 0.37	-	-	-	-	-	-	-	ND< 0.38	-	-	-
SPLP Metals (mg/L)																			
Arsenic	NE	NE	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	NE	NE	10	-	-	-	-	-	-	-	-	-	-	-	-	0.021	-	-	-
Lead	NE	NE	0.15	0.01	-	-	-	-	-	-	-	-	-	-	-	0.029	-	-	-
Alcohols (mg/kg)																			
Alcohols	varies	varies	varies	-	-	-	-	-	-	ND	ND	-	ND	-	ND	-	-	-	-

Notes:

1. R-DEC is the Residential Direct Exposure Criteria
2. I/C-DEC is the Industrial/Commercial Direct Exposure Criteria
3. GB-PMC is the Class GB Pollutant Mobility Criteria
4. "*" = From the 2018 Additional Polluting Substances list (required DEEP approval)
5. "NE" = Criteria are not-established
6. "-" = Sample was not analyzed for this parameter
7. **Bold** and shaded indicates sample was detected above RSR Criteria.
8. Criteria for total chromium are not established. As a conservative approach, the criteria for hexavalent chromium is used.
9. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical laboratory reports.
10. GZ-99 is a duplicate sample of B-56.

Table 3E
 Summary of Soil Analytical Data - Area of Concern 6 - Interior Area
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern				AOC-6															
Sample ID	RSR Criteria			Inside															
	R-DEC	I/C-DEC	GB-PMC	B-32	B-33	B-38	B-39	B-40	B-41	B-42	B-43		B-44		B-45	B-46		B-47	B-48
Date				8/8/2017	8/8/2017	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019		6/3/2019	6/3/2019	6/3/2019		6/3/2019	6/3/2019
Depth (feet)				0-0.25	0-0.25	7-10"	6-9"	4-7"	1-4"	7-10"	3-6"	15-18"	0-3"	12.5-15.5"	5.5-8.5"	4-7"	16-19"	8-11"	4-7"
Volatiles Organic Compounds (VOCs) (mg/kg)																			
1,1,1-Trichloroethane	500	1,000	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	5	44	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4 Trimethylbenzene	500*	1,000*	28*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5 Trimethylbenzene	500*	1,000*	28*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	500	1,000	10.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	500*	1,000*	10*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	12	110	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	500	1,000	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene	500	1,000	19.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPLP VOCs (mg/L)																			
Various	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) (mg/kg)																			
Aroclor 1254	1	10	NE	ND<0.06	0.1	<0.074	<0.072	<0.073	0.29	<0.07	1.8	<0.35	1.8	<0.38	<0.074	2.1	<0.34	2	<0.07
Aroclor 1260	1	10	NE	ND<0.06	ND<0.06	<0.074	<0.072	<0.073	<0.078	<0.07	<0.37	<0.35	<0.37	<0.38	<0.074	<0.37	<0.34	<0.38	<0.07
Total PCBs	1	10	NE	ND<0.06	0.1	<0.074	<0.072	<0.073	0.29	<0.07	1.8	<0.35	1.8	<0.38	<0.074	2.1	<0.34	2	<0.07
Pesticides (mg/kg)																			
Pesticides	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)																			
2-Methylnaphthalene	270*	1,000*	5.6*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	1,000*	2,500*	84*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	1,000	2,500	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	1	7.8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	7.8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	8.4*	78*	1.0*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	8.4	78	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	84*	780*	1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	1*	1*	1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	1,000	2,500	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	1,000	2,500	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)Pyrene	1*	7.8*	1.0*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	1,000	2,500	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	1,000	2,500	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	1,000	2,500	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPLP Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)																			
Various	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)																			
ETPH	500	2,500	2,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Metals (mg/kg)																			
Arsenic	10	10	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	4,700	140,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	34	1,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	100/3,900*	100/51,000*	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	2,500	76,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	400	1,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	20	610	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	340	10,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	340	10,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPLP Metals (mg/L)																			
Arsenic	NE	NE	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	NE	NE	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	NE	NE	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alcohols (mg/kg)																			
Alcohols	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

1. R-DEC is the Residential Direct Exposure Criteria
2. I/C-DEC is the Industrial/Commercial Direct Exposure Criteria
3. GB-PMC is the Class GB Pollutant Mobility Criteria
4. "*" = From the 2018 Additional Polluting Substances list (required DEEP approval)
5. "NE" = Criteria are not-established
6. "-" = Sample was not analyzed for this parameter
7. **Bold** and shaded indicates sample was detected above RSR Criteria.
8. Criteria for total chromium are not established. As a conservative approach, the criteria for hexavalent chromium is used.
9. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical laboratory reports.
10. GZ-99 is a duplicate sample of B-56.

Table 3E
 Summary of Soil Analytical Data - Area of Concern 6 - Interior Area
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern				AOC-6													
Sample ID	RSR Criteria			Inside													
				B-49		B-50	B-51		B-52		B-53	B-54		B-55	B-56	GZ-99(10)	B-57
	Date	R-DEC	I/C-DEC	GB-PMC	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/3/2019	6/24/2019
Depth (feet)				4-7"	16-19"	4-7"	1-4"	13-16"	6-9"	13-16"	7-10"	18-21"	30-33"	8-11"	8-10"	8-10"	5.5-8.5
Volatile Organic Compounds (VOCs) (mg/kg)																	
1,1,1-Trichloroethane	500	1,000	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	5	44	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4 Trimethylbenzene	500*	1,000*	28*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5 Trimethylbenzene	500*	1,000*	28*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	500	1,000	10.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	500*	1,000*	10*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	12	110	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	500	1,000	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene	500	1,000	19.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPLP VOCs (mg/L)																	
Various	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs) (mg/kg)																	
Aroclor 1254	1	10	NE	1.4	<0.38	<0.077	11	<0.45	3.7	<0.36	<0.078	1.3	0.52	<0.057	2.1	2.2	0.09
Aroclor 1260	1	10	NE	<0.39	<0.38	<0.077	<5.9	<0.45	<0.54		<0.078	<0.33	<0.52	<0.057	<0.41	<0.36	<0.07
Total PCBs	1	10	NE	1.4	<0.38	<0.077	11	<0.45	3.7	<0.36	<0.078	1.3	0.52	<0.057	2.1	2.2	0.09
Pesticides (mg/kg)																	
Pesticides	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)																	
2-Methylnaphthalene	270*	1,000*	5.6*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	1,000*	2,500*	84*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	1,000	2,500	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	1	7.8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	7.8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	8.4*	78*	1.0*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	8.4	78	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	84*	780*	1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	1*	1*	1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	1,000	2,500	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	1,000	2,500	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)Pyrene	1*	7.8*	1.0*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	1,000	2,500	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	1,000	2,500	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	1,000	2,500	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPLP Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)																	
Various	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)																	
ETPH	500	2,500	2,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Metals (mg/kg)																	
Arsenic	10	10	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	4,700	140,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	34	1,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	100/3,900 ⁸	100/51,000 ⁸	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	2,500	76,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	400	1,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	20	610	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	340	10,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	340	10,000	NE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPLP Metals (mg/L)																	
Arsenic	NE	NE	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	NE	NE	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	NE	NE	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alcohols (mg/kg)																	
Alcohols	varies	varies	varies	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

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6. "-" = Sample was not analyzed for this parameter
7. **Bold** and shaded indicates sample was detected above RSR Criteria.
8. Criteria for total chromium are not established. As a conservative approach, the criteria for hexavalent chromium is used.
9. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical laboratory reports.
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Table 4
 Summary of Phase III Data Gap Investigation Program
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Area of Concern (AOC)	Number of Borings/Samples Completed	Phase III Analytical List	Release Detected (yes/no)	Released Compound & RSR Exceedance	Extent of Release Fully Delineated
AOC-3: Loading Dock	7/12	PCBs	Yes	PCBs above the I/C-DEC	Yes
AOC-4: Former/current USTs along northern side of the Site building	1/1	VOCs	Yes	VOCs below R-DEC and GB-PMC.	No, impacts could not be assessed below or directly proximate to USTs.
AOC 6: Historic use of the building	28/45	PCBs, PAHs, Arsenic, Lead, ETPH	Yes	Interior: PCBs above the R-DEC & I/C-DEC. ETPH above R-DEC.	Interior: Sufficiently characterized to develop remedial approach.
				Exterior: PAHs above R-DEC, I/C-DEC and GB-PMC. Arsenic above R-DEC & I/C-DEC. Lead above R-DEC & I/C-DEC. ETPH below RSRs.	Exterior: No, impacts appear to extend laterally to east onto the adjacent former Amerbelle Mill property. Vertical extent of certain impacts could not be determined due to presence of UST and former raceway.
Site Groundwater	2 Wells	VOCs, PAHs, Pesticides, Arsenic and Lead	Yes	VOCs below the RSRs. PAHs below the RSRs. Arsenic above SWPC. Copper above SWPC. Lead above SWPC.	Yes

Legend:

VOCs = Volatile Organic Compounds
 PAHs = Polycyclic Aromatic Hydrocarbons
 R-DEC = Residential Direct Exposure Criteria
 I/C-DEC = Industrial/Commercial Direct Exposure Criteria
 PCBs = Polychlorinated biphenyls
 ETPH = Extractable Total Petroleum Hydrocarbons

AST = Aboveground Storage Tank
 SWPC = Surface Water Protection Criteria
 UST = Underground Storage Tank
 GB-PMC = GB Pollutant Mobility Criteria
 RSRs = Remediation Standard Regulations

Table 5
 Summary of Groundwater Analytical Data
 Former Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

Sample ID	CT RSRs			MW-1			MW-2			TB061119
	SWPC	R-GWVC	I/C-GWVC	7/27/2015	8/9/2017	6/11/2019	7/27/2015	8/9/2017	6/11/2019	6/11/2019
Volatile Organic Compounds (VOCs) (ug/L)										
cis-1,2-Dichloroethene	6,200*	NE	NE	< 1.0	NA	<1.0	5.6	NA	2	<1.0
Tetrachloroethene	88	1,500	3,820	< 1.0	NA	<1.0	2.5	NA	<1.0	<1.0
Polynuclear Aromatic Hydrocarbons (PAHs) (ug/L)										
Benz(a)anthracene	0.3	NE	NE	< 0.02	NA	<0.05	0.06	NA	<0.05	NA
Benzo(a)pyrene	0.3	NE	NE	< 0.02	NA	<0.19	0.05	NA	<0.19	NA
Benzo(b)fluoranthene	0.3	NE	NE	< 0.02	NA	<0.07	0.07	NA	<0.07	NA
Benzo(k)fluoranthene	0.3	NE	NE	< 0.02	NA	<0.28	0.03	NA	<0.28	NA
Chrysene	0.54*	NE	NE	< 0.02	NA	<0.47	0.04	NA	<0.47	NA
Indeno(1,2,3-cd)pyrene	14.8	NE	NE	< 0.02	NA	<0.09	0.03	NA	<0.09	NA
Pyrene	110,000	NE	NE	< 0.10	NA	<0.47	0.12	NA	<0.47	NA
Total Metals (ug/L)										
Arsenic	4	NE	NE	< 4	<2.5	<4	5	<2.5	<4	NA
Barium	2,200*	NE	NE	240	212	NA	125	55.6	NA	NA
Cadmium	6	NE	NE	< 1	<2.5	NA	< 1	<2.5	NA	NA
Chromium	110 ⁺	NE	NE	1	<10	NA	7	<10	NA	NA
Copper	48	NE	NE	< 5	<10	NA	75	<10	NA	NA
Lead	13	NE	NE	< 2	<10	2	78	<10	4	NA
Total Pesticides (ug/L)										
Dieldrin	0.1	NE	NE	0.002	NA	NA	0.003	NA	NA	NA

Notes:

1. CT RSRs = Connecticut Remediation Standard Regulations
2. SWPC is the Surface Water Protection Criteria
3. I/C-GWVC is the Industrial Commercial Groundwater Volatilization Criteria
4. R-GWVC is the Residential Groundwater Volatilization Criteria
5. Only those compounds detected are shown. For a full list of analytes tested for, refer to the analytical reports.
6. "*" = From the 2018 Additional Polluting Substances (requires DEEP approval)
7. "NE" = Criteria are not-established
8. **Bold** and shaded indicates sample was detected above RSR Criteria.
9. < 1 = Analyte not detected above detection limits
10. "+" = There are no criteria for total chromium. Criteria shown are for hexavalent chromium.
11. "NA" = Not Analyzed

TABLE 6
INTERIOR BUILDING MATERIAL PCB SAMPLE SUMMARY
 Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

SAMPLE NUMBER	DATE SAMPLED	MATERIAL DESCRIPTION		MATERIAL LOCATION	CONCENTRATION (PPM) - TYPE PCB				
					Aroclor 1242	Aroclor 1254	Aroclor 1260	Aroclor 1268	Total PCBs
1ST FLOOR									
PCB-1-1-23	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, first floor, southern loading dock, north overhead door, floor	ND<0.2	18.6	ND<0.2	ND<0.2	18.6
PCB-2-1-19	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 2, first floor, western hallway, northern end of hallway, floor beneath carpet	ND<9.8	93.2	ND<9.8	ND<9.8	93.2
PCB-1-1-20	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, first floor, hallway, southern side, northeast of elevator, floor	ND<5.0	26.9	ND<5.0	ND<5.0	26.9
PCB-1-1-21	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, first floor, hallway, southwest corner, floor	ND<5.0	58.6	ND<5.0	ND<5.0	58.6
PCB-1-1-22	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, first floor, electrical equipment storage room (northwest corner of building), north side, floor	ND<9.8	67.6	ND<9.8	ND<9.8	67.6
PCB-2-1-24	11/2/2017	Wood floor	Top 0.5" of 2nd layer of flooring	Building 2, first floor, western hallway, northern end of hallway, floor, under wood floor first layer (PCB-2-1-19)	ND<5.4	48.1	ND<5.4	ND<5.4	48.1
PCB-1-1-28	11/2/2017	Wood floor, 3/4-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 3/4-inch thick	Building 1, first floor, electrical equipment storage room (northwest corner of building), north side, floor, under wood floor first layer (PCB-1-1-22)	ND<0.1	8.6	ND<0.1	ND<0.1	8.6
PCB-1-1-28B	11/2/2017	Wood floor, 3-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 3-inches thick	Building 1, first floor, electrical equipment storage room (northwest corner of building), north side, floor, under wood PCB-1-1-28	ND<0.1	0.6	ND<0.1	ND<0.1	0.6
PCB-1-1-29	11/2/2017	Wood beam		Building 1, first floor, south side, ceiling, three windows west of elevator, under white paint	ND<0.1	3	ND<0.1	ND<0.1	3
PCB-2-1-25	11/2/2017	Wood beam		Building 2, first floor, west wall, four windows south of Building 1 entrance, under black and white paint	ND<0.1	1.4	ND<0.1	ND<0.1	1.4
PCB-1-1-31	11/2/2017	Wood column		Building 1, first floor, electrical equipment storage room, second post from door, under pink, green, and black paint	ND<0.1	4.6	ND<0.1	ND<0.1	4.6
PCB-2-1-26	11/2/2017	Wood ceiling		Building 2, first floor, west wall, ceiling, four windows south of Building 1 entrance, under white paint	ND<53.8	254	ND<53.8	ND<53.8	254
PCB-1-1-30	11/2/2017	Wood ceiling		Building 1, first floor, south side, ceiling, three windows west of elevator, under white paint	ND<0.1	0.8	0.1	ND<0.1	0.9
PCB-2-1-27	11/2/2017	Brick		Building 2, first floor, west wall, ceiling, four windows south of Building 1 entrance, under black paint	ND<0.1	0.2	ND<0.1	ND<0.1	0.2
PCB-1-1-32	11/3/2017	Plaster		Building 1, first floor, south wall, hallway, three windows west of elevator	ND<0.1	0.5	ND<0.1	ND<0.1	0.5
PCB-1-1-33	11/3/2017	Masonry wall		Building 1, first floor, south wall, hallway, three windows west of elevator, under PCB-1-1-32	ND<0.1	0.1	ND<0.1	ND<0.1	0.1
PCB-2-1-PAINT-1	11/2/2017	Paint, black		Building 2, first floor, west wall, fourth window south of Building 2 entrance, on wood beam	ND	50.6	13.2	ND<5.3	63.8
2ND FLOOR									
PCB-2-2-14	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 2, second floor, eastern hallway, northern end, middle of hallway, floor under mastic	ND<0.2	5.1	ND<0.2	ND<0.2	5.1
PCB-1-2-16	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, second floor, eastern room (machine shop), middle wall, northern end, by lathe, floor	ND<10.2	133	ND<10.2	ND<10.2	133
PCB-1-2-18	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, second floor, elevator threshold, floor	ND<0.2	19.4	ND<0.2	ND<0.2	19.4
PCB-2-2-15	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 2, second floor, western hallway, middle of hallway, middle of floor, floor	ND<5.0	26.9	ND<5.0	ND<5.0	26.9
PCB-1-2-17	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, second floor, southern wall, by entrance to Building 2, north of stairs, floor	ND<4.9	23.4	ND<4.9	ND<4.9	23.4
PCB-2-2-23	11/2/2017	Wood floor, 3-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 3-inches thick	Building 2, second floor, western hallway, middle of hallway, middle of floor, floor, under wood floor first layer (PCB-2-2-15)	ND<0.1	0.5	ND<0.1	ND<0.1	0.5
PCB-1-2-29	11/2/2017	Wood floor	Top 0.5" of 2nd layer of flooring.	Building 1, second floor, southern wall, by entrance to Building 2, north of stairs, floor, under wood floor first layer (PCB-1-2-17)	ND<0.1	0.7	ND<0.1	ND<0.1	0.7
PCB-2-2-22	11/2/2017	Wood ceiling		Building 2, second floor, middle isle, ceiling, under white paint	ND<0.1	2.2	ND<0.1	ND<0.1	2.2
PCB-1-2-25	11/2/2017	Wood ceiling		Building 1, second floor, off elevator, ceiling, under white paint	ND<0.1	8.1	3.6	ND<0.1	11.7
PCB-2-2-21	11/2/2017	Wood beam		Building 2, second floor, middle isle, ceiling, under white paint	ND<0.1	1.6	ND<0.1	ND<0.1	1.6
PCB-1-2-24	11/2/2017	Wood beam		Building 1, second floor, off elevator, under white paint	ND<0.1	4.7	1.5	ND<0.1	6.2
PCB-2-2-19	11/2/2017	Brick		Building 2, second floor, south end, under white paint	ND<0.1	0.3	ND<0.1	ND<0.1	0.3
PCB-1-2-28	11/2/2017	Brick		Building 1, second floor, brick by elevator door	ND<0.1	2.6	1.5	ND<0.1	4.1
PCB-1-2-27	11/2/2017	Plaster		Building 1, second floor, stairs to first floor, south wall, under PCB1-2-26	ND<0.1	4.4	ND<0.1	ND<0.1	4.4
PCB-1-2-26	11/2/2017	Waxy paint layer		Building 1, second floor, stairs to first floor, south wall, under brown paint	ND<2	13.8	3.2	ND<2	17
PCB-2-2-PAINT-5	8/7/2017	Paint, light green		Building 1, second floor, eastern room (machine shop), west wall, on plaster	ND	37.4	ND<5.1	ND<5.1	37.4
PCB-2-2-MASTIC	8/7/2017	Mastic		Building 2, second floor, eastern hallway, northern end, middle of hallway, floor	ND	46.2	ND<5.0	ND<5.0	46.2
PCB-1-2-26	11/2/2017	Waxy paint layer		Building 1, second floor, stairs to first floor, south wall, under brown paint	ND	13.8	3.2	ND<2	17

TABLE 6
INTERIOR BUILDING MATERIAL PCB SAMPLE SUMMARY
 Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

SAMPLE NUMBER	DATE SAMPLED	MATERIAL DESCRIPTION		MATERIAL LOCATION	CONCENTRATION (PPM) - TYPE PCB				
					Aroclor 1242	Aroclor 1254	Aroclor 1260	Aroclor 1268	Total PCBs
3RD FLOOR									
PCB-1-3-13	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, third floor, elevator threshold, floor	ND<10.1	79.3	ND<10.1	ND<10.1	79.3
PCB-2-3-09	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 2, third floor, eastern hallway, middle of hallway, middle of floor, floor	ND<5.0	88.5	ND<5.0	ND<5.0	88.5
PCB-2-3-10	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 2, third floor, western hallway, middle of hallway, middle of floor, floor	ND<0.1	8.5	ND<0.1	ND<0.1	8.5
PCB-1-3-11	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, third floor, eastern hallway, middle of hallway, middle of floor, floor	ND<1.9	21.4	ND<1.9	ND<1.9	21.4
PCB-1-3-12	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, third floor, northwestern hallway, middle of hallway, floor	ND<9.9	74.9	ND<9.9	ND<9.9	74.9
PCB-1-3-14	11/2/2017	Wood floor, 1-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 1-inch thick	Building 1, third floor, northwestern hallway, middle of hallway, floor, under wood floor first layer (PCB-1-3-12)	1	2.8	ND<0.1	ND<0.1	3.8
PCB-1-3-14B	11/2/2017	Wood floor, 2-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 2-inches thick	Building 1, third floor, northwestern hallway, middle of hallway, floor, under wood floor PCB-1-3-14	0.6	1.4	ND<0.1	ND<0.1	2
PCB-2-3-22	11/2/2017	Wood floor, 1-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 1-inches thick	Building 2, third floor, eastern hallway, middle of hallway, middle of floor, floor, under wood floor first layer (PCB-2-3-09)	ND<0.1	7.2	ND<0.1	ND<0.1	7.2
PCB-2-3-22B	11/2/2017	Wood floor, 3-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 3-inches thick	Building 2, third floor, eastern hallway, middle of hallway, middle of floor, floor, under wood floor PCB-2-3-22	ND<0.1	2.8	ND<0.1	ND<0.1	2.8
PCB-1-3-19	11/2/2017	Wood ceiling		Building 1, third floor, off elevator, ceiling, under grey and white paint	ND<0.1	0.5	ND<0.1	ND<0.1	0.5
PCB-2-3-24	11/2/2017	Wood ceiling		Building 2, third floor, ceiling, central hallway by entrance to Building 1	ND<0.1	3.7	ND<0.1	ND<0.1	3.7
PCB-2-3-23	11/2/2017	Wood beam		Building 2, third floor, central hallway by entrance to Building 1	ND<0.1	0.3	ND<0.1	ND<0.1	0.3
PCB-1-3-18	11/2/2017	Wood beam		Building 1, third floor, off elevator, under grey and white paint	ND<0.1	0.6	ND<0.1	ND<0.1	0.6
PCB-1-3-17	11/2/2017	Wood column		Building 1, third floor, off elevator	ND<2.2	18.4	ND<2.2	ND<2.2	18.4
PCB-2-3-21	11/2/2017	Brick		Building 2, third floor, west wall by entrance to Building 1, under PCB-2-3-21	ND<0.1	0.3	0.2	ND<0.1	0.5
PCB-1-3-16	11/2/2017	Masonry wall		Building 1, third floor, north wall, under PCB-1-3-15	ND<0.1	0.2	ND<0.1	ND<0.1	0.2
PCB-1-3-15	11/2/2017	Plaster		Building 1, third floor, north wall, by PCB-1-3-14	ND<0.1	0.6	ND<0.1	ND<0.1	0.6
PCB-2-3-20	11/2/2017	Plaster		Building 2, third floor, west wall by entrance to Building 1	ND<0.1	0.1	ND<0.1	ND<0.1	0.1
PCB-1-3-PAINT-1	11/2/2017	Paint, brown		Building 1, third floor, north wall by PCB-1-3-14	ND	66.5	13.4	ND<5.2	79.9
PCB-1-3-PAINT-2	11/2/2017	Paint, cream		Building 1, third floor, north wall by PCB-1-3-14	ND	102	ND<11.1	ND<11.1	102
PCB-1-3-PAINT-3	11/2/2017	Paint, gray		Building 1, third floor, wood beam by elevator	ND	32.1	ND<5.2	ND<5.2	32.1
PCB-1-3-GLAZE-2	8/7/2017	Window glazing, white		Building 1, third floor, north wall window, on window pane	ND	5.5	ND<0.5	ND<0.5	5.5
4TH FLOOR									
PCB-2-4-04	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 2, fourth floor, eastern hallway, southern end, middle of floor, floor	ND<0.1	6.4	ND<0.1	ND<0.1	6.4
PCB-2-4-05	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 2, fourth floor, western hallway, southern end, middle of floor, floor	ND<2.0	19.7	ND<2.0	ND<2.0	19.7
PCB-1-4-06	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, fourth floor, east of elevator, floor	ND<9.8	56.3	ND<9.8	ND<9.8	56.3
PCB-1-4-07	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, fourth floor, west of elevator, middle of floor, floor	ND<20	147	ND<20	ND<20	147
PCB-1-4-08	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, fourth floor, eastern room, northwest corner, floor	ND<2.0	13.9	ND<2.0	ND<2.0	13.9
PCB-1-4-09	11/1/2017	Wood floor, 1-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 1-inch thick	Building 1, fourth floor, east of elevator, floor, under wood floor first layer (PCB-1-4-06)	0.9	1.5	ND<0.1	ND<0.1	2.4
PCB-1-4-09B	11/1/2017	Wood floor, 2-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 2-inches thick	Building 1, fourth floor, east of elevator, floor, under wood floor PCB-1-4-09	0.6	2.6	ND<0.1	ND<0.1	3.2
PCB-1-4-10	11/1/2017	Wood floor, 1-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 1-inch thick	Building 1, fourth floor, west of elevator, middle of floor, under wood floor first layer (PCB-1-4-07)	0.9	5.4	ND<0.1	ND<0.1	6.3
PCB-1-4-10B	11/1/2017	Wood floor, 2-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 2-inches thick	Building 1, fourth floor, west of elevator, middle of floor, under wood floorPCB-1-4-10	0.3	0.5	ND<0.1	ND<0.1	0.8
PCB-1-4-14	11/1/2017	Wood ceiling		Building 1, fourth floor, north room, middle of room, ceiling	ND<0.1	1.5	1.1	ND<0.1	2.6
PCB-2-4-18	11/1/2017	Wood ceiling		Building 2, fourth floor, east room, center of ceiling	ND<0.1	0.7	ND<0.1	ND<0.1	0.7
PCB-1-4-13	11/1/2017	Wood beam		Building 1, fourth floor, north room, middle of room	ND<0.1	1.3	0.3	ND<0.1	1.6
PCB-2-4-19	11/1/2017	Wood beam		Building 2, fourth floor east room, center	ND<0.1	0.4	ND<0.1	ND<0.1	0.4
PCB-1-4-15	11/1/2017	Wood column		Building 1, fourth floor, northeast room, column	ND<0.1	2.6	ND<0.1	ND<0.1	2.6
PCB-1-4-12	11/1/2017	Brick		Building 1, fourth floor, north wall, three windows east of northwest corner, under PCB-1-4-11	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND
PCB-2-4-17	11/1/2017	Brick		Building 2, fourth floor, northeast wall, under PCB-2-4-16	ND<0.1	0.2	ND<0.1	ND<0.1	0.2
PCB-2-4-16	11/1/2017	Plaster		Building 2, fourth floor, northeast wall	ND<0.1	0.6	ND<0.1	ND<0.1	0.6
PCB-1-4-11	11/1/2017	Plaster		Building 1, fourth floor, north wall, three windows east of northwest corner	ND<0.1	0.9	ND<0.1	ND<0.1	0.9
PCB-2-4-PAINT-3	8/7/2017	Paint, black		Building 2, fourth floor, north wall, on plaster	ND	61.4	ND<5.6	ND<5.6	61.4
PCB-1-4-PAINT-4	8/7/2017	Paint, white		Building 1, fourth floor, north plaster wall, on top of green paint	ND	69.3	ND<5.0	ND<5.0	69.3
PCB-1-4-PAINT-5	11/1/2017	Paint, white		Building 1, fourth floor, north room, ceiling, by PCB-1-4-13	ND	33.2	19.1	ND<5.1	52.3
PCB-1-4-PAINT-6	11/1/2017	Paint, red		Building 1, fourth floor, east room, on post	ND	68.1	66.5	ND<10.4	134.6
PCB-1-4-PAINT-7	11/3/2017	Paint, gray		Building 1, fourth floor, entrance to large room on north side, floor	ND	112	28.3	ND<10.6	140.3
PCB-2-4-GLAZE-1	8/7/2017	Window glazing, white		Building 2, fourth floor, east wall window, on window pane	ND	17.1	ND<0.5	ND<0.5	17.1

TABLE 6
INTERIOR BUILDING MATERIAL PCB SAMPLE SUMMARY
 Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

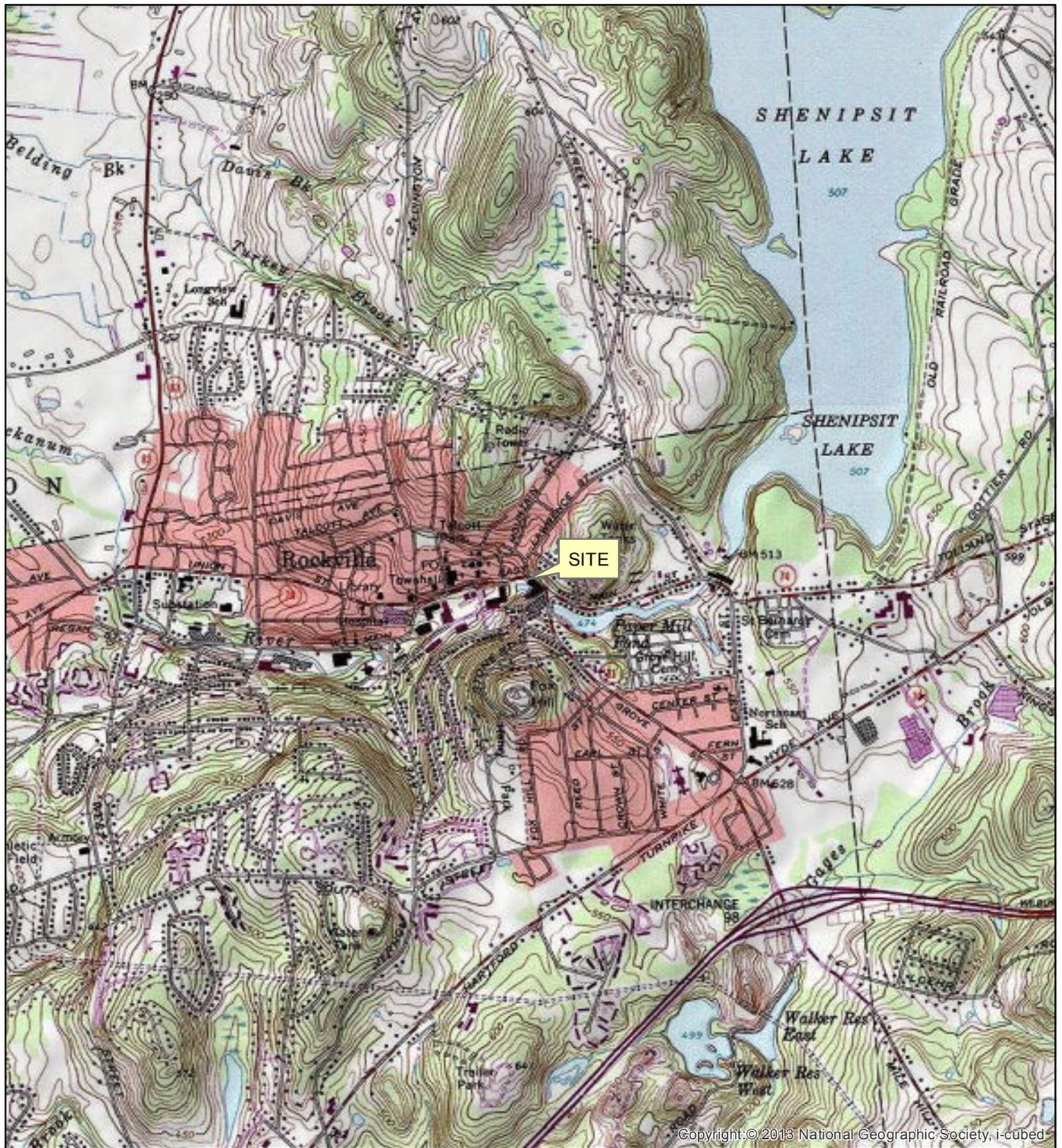
SAMPLE NUMBER	DATE SAMPLED	MATERIAL DESCRIPTION		MATERIAL LOCATION	CONCENTRATION (PPM) - TYPE PCB				
					Aroclor 1242	Aroclor 1254	Aroclor 1260	Aroclor 1268	Total PCBs
5TH FLOOR									
PCB-2-5-01	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 2, fifth floor, north wall, in front of tunnel, floor	ND<0.1	1.9	1	ND<0.1	2.9
PCB-1-5-02	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, fifth floor, east wall, middle of floor, floor	ND<0.1	2.8	ND<0.1	ND<0.1	2.8
PCB-1-5-03	8/7/2017	Wood floor	Top 0.5" - upper layer of wood flooring	Building 1, fifth floor, west of elevator, middle of floor, floor	ND<2.0	29.1	ND<2.0	ND<2.0	29.1
PCB-1-5-04	11/1/2017	Wood floor, 1.25-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 1.25-inches thick	Building 1, fifth floor, west of elevator, middle of floor, under wood floor first layer (PCB-1-5-03)	ND<0.2	2.3	ND<0.2	ND<0.2	2.3
PCB-1-5-04A	11/1/2017	Wood floor, 1-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 1-inch thick	Building 1, fifth floor, west of elevator, middle of floor, under wood floor PCB-1-5-04	ND<0.2	1.4	ND<0.2	ND<0.2	1.4
PCB-1-5-04B	11/1/2017	Wood floor, 1.25-inch thick	Top 0.5" of 2nd layer of flooring. 2nd layer of flooring approximately 1.25-inches thick	Building 1, fifth floor, west of elevator, middle of floor, under wood floor PCB-1-5-04A	0.5	1.8	0.6	ND<0.1	2.9
PCB-1-5-05	11/1/2017	Wood truss		Building 1, fifth floor, west truss north of elevator, under green, gray, and white paint	ND<0.1	0.5	ND<0.1	ND<0.1	0.5
PCB-1-5-06	11/1/2017	Wood ceiling		Building 1, fifth floor, east of elevator, ceiling, under rolled asphalt roofing	ND<0.1	0.3	ND<0.1	ND<0.1	0.3
PCB-2-5-08	11/1/2017	Wood ceiling		Building 2, fifth floor, at entrance to Building 2	ND<0.1	0.3	ND<0.1	ND<0.1	0.3
PCB-2-5-07	11/1/2017	Wood truss		Building 2, fifth floor, at entrance to Building 1	ND<0.1	0.4	ND<0.1	ND<0.1	0.4
PCB-1-5-10	11/1/2017	Brick		Building 1, fifth floor, west wall, under PCB-1-5-09	ND<0.1	0.4	0.1	ND<0.1	0.5
PCB-1-5-09	11/1/2017	Plaster		Building 1, fifth floor, west wall, under white paint	ND<0.1	0.6	0.2	ND<0.1	0.8
PCB-1-5-PAINT-1	8/7/2017	Paint, gray		Building 1, fifth floor, wood truss, north of elevator, on top of green paint	ND	61.5	ND<5.0	ND<5.0	61.5
PCB-1-5-PAINT-2	8/7/2017	Paint, green		Building 1, fifth floor, wood truss, north of elevator, below white paint, on wood	ND	163	ND<10.2	ND<10.2	163
BASEMENT									
PCB-1-B-24	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, at boring B-31, floor	ND<4.3	39.3	ND<4.3	ND<4.3	39.3
PCB-1-B-25	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, at boring B-30, floor	ND<0.2	5.9	1.8	ND<0.2	7.7
PCB-1-B-26	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, at boring B-32, floor	ND<0.2	9.4	3.1	ND<0.2	12.5
PCB-1-B-27	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, between boring B-31 and B-32, floor	ND<0.2	0.8	ND<0.2	ND<0.2	0.8
PCB-1-B-28	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, at boring B-33, floor	ND<0.2	9.2	ND<0.2	ND<0.2	9.2
PCB-1-B-29	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, at boring B-29, floor	ND<0.2	1.9	ND<0.2	ND<0.2	1.9
PCB-1-B-30	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, at boring B-28, floor	ND<0.2	7.8	3.3	ND<0.2	11.1
PCB-1-B-31	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, at boring B-34, floor	ND<0.2	0.8	ND<0.2	ND<0.2	0.8
PCB-1-B11-32	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, at boring B-11A, floor	ND<4.1	50.9	ND<4.1	ND<4.1	50.9
PCB-1-B15-33	8/7/2017	Concrete Floor	Top 0.5" - upper layer of concrete flooring	Building 1, basement, at boring B-32A, floor	ND<4.2	38.3	ND<4.2	ND<4.2	38.3
PCB-1-B-38	11/3/2017	Wood ceiling		Building 1, basement, ceiling, above first wood column north of elevator, under white black paint	ND<5.5	24.4	5.5	5.5	35.4
PCB-2-B-43	11/3/2017	Wood ceiling		Building 2, basement, south end, ceiling, under grey and white paint	ND<0.1	3.2	0.7	ND<0.1	3.9
PCB-2-B-42	11/3/2017	Wood column		Building 2, basement, middle, under white paint	2.3	21.8	2.3	2.3	28.7
PCB-1-B-36	11/3/2017	Wood column		Building 1, basement, first wood column north of elevator, under white black paint	ND<5.1	66.2	25.1	5.1	96.4
PCB-1-B-37	11/3/2017	Wood beam		Building 1, basement, above first wood column north of elevator, under white black paint	ND<2.2	12.7	2.2	2.2	17.1
PCB-2-B-44	11/3/2017	Wood beam		Building 2, basement, south end, under grey and white paint	ND<0.1	5.4	0.7	ND<0.1	6.1
PCB-2-B-39	11/3/2017	Brick		Building 2, basement, west wall be exit to exterior deck	ND<0.1	8.8	0.1	0.1	9
PCB-1-B-34	11/3/2017	Masonry foundation		Building 1, basement, north wall, across from elevator	ND<0.1	0.1	ND<0.1	ND<0.1	0.1
PCB-2-B-40	11/3/2017	Masonry foundation		Building 2, basement, east wall by southeast corner	ND<0.1	0.1	0.1	0.1	0.3
PCB-1-B-35	11/3/2017	Plaster		Building 1, basement, south wall, west of elevator	ND<0.1	9.3	3.3	ND<0.1	12.6
PCB-2-B-41	11/3/2017	Plaster		Building 2, basement, east wall by southeast corner, on masonry foundation	ND<0.1	5.7	0.7	0.1	6.5
PCB-1-B-PAINT-1	11/3/2017	Paint, white over black		Building 1, basement, above PCB-1-B-36	ND	11.8	ND<0.1	ND<0.1	11.8
PCB-1-B-PAINT-2	11/3/2017	Paint, white over black		Building 1, basement, above PCB-1-B-37	ND	58.5	ND<5.1	ND<5.1	58.5
PCB-2-B-PAINT-3	11/3/2017	Paint, gray over white		Building 1, basement, above PCB-2-B-43	ND	50.9	16.5	ND<5.1	67.4

ND = Not detected at a concentration above the laboratory's reporting limit.

Bold = Sample results exceed 1 ppm.



FIGURES



GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com



USGS 7.5 MINUTE
QUADRANGLE BASE MAP:
ROCKVILLE, CONNECTICUT
1997

SITE LOCUS

98 EAST MAIN STREET
VERNON-ROCKVILLE, CONNECTICUT

Source: TOPO! maps are USGS topographic maps, Copyright: © 2011 National Geographic Society, i-cubed and are provided by arcgisonline.com.

PROJ MGR: JTH	REVIEWED BY: JTH	PROJECT NO. 05.0045441.03
DESIGNED BY: BAG	DRAWN BY: MJS	DATE: 07-16-15

THIS MAP HAS BEEN COMPILED FROM OTHER MAPS AND/OR SOURCES OF INFORMATION. THIS MAP SHOULD NOT BE CONSTRUED AS A PROPERTY SURVEY, NOR USED FOR CONSTRUCTION PURPOSES.



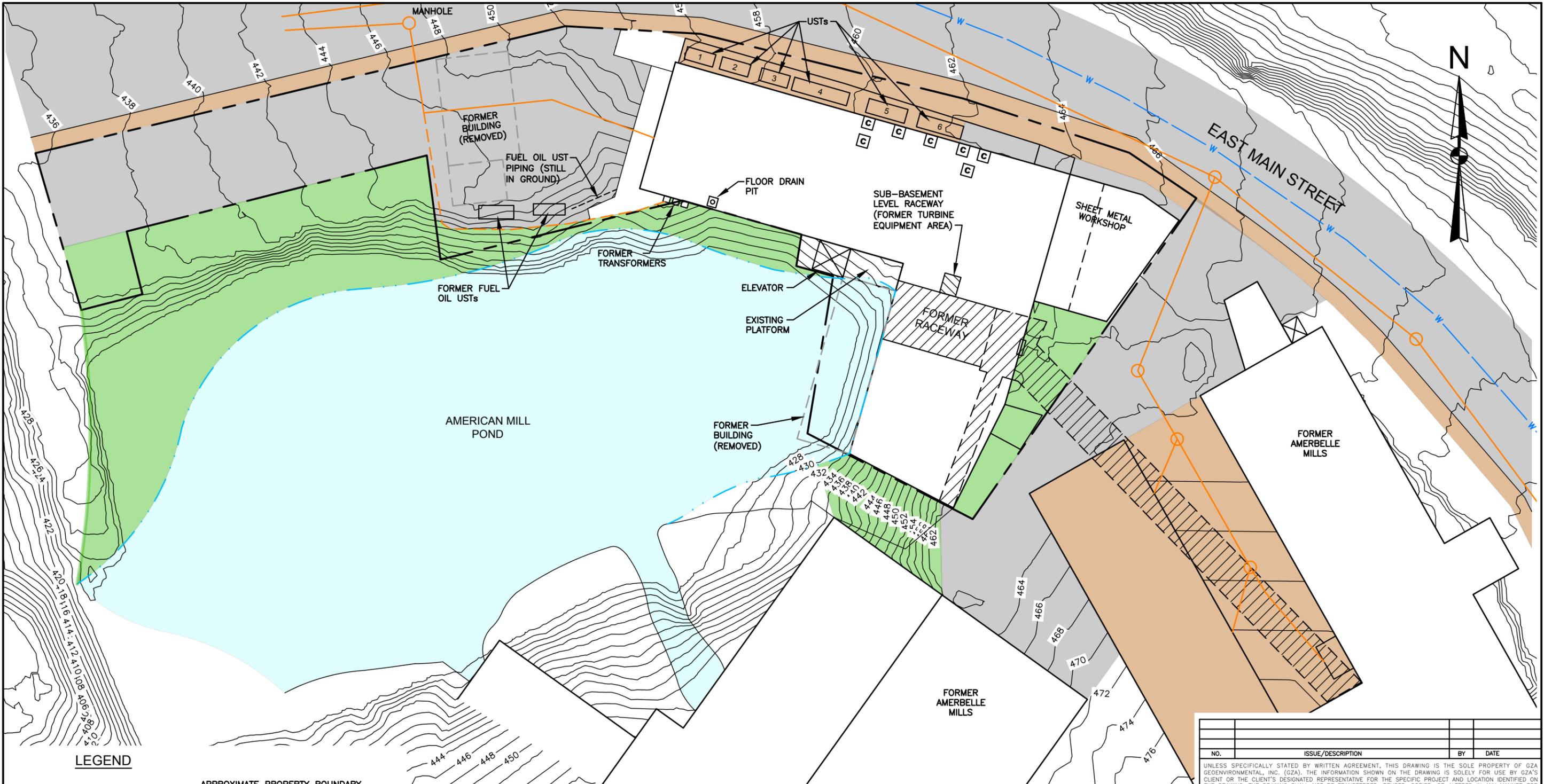
Scale in Feet



FIGURE

1

© 2015 - GZA GeoEnvironmental, Inc. GZA-u:\45,000-45,499\45441 Amerbelle\45441-06\CAD\Figures\REV_11\JUNE2019\B-FIG2-SITE.dwg [11X17] October 16, 2019 - 10:57am michael.tumolo



LEGEND

- APPROXIMATE PROPERTY BOUNDARY (SEE NOTE 1)
- SANITARY SEWER LINE
- FORMER SANITARY SEWER LINE
- W WATER LINE
- C CONCRETE EQUIPMENT SUPPORT
- LANDSCAPED/GRASS AREA
- ASPHALT AREA
- CONCRETE AREA
- GROUND SURFACE CONTOUR (FEET RELATIVE TO NAVD88)



NOTES:

1. PROPERTY LINES ARE APPROXIMATE AND BASED ON THE TOWN OF VERNON PARCEL MAP FROM THEIR GIS WEBSITE.
2. GROUND SURFACE ELEVATIONS DERIVED FROM 2016 DIGITAL ELEVATION MODEL (DEM) DATA OBTAINED FROM THE CONNECTICUT ENVIRONMENTAL CONDITIONS ONLINE (CT ECO) DATABASE AND ARE APPROXIMATE.

NO.	ISSUE/DESCRIPTION	BY	DATE

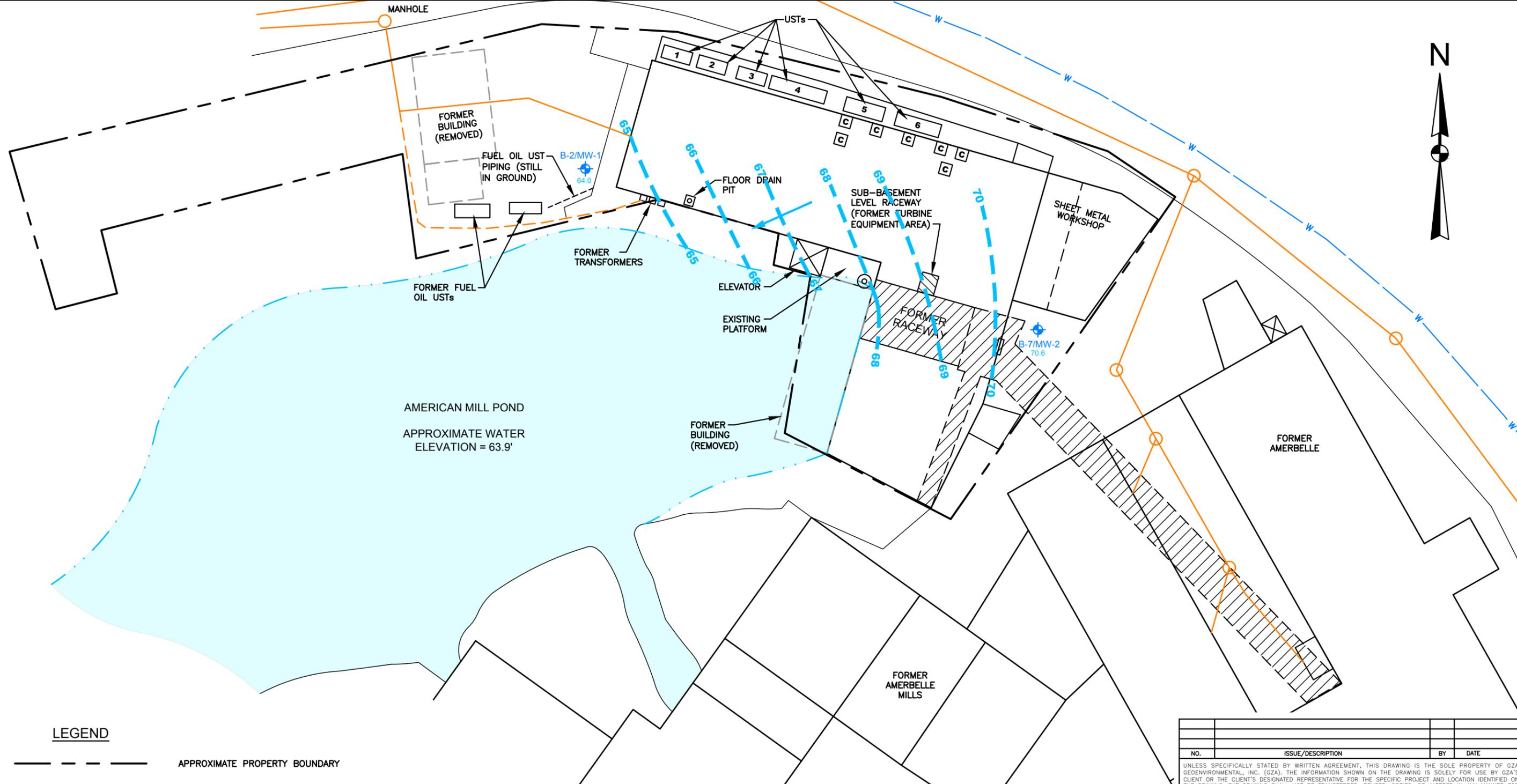
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**98 EAST MAIN STREET
VERNON-ROCKVILLE, CONNECTICUT**

SITE PLAN

PREPARED BY:		PREPARED FOR:	
GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		[Client Name] [Client Address]	
PROJ MGR: JTH	REVIEWED BY: JTH	CHECKED BY:	FIGURE 2
DESIGNED BY: AJT	DRAWN BY: MJS	SCALE: 1"=30'	
DATE: 10-1-2019	PROJECT NO. 05.0045441.06	REVISION NO.	
SHEET NO.			2

©2015 - GZA GeoEnvironmental, Inc. GZA-u:\45,000-45,499\45441 Amerbelle\45441-06\CAD\Figures\REV_11\JUNE2019\B-FIG4-GWC.dwg [11X17] October 16, 2019 - 11:00am michaelt.turnolo



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- SANITARY SEWER LINE
- FORMER SANITARY SEWER LINE
- WATER LINE
- CONCRETE EQUIPMENT SUPPORT
- GROUNDWATER MONITORING WELL
- BEDROCK GROUNDWATER ELEVATION (FEET), JUNE 11, 2019
- INFERRED BEDROCK GROUNDWATER CONTOUR (FEET), JUNE 11, 2019
- INFERRED GROUNDWATER FLOW
- AMERICAN MILL POND DEPTH TO WATER MEASUREMENT LOCATIONS



NOTES:
 1. PROPERTY LINES ARE APPROXIMATE AND BASED ON THE TOWN OF VERNON PARCEL MAP FROM THEIR GIS WEBSITE.

NO.	ISSUE/DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

**98 EAST MAIN STREET
 VERNON-ROCKVILLE, CONNECTICUT**

BEDROCK GROUNDWATER CONTOUR MAP

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR:	
PROJ MGR: JTH DESIGNED BY: BAG DATE: 10-1-2019	REVIEWED BY: JTH DRAWN BY: MJS PROJECT NO. 05.0045441.06	CHECKED BY: SCALE: SCALE REVISION NO.	FIGURE 4 SHEET NO.



APPENDIX A LIMITATIONS



USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

STANDARD OF CARE

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.
4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

SUBSURFACE CONDITIONS

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
6. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

COMPLIANCE WITH CODES AND REGULATIONS

7. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.

**SCREENING AND ANALYTICAL TESTING**

8. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.
9. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.
10. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

INTERPRETATION OF DATA

11. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

ADDITIONAL INFORMATION

12. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

ADDITIONAL SERVICES

13. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.



APPENDIX B
BORING LOGS AND SHALLOW SOIL SAMPLING LOGS

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

EXPLORATION NO.: B-21
SHEET: 1 of 1
PROJECT NO: 45441.06
REVIEWED BY: D. Rusczyk

Logged By: B. Graham
Drilling Co.: Glacier Drilling
Foreman: Lavelle

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 10
Date Start - Finish: 8/7/2017 - 8/7/2017

H. Datum:
V. Datum:

Type of Rig: GeoProbe
Rig Model: 6610 DT
Drilling Method: Direct Push

Sampler Type: Macro Core
Sampler O.D. (in.): 2.75
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
5	S-1	0-5	60	42	0.0	S-1: Top 2": ASPHALT Next 10": Brown-gray, fine to medium SAND, little Silt, trace Brick and Asphalt Next 15": Brown, fine to medium SAND, some Silt, trace fine to coarse Gravel Bottom 15": Gray-brown, fine to medium SAND, some Silt, little Asphalt, Brick and fine to coarse Gravel S-2: Top 18": Gray-brown, fine to medium SAND, some Silt, little Asphalt and fine to coarse Gravel Next 8": Red-brown, fine to medium SAND, little Silt and fine to coarse Gravel Next 4": Brown, fine SAND Bottom 12": Brown, fine to medium SAND, little Silt and fine to coarse Gravel	1	0.2	ASPHALT	0.2
	0.2							FILL		
	0.1									
	0.3									
	0.3	S-2	5-10	60	42					7
	0.0									
	0.0								SAND	
	10									10

End of Exploration at 10 feet.

REMARKS
 1 - Soil samples screened with a 10.6 eV Thermo Environmental Instruments Model 580B organic vapor meter (OVM). OVM values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. A "***" indicates a sample sent to a laboratory for additional analyses or screening. ND=None Detected above background.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

B-21

GZA TEMPLATE GEOPROBE GEOPROBE LOGS.GPJ LIBRARY 012111.GLB 10/2/2019 4:41:13 PM

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

EXPLORATION NO.: B-23
 SHEET: 1 of 1
 PROJECT NO: 45441.06
 REVIEWED BY: D. Rusczyk

Logged By: B. Graham
Drilling Co.: Glacier Drilling
Foreman: Lavelle

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 10
Date Start - Finish: 8/7/2017 - 8/7/2017

H. Datum:
V. Datum:

Type of Rig: GeoProbe
Rig Model: 6610DT
Drilling Method: Direct Push

Sampler Type: Macro Core
Sampler O.D. (in.): 2.75
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)				
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)									
5	S-1	0-5	60	48	0.3 0.2 0.2 0.2	S-1: Top 3": ASPHALT Middle 4": ROAD BASE Bottom 41": Red-brown, fine to medium SAND, some Silt, little fine to coarse Gravel, trace Asphalt	1	0.3	ASPHALT	0.3				
	S-2	5-10	60	42	0.1 0.0 0.0 0.0				SAND (FILL)					
	10	End of Exploration at 10 feet.											10	
	15													
	20													
25														
30														

REMARKS
 1 - Soil samples screened with a 10.6 eV Thermo Environmental Instruments Model 580B organic vapor meter (OVM). OVM values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. A "***" indicates a sample sent to a laboratory for additional analyses or screening. ND=None Detected above background.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

B-23

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

EXPLORATION NO.: B-24
 SHEET: 1 of 1
 PROJECT NO: 45441.06
 REVIEWED BY: D. Rusczyk

Logged By: B. Graham
Drilling Co.: Glacier Drilling
Foreman: Lavelle

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 10
Date Start - Finish: 8/7/2017 - 8/7/2017

H. Datum:
V. Datum:

Type of Rig: GeoProbe
Rig Model: 6610DT
Drilling Method: Direct Push

Sampler Type: Macro Core
Sampler O.D. (in.): 2.75
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
5	S-1	0-5	60	45	0.6 0.8 0.6 0.4	S-1: Top 3": ASPHALT Next 2": Brown, fine to medium SAND Next 2": Gray, ROAD BASE Next 5": Red-brown, fine to medium SAND, little Silt, fine to coarse Gravel and Asphalt Next 12": Red-brown, fine to medium SAND, little Silt and fine to coarse Gravel	1	0.3	ASPHALT	0.3
	0.7	ROAD BASE	0.7							
10	S-2	5-10	60	43	0.2 0.0 0.0 0.0	Bottom 21": Red-brown, fine SAND, some Silt, little fine to coarse Gravel S-2: Top 12": Red-brown, fine SAND, little Silt, trace Asphalt (5-7") Bottom 31": Brown, fine SAND, some Silt, little fine to coarse Gravel		6	FILL	6
	10	SAND	10							
10						End of Exploration at 10 feet.				

REMARKS
 1 - Soil samples screened with a 10.6 eV Thermo Environmental Instruments Model 580B organic vapor meter (OVM). OVM values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. A "***" indicates a sample sent to a laboratory for additional analyses or screening. ND=None Detected above background.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

B-24

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

EXPLORATION NO.: B-25
 SHEET: 1 of 1
 PROJECT NO: 45441.06
 REVIEWED BY: D. Rusczyk

Logged By: B. Graham
Drilling Co.: Glacier Drilling
Foreman: Lavelle

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 2
Date Start - Finish: 8/7/2017 - 8/7/2017

H. Datum:
V. Datum:

Type of Rig: GeoProbe
Rig Model: 6610DT
Drilling Method: Direct Push

Sampler Type: Macro Core
Sampler O.D. (in.): 2.75
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
	S-1	0-2	24	0		S-1: Sampler stuck (footing) at 2 feet below grade. No sample.				
5						End of Exploration at 2 feet.				
10										
15										
20										
25										
30										

REMARKS

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

B-25

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Daniel's Mill
 98 East Main Street
 Vernon, Connecticut

EXPLORATION NO.: B-27
 SHEET: 1 of 1
 PROJECT NO: 45441.06
 REVIEWED BY: D. Rusczyk

Logged By: B. Graham
Drilling Co.: Glacier Drilling
Foreman: Lavelle

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 10
Date Start - Finish: 8/7/2017 - 8/7/2017

H. Datum:
V. Datum:

Type of Rig: GeoProbe
Rig Model: 6610DT
Drilling Method: Direct Push

Sampler Type: Macro Core
Sampler O.D. (in.): 2.75
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
	S-1	0-5	60	30		S-1: Top 3": ORGANIC COVER Middle 17": Brown, fine to medium SAND, little fine to coarse Gravel, trace Brick Bottom 10": Black, fine to medium SAND, some Silt, little fine to coarse Gravel, petroleum odor			ORGANIC	0.3
5	S-2	5-10	60	0		S-2: No recovery. Piece of steel in tip bottom at 8 feet. Approximately 44 inches #2 oil (possible UST).	1		FILL	
10						End of Exploration at 10 feet.				10
15										
20										
25										
30										

REMARKS

1 - Sampler sleeve left in place and borehole and sleeve grveled in place.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

B-27

SHALLOW SOIL SAMPLE FIELD LOG

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402 Glastonbury, CT 06033 Phone: (860) 286-8900	Project Name: <u>PROJECT Daniels Mill</u> Location: <u>Vernon, CT</u>	Date: <u>6/3/2019</u> Page 1 of 1 File No. <u>45441.06</u> GZA Staff/Sampler: <u>SCC</u>
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Air Temperature (°F): <u>80s</u> Weather Conditions: <u>Sunny</u>	SAMPLING EQUIPMENT Sample Method/Device: <u>GeoProbe</u> Grab Hand Auger Hand Core/Borer Dredge Other	PID: Calibration Standard: <u>100 ppm</u> Source lamp: <u>10.6 eV</u> Instrument Reading (start): <u>97.3</u> Instrument Reading (finish): <u>100.1</u>
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Sample ID	Time	Sample Depth (FT)	OVM Reading (PPM)	Odor	Ground Cover (asphlt/cnc.gras)	Cover Thickness (in)	Sample Description
B-22A	1045	6-9"	-	-	Asphalt	4"	Gray-brown, fine to coarse GRAVEL, little fine to coarse Sand, trace Silt, dry
B-22A	1100	12-15"	-	-	Asphalt	4"	Red-brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, Dry
B-22A	1115	21-24"	-	-	Asphalt	4"	Red-brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, Dry
B-22A	1130	30-33"	-	-	Asphalt	4"	Brown, fine to coarse SAND, trace Silt, trace Gravel, Dry
B-22B	1555	45-48"	-	-	Asphalt	4"	Brown, fine to coarse SAND, trace Gravel, trace Silt, Moist
B-23A	1000	6-9"	-	-	Asphalt	4"	Gray, fine to coarse Gravel, some fine to coarse Sand, trace Silt, Dry
B-23A	1015	12-15"	-	-	Asphalt	4"	Dark gray, red-brown, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt, Dry
B-23A	1030	21-24"	-	-	Asphalt	4"	Red-brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt, Dry
B-35	1200	6-9"	-	-	Asphalt	3.5"	Brown-gray, fine to coarse GRAVEL, fine to coarse Sand, trace Silt, Dry
B-35	1215	10.5-13.5"	-	-	Asphalt	3.5"	Brown, dark-gray, fine to coarse GRAVEL, some fine to coarse Sand, little Asphalt, trace Silt, Dry
B-38	1545	7-10"	-	-	Concrete	7"	Brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, Dry, slight petroleum odor
B-39	1615	6-9"	-	-	Concrete	6"	Brown, fine to coarse SAND, some fine to coarse Gravel, little Silt, Dry
B-40	1630	4-7"	-	-	Concrete	4"	Brown to yellow brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, dry
B-41	1710	1-4"	-	-	Concrete	1"	Brown, fine to coarse SAND, little, fine to coarse Gravel, trace Silt, Dry
B-42	1650	7-10"	-	-	Concrete	7"	Brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt, Dry

SOIL CONDITIONS				DENSITY		ABBREVIATIONS		ORGANIC MATERIALS
Fines (silts & clay)	Too fine to see.	TRACE (TR.)	0-10%	Sand	Silt/Clay	V - Very	F - Fine	Organic Silt: Dark gray to black, light weight, often H2S odor.
Fine sand.	Finest visible particles.	LITTLE (L.)	10-20%	V. Loose	V. Soft	GR - Gray	M - Medium	Humus: Decomposed root/twig/leaf litter - forest areas.
Med. Sand	1/64"-1/16" (granular sugar).	SOME (S.)	20-35%	Loose	Soft	BN - Brown	C - Coarse	Root Mat: Living root fiber structures, found in marshes.
C. Sand	1/6"-1/4" (rock salt).	AND	35-50%	M. Dense	M. Stiff	YEL - Yellow	F/M - Fine to Medium	Peat: Fossiliferous root mat - decomposed fiber structure.
Fine gravel	1/4"-3/4" (pea to grape).			Dense	Stiff	RD - Red	F/C - Fine to Coarse	Note: e.g. logs, branches, roots, shells, black streaks, H2S odor.

SHALLOW SOIL SAMPLE FIELD LOG

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402 Glastonbury, CT 06033 Phone: (860) 286-8900	Project Name: <u>PROJECT</u> Daniels Mill	Date: <u>6/4/2019</u>	Page 1 of 2
	Location: <u>Vernon, CT</u>	File No. <u>45441.06</u>	
		GZA Staff/Sampler: Sean Connolly	

Air Temperature (°F): <u>80s</u>	SAMPLING EQUIPMENT Sample Method/Device: <u>GeoProbe</u>	PID:
Weather Conditions: <u>Sunny</u>		Calibration Standard: <u>100 ppm</u> Source lamp: <u>10.6 eV</u>
		Instrument Reading (start): <u>97.3</u>
		Instrument Reading (finish): <u>100.1</u>

Sample ID	Time	Sample Depth (FT)	OVM Reading (PPM)	Odor	Ground Cover (asphlt/cnc.gras)	Cover Thickness (in)	Sample Description
B-43	935	3-6"	-	-	Concrete	3"	Brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt, dry
B-43	940	15-18"	-	-	Concrete	3"	Brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt, dry
B-44	1010	0-3"	-	-	Concrete	0.25"	Brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, dry
B-44	1015	12.5-15.5"	-	-	Concrete	0.25"	Grey-red, fine to coarse GRAVEL, BRICK and CONCRETE, little Sand, trace Silt, dry
B-45	1025	5.5-8.5"	-	-	Concrete	5.5"	Brown, fine to coarse SAND, some Gravel, trace Silt, dry
B-46	1043	4-7"	-	-	Concrete	4"	Brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, dry
B-46	1050	16-19"	-	-	Concrete	4"	Brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt, dry
B-47	1055	8-11"	-	-	Concrete	4"	Brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, dry
B-48	1215	4-7"	-	-	Concrete	4"	Brown, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt, wet
B-49	1305	4-7"	-	-	Concrete	4"	Brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt, dry
B-49	1315	16-19"	-	-	Concrete	4"	Brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt, dry
B-50	1325	4-7"	-	-	Concrete	4"	Brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, dry
B-51	1415	1-4"	-	-	Concrete	4"	Brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, musty smell, dry
B-51	1420	13-16"	-	-	Concrete	1"	Tan, brown, fine to coarse SAND, little fine to coarse Gravel, trace Silt, wet
B-52	1425	6-9"	-	-	Concrete	1"	Brown, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt, musty smell, dry

SOIL CONDITIONS			DENSITY		ABBREVIATIONS		ORGANIC MATERIALS	
Fines (silts & clay)	Too fine to see.	TRACE (TR.)	0-10%	Sand	Silt/Clay	V - Very	F - Fine	Organic Silt: Dark gray to black, light weight, often H2S odor.
Fine sand.	Finest visible particles.	LITTLE (L.)	10-20%	V. Loose	V. Soft	GR - Gray	M - Medium	Humus: Decomposed root/twig/leaf litter - forest areas.
Med. Sand	1/64"-1/16" (granular sugar).	SOME (S.)	20-35%	Loose	Soft	BN - Brown	C - Coarse	Root Mat: Living root fiber structures, found in marshes.
C. Sand	1/6"-1/4" (rock salt).	AND	35-50%	M. Dense	M. Stiff	YEL - Yellow	F/M - Fine to Medium	Peat: Fossiliferous root mat - decomposed fiber structure.
Fine gravel	1/4"-3/4" (pea to grape).			Dense	Stiff	RD - Red	F/C - Fine to Coarse	Note: e.g. logs, branches, roots, shells, black streaks, H2S odor.

SHALLOW SOIL SAMPLE FIELD LOG

GZA GeoEnvironmental, Inc. 95 Glastonbury Boulevard, 3rd Floor Glastonbury, CT 06033 Phone: (860) 286-8900	Project Name: <u>PROJECT</u> Daniels Mill	Date: <u>6/12/2019</u> Page 1 of 2
	Location: <u>Vernon, CT</u>	File No. <u>05.0045441.06</u> GZA Staff/Sampler: <u>AJT</u>

Air Temperature (°F): <u>~70'</u>	SAMPLING EQUIPMENT	PID:
Weather Conditions: <u>Sunny</u>		Sample Method/Device: <u>Bosch</u>
	Grab Hand Auger Hand Core/Borer Dredge Other	Instrument Reading (start): <u>99.9</u>
		Instrument Reading (finish):

Sample ID	Time	Sample Depth (FT)	OVM Reading (PPM)	Odor	Ground Cover (asphlt/cnc.gras)	Cover Thickness (in)	Sample Description
B-25B	0758	0-0.25	0	None	Grass	-	Brown, fine to medium SAND, some Silt, little fine Gravel
B-25B	0835	0.25-1	0	None	-	-	Brown, fine to medium SAND and fine GRAVEL, little Silt, refusal at 1'
B-7A	0845	0-0.25	0	None	Grass	-	Brown, fine to medium SAND, some Silt, little fine Gravel
B-7A	0851	0.25-1.75	0	None	-	-	Brown, fine to medium SAND, some Silt, little fine Gravel, trace Brick
B-7A	0900	1.75-2	0	None	-	-	Light brown SILT, some fine to medium SAND, trace fine Gravel
B-7A	0915	2-3	0	None	-	-	Brown SILT, some fine to medium SAND, trace fine Gravel, refusal at 3'
B-27A	0925	0-0.25	0	None	Grass	-	Brown, fine to medium SAND, some Silt, little fine Gravel, trace Brick
B-27A	0935	0.25-1.75	0	None	-	-	Brown, fine to medium SAND and fine GRAVEL, some Silt, trace Brick
B-27A	0940	1.75-2	0	None	-	-	Brown, fine to medium SAND and fine GRAVEL, some Silt, trace Brick
B-36A	0950	0-0.25	0	None	-	-	Brown, fine to medium SAND, some Silt, little fine Gravel, trace Brick
B-36A	0956	0.25-1.75	0	None	-	-	Brown SILT, some fine to medium SAND, some fine Gravel, trace Brick
B-36A	1005	1.75-2	0	None	-	-	Brown SILT, some fine to medium SAND, some fine Gravel, trace Brick
B-36A	1015	2-4	0	None	-	-	Brown SILT, some fine to medium SAND, some fine Gravel, trace Brick, trace Coal
B-36A	1040	4-6	0	None	-	-	Brown SILT and fine GRAVEL, trace fine Sand, moist
B-36A	1100	6-8	0	None	-	-	Brown SILT and fine to coarse SAND, trace fine Gravel, wet

SOIL CONDITIONS				DENSITY		ABBREVIATIONS		ORGANIC MATERIALS
Fines (silts & clay)	Too fine to see.	TRACE (TR.)	0-10%	Sand	Silt/Clay	V - Very	F - Fine	Organic Silt: Dark gray to black, light weight, often H2S odor.
Fine sand.	Finest visible particles.	LITTLE (L.)	10-20%	V. Loose	V. Soft	GR - Gray	M - Medium	Humus: Decomposed root/twig/leaf litter - forest areas.
Med. Sand	1/64"-1/16" (granular sugar).	SOME (S.)	20-35%	Loose	Soft	BN - Brown	C - Coarse	Root Mat: Living root fiber structures, found in marshes.
C. Sand	1/6"-1/4" (rock salt).	AND	35-50%	M. Dense	M. Stiff	YEL - Yellow	F/M - Fine to Medium	Peat: Fossiliferous root mat - decomposed fiber structure.
Fine gravel	1/4"-3/4" (pea to grape).			Dense	Stiff	RD - Red	F/C - Fine to Coarse	Note: e.g. logs, branches, roots, shells, black streaks, H2S odor.

SHALLOW SOIL SAMPLE FIELD LOG

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402 Glastonbury, CT 06033 Phone: (860) 286-8900	PROJECT Project Name: <u>Daniels Mill</u> Location: <u>Vernon, CT</u>	Date: <u>8/7/17</u> Page 1 of 1 File No. <u>45441.06</u> GZA Staff/Sampler: <u>BAG</u>
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Air Temperature (°F): _____	SAMPLING EQUIPMENT	PID: _____
Weather Conditions: <u>N/A - Indoor</u>	Sample Method/Device: <u>GeoProbe Macro Core</u>	Calibration Standard: <u>100 ppm</u> Source lamp: <u>10.6 eV</u>
	Grab Hand Auger Hand Core/Borer Dredge Other	Instrument Reading (start): <u>98.2</u>
		Instrument Reading (finish): <u>99.7</u>

Sample ID	Time	Sample Depth (FT)	OVM Reading (PPM)	Odor	Ground Cover (asphlt/cnc.gras)	Cover Thickness (in)	Sample Description
B-16A	930	0-4	0.0/0.0	None	Concrete	3	Red-brown, fine to medium SAND, little fine to coarse Gravel, trace Silt, 42" recovery
B-16A	1020	4-6.5	0.0/69.7	Slight chemical	-	-	0-18": Red-brown, fine to medium SAND, little Silt and fine to coarse Gravel, 18-24": Red-brown, fine to medium SAND, some Silt, little fine to coarse Gravel, slight odor 18-24", 24" recovery
B-28	1050	0-2	0.0/0.0	None	Concrete	4	Red-brown, fine to medium SAND, Brick and Gravel, 18" recovery
B-15A	1115	0-1.5	0.0/0.0	None	Concrete	5	Red-brown, fine to medium SAND, some fine to coarse Gravel, trace Brick, 12" recovery
B-29	1135	0-2.5	0.0/0.0	None	Concrete	8	Red-brown, fine to medium SAND, some fine to coarse Gravel, trace Silt, 20" recovery
B-30	1120	-	-	-	Concrete	7.5	Void space to 30", Gravel Debris
B-31	1145	0-3	0.0/0.0	None	Concrete	5	0-2": ASPHALT, 2-15": Brown, fine to medium SAND, 15-20": Brown, fine to medium SAND, some Brick, 20" recovery
B-11A	1200	0-3	0.0/0.0	None	Concrete	5	Brown, fine to medium SAND, some Gravel, 24" recovery
B-32	1215	0-2	0.0/0.0	None	Concrete	6.5	Red-brown, fine to medium SAND, little Silt and fine to coarse Gravel, 18" recovery
B-14A	1230	0-2	0.0/0.0	None	Concrete	5.5	Brown, fine to medium SAND, some fine to coarse Gravel, trace Silt, 15" recovery
B-13A	1245	0-1.5	0.0/0.0	None	Concrete	4.5	Brown, fine to medium SAND, some fine to coarse Gravel, trace Silt, 12" recovery
B-33	1255	0-2	0.0/0.0	None	Concrete	7.5	Brown, fine to medium SAND, some fine Gravel, trace silt, 15" recovery
B-34	1330	-	-	-	Concrete	>15"	No sample

Note: Sample intervals are depths below the concrete slab.

SOIL CONDITIONS				DENSITY		ABBREVIATIONS		ORGANIC MATERIALS
Fines (silts & clay)	Too fine to see.	TRACE (TR.)	0-10%	Sand	Silt/Clay	V - Very	F - Fine	Organic Silt: Dark gray to black, light weight, often H2S odor.
Fine sand.	Finest visible particles.	LITTLE (L.)	10-20%	V. Loose	V. Soft	GR - Gray	M - Medium	Humus: Decomposed root/twig/leaf litter - forest areas.
Med. Sand	1/64"-1/16" (granular sugar).	SOME (S.)	20-35%	Loose	Soft	BN - Brown	C - Coarse	Root Mat: Living root fiber structures, found in marshes.
C. Sand	1/6"-1/4" (rock salt).	AND	35-50%	M. Dense	M. Stiff	YEL - Yellow	F/M - Fine to Medium	Peat: Fossiliferous root mat - decomposed fiber structure.
Fine gravel	1/4"-3/4" (pea to grape).			Dense	Stiff	RD - Red	F/C - Fine to Coarse	Note: e.g. logs, branches, roots, shells, black streaks, H2S odor.



APPENDIX C
SOIL LABORATORY REPORTS

CERTIFICATE OF ANALYSIS

Benjamin Rach
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1708215

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED**By ESS Laboratory at 5:15 pm, Aug 17, 2017****Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

SAMPLE RECEIPT

The following samples were received on August 09, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1708215-01	B-16A (6-6.5')	Soil	1312, 1312/8260B
1708215-02	B-28 (0-3")	Soil	8082A
1708215-03	B-15A (0-3")	Soil	8082A
1708215-04	B-29 (0-3")	Soil	8082A
1708215-05	B-31 (0-3")	Soil	8082A
1708215-06	B-11A (24-274")	Soil	8082A
1708215-07	B-32 (0-3")	Soil	8082A
1708215-08	B-13A (0-3")	Soil	8082A
1708215-09	B-33 (0-3")	Soil	8082A



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

PROJECT NARRATIVE

1312/8260B Volatile SPLP Compounds

CH71622-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Chloroethane (66% @ 70-130%)

8082A Polychlorinated Biphenyls (PCB)

CH71016-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Aroclor 1016 (44% @ 30%), Aroclor 1016 [2C] (44% @ 30%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

Laboratory Analysis
QA/QC Certification Form

Project Number: 05.0045441.06

Sampling Date(s): 8/8/2017

Laboratory Sample ID(s): 1708215-01 through 1708215-09

List RCP Methods Used () 8260B () 8151A () ETPH () 6010B () 7470A/1A
Other: () 8270C () 8081A () VPH () 6020 () 9014M
(X) 8082 () 8021B () EPH () 7000 S () 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes () No (X)
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes (X) 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 (X) No ()
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes () No (X)

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: Laboratory Director

Printed Name: Laurel Stoddard Date: August 17, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-16A (6-6.5')
 Date Sampled: 08/08/17 10:20
 Percent Solids: N/A
 Initial Volume: 5
 Final Volume: 5
 Extraction Method: 5030B

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-01
 Sample Matrix: Soil
 Units: ug/L
 Analyst: MD

1312/8260B Volatile SPLP Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,1,1-Trichloroethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,1,2,2-Tetrachloroethane	ND (0.5)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,1,2-Trichloro-1,2,2-trifluoroethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,1,2-Trichloroethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,1-Dichloroethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,1-Dichloroethene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,1-Dichloropropene	ND (2.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,2,3-Trichlorobenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,2,3-Trichloropropane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,2,4-Trichlorobenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,2,4-Trimethylbenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,2-Dibromo-3-Chloropropane	ND (5.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,2-Dibromoethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,2-Dichlorobenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,2-Dichloroethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,2-Dichloropropane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,3,5-Trimethylbenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,3-Dichlorobenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,3-Dichloropropane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
1,4-Dichlorobenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
2,2-Dichloropropane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
2-Butanone	ND (25.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
2-Chlorotoluene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
2-Hexanone	ND (10.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
4-Chlorotoluene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
4-Isopropyltoluene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
4-Methyl-2-Pentanone	ND (25.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Acetone	ND (25.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Acrylonitrile	ND (0.4)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Benzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Bromobenzene	ND (2.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-16A (6-6.5')
 Date Sampled: 08/08/17 10:20
 Percent Solids: N/A
 Initial Volume: 5
 Final Volume: 5
 Extraction Method: 5030B

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-01
 Sample Matrix: Soil
 Units: ug/L
 Analyst: MD

1312/8260B Volatile SPLP Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromodichloromethane	ND (0.6)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Bromoform	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Bromomethane	ND (2.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Carbon Disulfide	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Carbon Tetrachloride	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Chlorobenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Chloroethane	ND (2.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Chloroform	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Chloromethane	ND (2.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
cis-1,2-Dichloroethene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
cis-1,3-Dichloropropene	ND (0.4)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Dibromochloromethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Dibromomethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Dichlorodifluoromethane	ND (2.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Ethylbenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Hexachlorobutadiene	ND (0.6)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Isopropylbenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Methyl tert-Butyl Ether	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Methylene Chloride	ND (4.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Naphthalene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
n-Butylbenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
n-Propylbenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
sec-Butylbenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Styrene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
tert-Butylbenzene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Tetrachloroethene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Tetrahydrofuran	ND (5.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Toluene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
trans-1,2-Dichloroethene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
trans-1,3-Dichloropropene	ND (0.5)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Trans-1,4-Dichloro-2-Butene	ND (5.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Trichloroethene	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-16A (6-6.5')
 Date Sampled: 08/08/17 10:20
 Percent Solids: N/A
 Initial Volume: 5
 Final Volume: 5
 Extraction Method: 5030B

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-01
 Sample Matrix: Soil
 Units: ug/L
 Analyst: MD

1312/8260B Volatile SPLP Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Trichlorofluoromethane	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Vinyl Chloride	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Xylene O	ND (1.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622
Xylene P,M	ND (2.0)		1312/8260B		1	08/16/17 12:52	C7H0221	CH71622

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>93 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>93 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>102 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-16A (6-6.5')
Date Sampled: 08/08/17 10:20
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1312/ZHE

ESS Laboratory Work Order: 1708215
ESS Laboratory Sample ID: 1708215-01
Sample Matrix: Soil
Units: °C
Analyst: MD
Prepared: 8/11/17 16:48

ZHE Extraction by 1312

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.5 (N/A)		1312		1	MD	08/12/17 9:32	CH71703
Temperature (Max C)	21.5 (N/A)		1312		1	MD	08/12/17 9:32	CH71703
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-28 (0-3")
 Date Sampled: 08/08/17 10:50
 Percent Solids: 82
 Initial Volume: 19.2
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-02
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/15/17 3:37		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/15/17 3:37		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/15/17 3:37		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/15/17 3:37		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/15/17 3:37		CH71016
Aroclor 1254	0.2 (0.06)		8082A		1	08/15/17 3:37		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/15/17 3:37		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/15/17 3:37		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/15/17 3:37		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	73 %		30-150
Surrogate: Decachlorobiphenyl [2C]	66 %		30-150
Surrogate: Tetrachloro-m-xylene	77 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	78 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-15A (0-3")
 Date Sampled: 08/08/17 11:18
 Percent Solids: 89
 Initial Volume: 19.2
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-03
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 1:05		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 1:05		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 1:05		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 1:05		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 1:05		CH71016
Aroclor 1254	ND (0.06)		8082A		1	08/12/17 1:05		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 1:05		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 1:05		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 1:05		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	83 %		30-150
Surrogate: Decachlorobiphenyl [2C]	79 %		30-150
Surrogate: Tetrachloro-m-xylene	83 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	91 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-29 (0-3")
 Date Sampled: 08/08/17 11:35
 Percent Solids: 84
 Initial Volume: 19.5
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-04
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 1:23		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 1:23		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 1:23		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 1:23		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 1:23		CH71016
Aroclor 1254	0.2 (0.06)		8082A		1	08/12/17 1:23		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 1:23		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 1:23		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 1:23		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	75 %		30-150
Surrogate: Decachlorobiphenyl [2C]	73 %		30-150
Surrogate: Tetrachloro-m-xylene	88 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	94 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-31 (0-3")
 Date Sampled: 08/08/17 11:45
 Percent Solids: 84
 Initial Volume: 19.9
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-05
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 3:36		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 3:36		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 3:36		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 3:36		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 3:36		CH71016
Aroclor 1254	0.2 (0.06)		8082A		1	08/12/17 3:36		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 3:36		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 3:36		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 3:36		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	81 %		30-150
Surrogate: Decachlorobiphenyl [2C]	78 %		30-150
Surrogate: Tetrachloro-m-xylene	85 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	92 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-11A (24-274")
 Date Sampled: 08/08/17 12:06
 Percent Solids: 93
 Initial Volume: 19.2
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-06
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 3:55		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 3:55		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 3:55		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 3:55		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 3:55		CH71016
Aroclor 1254	0.5 (0.06)		8082A		1	08/12/17 3:55		CH71016
Aroclor 1260	0.07 (0.06)		8082A		1	08/12/17 3:55		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 3:55		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 3:55		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	114 %		30-150
Surrogate: Decachlorobiphenyl [2C]	103 %		30-150
Surrogate: Tetrachloro-m-xylene	84 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-32 (0-3")
 Date Sampled: 08/08/17 12:15
 Percent Solids: 87
 Initial Volume: 19.3
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-07
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 4:14		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 4:14		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 4:14		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 4:14		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 4:14		CH71016
Aroclor 1254	ND (0.06)		8082A		1	08/12/17 4:14		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 4:14		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 4:14		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 4:14		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	87 %		30-150
Surrogate: Decachlorobiphenyl [2C]	80 %		30-150
Surrogate: Tetrachloro-m-xylene	87 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	93 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-13A (0-3")
 Date Sampled: 08/08/17 12:45
 Percent Solids: 88
 Initial Volume: 19.2
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-08
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 4:33		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 4:33		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 4:33		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 4:33		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 4:33		CH71016
Aroclor 1254	ND (0.06)		8082A		1	08/12/17 4:33		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 4:33		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 4:33		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 4:33		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	87 %		30-150
Surrogate: Decachlorobiphenyl [2C]	84 %		30-150
Surrogate: Tetrachloro-m-xylene	84 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	92 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-33 (0-3")
 Date Sampled: 08/08/17 12:55
 Percent Solids: 85
 Initial Volume: 19.4
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708215
 ESS Laboratory Sample ID: 1708215-09
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 4:52		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 4:52		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 4:52		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 4:52		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 4:52		CH71016
Aroclor 1254	0.1 (0.06)		8082A		1	08/12/17 4:52		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 4:52		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 4:52		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 4:52		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	79 %		30-150
Surrogate: Decachlorobiphenyl [2C]	79 %		30-150
Surrogate: Tetrachloro-m-xylene	90 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	98 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CH71016 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0213		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene	0.0117		mg/kg wet	0.02500		47	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0128		mg/kg wet	0.02500		51	30-150			

LCS

Aroclor 1016	0.3	0.05	mg/kg wet	0.5000		60	40-140			
Aroclor 1016 [2C]	0.3	0.05	mg/kg wet	0.5000		60	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140			

Surrogate: Decachlorobiphenyl	0.0224		mg/kg wet	0.02500		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0216		mg/kg wet	0.02500		86	30-150			
Surrogate: Tetrachloro-m-xylene	0.00961		mg/kg wet	0.02500		38	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.00979		mg/kg wet	0.02500		39	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		93	40-140	44	30	D+
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	44	30	D+
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	4	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		81	40-140	2	30	

Surrogate: Decachlorobiphenyl	0.0205		mg/kg wet	0.02500		82	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0202		mg/kg wet	0.02500		81	30-150			
Surrogate: Tetrachloro-m-xylene	0.0213		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0214		mg/kg wet	0.02500		86	30-150			

1312/8260B Volatile SPLP Compounds



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312/8260B Volatile SPLP Compounds

Batch CH71622 - 5030B

Blank

1,1,1,2-Tetrachloroethane	ND	1.0	ug/L							
1,1,1-Trichloroethane	ND	1.0	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L							
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L							
1,1,2-Trichloroethane	ND	1.0	ug/L							
1,1-Dichloroethane	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloropropene	ND	2.0	ug/L							
1,2,3-Trichlorobenzene	ND	1.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	ug/L							
1,2,4-Trimethylbenzene	ND	1.0	ug/L							
1,2-Dibromo-3-Chloropropane	ND	5.0	ug/L							
1,2-Dibromoethane	ND	1.0	ug/L							
1,2-Dichlorobenzene	ND	1.0	ug/L							
1,2-Dichloroethane	ND	1.0	ug/L							
1,2-Dichloropropane	ND	1.0	ug/L							
1,3,5-Trimethylbenzene	ND	1.0	ug/L							
1,3-Dichlorobenzene	ND	1.0	ug/L							
1,3-Dichloropropane	ND	1.0	ug/L							
1,4-Dichlorobenzene	ND	1.0	ug/L							
2,2-Dichloropropane	ND	1.0	ug/L							
2-Butanone	ND	25.0	ug/L							
2-Chlorotoluene	ND	1.0	ug/L							
2-Hexanone	ND	10.0	ug/L							
4-Chlorotoluene	ND	1.0	ug/L							
4-Isopropyltoluene	ND	1.0	ug/L							
4-Methyl-2-Pentanone	ND	25.0	ug/L							
Acetone	ND	25.0	ug/L							
Acrylonitrile	ND	0.4	ug/L							
Benzene	ND	1.0	ug/L							
Bromobenzene	ND	2.0	ug/L							
Bromodichloromethane	ND	0.6	ug/L							
Bromoform	ND	1.0	ug/L							
Bromomethane	ND	2.0	ug/L							
Carbon Disulfide	ND	1.0	ug/L							
Carbon Tetrachloride	ND	1.0	ug/L							
Chlorobenzene	ND	1.0	ug/L							
Chloroethane	ND	2.0	ug/L							
Chloroform	ND	1.0	ug/L							
Chloromethane	ND	2.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
cis-1,3-Dichloropropene	ND	0.4	ug/L							
Dibromochloromethane	ND	1.0	ug/L							



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312/8260B Volatile SPLP Compounds

Batch CH71622 - 5030B

Dibromomethane	ND	1.0	ug/L							
Dichlorodifluoromethane	ND	2.0	ug/L							
Ethylbenzene	ND	1.0	ug/L							
Hexachlorobutadiene	ND	0.6	ug/L							
Isopropylbenzene	ND	1.0	ug/L							
Methyl tert-Butyl Ether	ND	1.0	ug/L							
Methylene Chloride	ND	4.0	ug/L							
Naphthalene	ND	1.0	ug/L							
n-Butylbenzene	ND	1.0	ug/L							
n-Propylbenzene	ND	1.0	ug/L							
sec-Butylbenzene	ND	1.0	ug/L							
Styrene	ND	1.0	ug/L							
tert-Butylbenzene	ND	1.0	ug/L							
Tetrachloroethene	ND	1.0	ug/L							
Tetrahydrofuran	ND	5.0	ug/L							
Toluene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,3-Dichloropropene	ND	0.5	ug/L							
Trans-1,4-Dichloro-2-Butene	ND	5.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
Trichlorofluoromethane	ND	1.0	ug/L							
Vinyl Chloride	ND	1.0	ug/L							
Xylene O	ND	1.0	ug/L							
Xylene P,M	ND	2.0	ug/L							
Surrogate: 1,2-Dichloroethane-d4	21.3		ug/L	25.00		85	70-130			
Surrogate: 4-Bromofluorobenzene	23.9		ug/L	25.00		96	70-130			
Surrogate: Dibromofluoromethane	22.9		ug/L	25.00		91	70-130			
Surrogate: Toluene-d8	25.3		ug/L	25.00		101	70-130			

LCS

1,1,1,2-Tetrachloroethane	10.6		ug/L	10.00		106	70-130			
1,1,1-Trichloroethane	10.1		ug/L	10.00		101	70-130			
1,1,2,2-Tetrachloroethane	11.5		ug/L	10.00		115	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane	9.6		ug/L	10.00		96	70-130			
1,1,2-Trichloroethane	9.7		ug/L	10.00		97	70-130			
1,1-Dichloroethane	9.6		ug/L	10.00		96	70-130			
1,1-Dichloroethene	11.1		ug/L	10.00		111	70-130			
1,1-Dichloropropene	9.7		ug/L	10.00		97	70-130			
1,2,3-Trichlorobenzene	11.1		ug/L	10.00		111	70-130			
1,2,3-Trichloropropane	11.5		ug/L	10.00		115	70-130			
1,2,4-Trichlorobenzene	10.6		ug/L	10.00		106	70-130			
1,2,4-Trimethylbenzene	10.8		ug/L	10.00		108	70-130			
1,2-Dibromo-3-Chloropropane	13.0		ug/L	10.00		130	70-130			
1,2-Dibromoethane	10.8		ug/L	10.00		108	70-130			
1,2-Dichlorobenzene	10.2		ug/L	10.00		102	70-130			
1,2-Dichloroethane	9.4		ug/L	10.00		94	70-130			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312/8260B Volatile SPLP Compounds

Batch CH71622 - 5030B

1,2-Dichloropropane	9.9		ug/L	10.00		99	70-130			
1,3,5-Trimethylbenzene	10.4		ug/L	10.00		104	70-130			
1,3-Dichlorobenzene	10.2		ug/L	10.00		102	70-130			
1,3-Dichloropropane	10.9		ug/L	10.00		109	70-130			
1,4-Dichlorobenzene	10.0		ug/L	10.00		100	70-130			
2,2-Dichloropropane	9.8		ug/L	10.00		98	70-130			
2-Butanone	51.8		ug/L	50.00		104	70-130			
2-Chlorotoluene	10.1		ug/L	10.00		101	70-130			
2-Hexanone	52.2		ug/L	50.00		104	70-130			
4-Chlorotoluene	10.0		ug/L	10.00		100	70-130			
4-Isopropyltoluene	10.8		ug/L	10.00		108	70-130			
4-Methyl-2-Pentanone	51.3		ug/L	50.00		103	70-130			
Acetone	51.7		ug/L	50.00		103	70-130			
Acrylonitrile	10.4		ug/L	10.00		104	70-130			
Benzene	9.9		ug/L	10.00		99	70-130			
Bromobenzene	10.5		ug/L	10.00		105	70-130			
Bromodichloromethane	9.7		ug/L	10.00		97	70-130			
Bromoform	10.4		ug/L	10.00		104	70-130			
Bromomethane	12.4		ug/L	10.00		124	70-130			
Carbon Disulfide	10.8		ug/L	10.00		108	70-130			
Carbon Tetrachloride	9.7		ug/L	10.00		97	70-130			
Chlorobenzene	10.0		ug/L	10.00		100	70-130			
Chloroethane	7.6		ug/L	10.00		76	70-130			
Chloroform	9.9		ug/L	10.00		99	70-130			
Chloromethane	9.9		ug/L	10.00		99	70-130			
cis-1,2-Dichloroethene	10.1		ug/L	10.00		101	70-130			
cis-1,3-Dichloropropene	10.2		ug/L	10.00		102	70-130			
Dibromochloromethane	10.6		ug/L	10.00		106	70-130			
Dibromomethane	10.4		ug/L	10.00		104	70-130			
Dichlorodifluoromethane	9.1		ug/L	10.00		91	70-130			
Ethylbenzene	10.5		ug/L	10.00		105	70-130			
Hexachlorobutadiene	12.5		ug/L	10.00		125	70-130			
Isopropylbenzene	9.8		ug/L	10.00		98	70-130			
Methyl tert-Butyl Ether	10.2		ug/L	10.00		102	70-130			
Methylene Chloride	10.6		ug/L	10.00		106	70-130			
Naphthalene	10.9		ug/L	10.00		109	70-130			
n-Butylbenzene	10.4		ug/L	10.00		104	70-130			
n-Propylbenzene	10.1		ug/L	10.00		101	70-130			
sec-Butylbenzene	10.6		ug/L	10.00		106	70-130			
Styrene	8.8		ug/L	10.00		88	70-130			
tert-Butylbenzene	9.8		ug/L	10.00		98	70-130			
Tetrachloroethene	9.0		ug/L	10.00		90	70-130			
Tetrahydrofuran	10.1		ug/L	10.00		101	70-130			
Toluene	10.5		ug/L	10.00		105	70-130			
trans-1,2-Dichloroethene	10.2		ug/L	10.00		102	70-130			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312/8260B Volatile SPLP Compounds

Batch CH71622 - 5030B

trans-1,3-Dichloropropene	9.4		ug/L	10.00		94	70-130			
Trans-1,4-Dichloro-2-Butene	8.0		ug/L	10.00		80	70-130			
Trichloroethene	9.6		ug/L	10.00		96	70-130			
Trichlorofluoromethane	9.6		ug/L	10.00		96	70-130			
Vinyl Chloride	10.7		ug/L	10.00		107	70-130			
Xylene O	10.8		ug/L	10.00		108	70-130			
Xylene P,M	18.5		ug/L	20.00		92	70-130			
Surrogate: 1,2-Dichloroethane-d4	24.3		ug/L	25.00		97	70-130			
Surrogate: 4-Bromofluorobenzene	27.8		ug/L	25.00		111	70-130			
Surrogate: Dibromofluoromethane	25.1		ug/L	25.00		100	70-130			
Surrogate: Toluene-d8	27.2		ug/L	25.00		109	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	10.0		ug/L	10.00		100	70-130	5	25	
1,1,1-Trichloroethane	9.4		ug/L	10.00		94	70-130	8	25	
1,1,2,2-Tetrachloroethane	11.4		ug/L	10.00		114	70-130	0.4	25	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.1		ug/L	10.00		101	70-130	5	25	
1,1,2-Trichloroethane	8.9		ug/L	10.00		89	70-130	9	25	
1,1-Dichloroethane	9.2		ug/L	10.00		92	70-130	4	25	
1,1-Dichloroethene	11.0		ug/L	10.00		110	70-130	1	25	
1,1-Dichloropropene	9.9		ug/L	10.00		99	70-130	2	25	
1,2,3-Trichlorobenzene	10.5		ug/L	10.00		105	70-130	5	25	
1,2,3-Trichloropropane	11.0		ug/L	10.00		110	70-130	4	25	
1,2,4-Trichlorobenzene	10.4		ug/L	10.00		104	70-130	2	25	
1,2,4-Trimethylbenzene	10.7		ug/L	10.00		107	70-130	1	25	
1,2-Dibromo-3-Chloropropane	11.4		ug/L	10.00		114	70-130	13	25	
1,2-Dibromoethane	10.1		ug/L	10.00		101	70-130	7	25	
1,2-Dichlorobenzene	10.0		ug/L	10.00		100	70-130	2	25	
1,2-Dichloroethane	9.0		ug/L	10.00		90	70-130	4	25	
1,2-Dichloropropane	10.3		ug/L	10.00		103	70-130	4	25	
1,3,5-Trimethylbenzene	10.6		ug/L	10.00		106	70-130	2	25	
1,3-Dichlorobenzene	10.1		ug/L	10.00		101	70-130	1	25	
1,3-Dichloropropane	10.4		ug/L	10.00		104	70-130	5	25	
1,4-Dichlorobenzene	10.0		ug/L	10.00		100	70-130	0.5	25	
2,2-Dichloropropane	9.2		ug/L	10.00		92	70-130	6	25	
2-Butanone	43.6		ug/L	50.00		87	70-130	17	25	
2-Chlorotoluene	10.1		ug/L	10.00		101	70-130	0.4	25	
2-Hexanone	47.2		ug/L	50.00		94	70-130	10	25	
4-Chlorotoluene	10.1		ug/L	10.00		101	70-130	1	25	
4-Isopropyltoluene	10.5		ug/L	10.00		105	70-130	3	25	
4-Methyl-2-Pentanone	48.4		ug/L	50.00		97	70-130	6	25	
Acetone	59.7		ug/L	50.00		119	70-130	14	25	
Acrylonitrile	9.6		ug/L	10.00		96	70-130	8	25	
Benzene	9.6		ug/L	10.00		96	70-130	3	25	
Bromobenzene	10.7		ug/L	10.00		107	70-130	2	25	
Bromodichloromethane	9.4		ug/L	10.00		94	70-130	3	25	



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

1312/8260B Volatile SPLP Compounds

Batch CH71622 - 5030B

Bromoform	10.3		ug/L	10.00		103	70-130	1	25	
Bromomethane	11.7		ug/L	10.00		117	70-130	5	25	
Carbon Disulfide	10.7		ug/L	10.00		107	70-130	0.7	25	
Carbon Tetrachloride	9.6		ug/L	10.00		96	70-130	2	25	
Chlorobenzene	9.9		ug/L	10.00		99	70-130	0.5	25	
Chloroethane	6.6		ug/L	10.00		66	70-130	14	25	B-
Chloroform	9.7		ug/L	10.00		97	70-130	2	25	
Chloromethane	10.5		ug/L	10.00		105	70-130	6	25	
cis-1,2-Dichloroethene	9.8		ug/L	10.00		98	70-130	2	25	
cis-1,3-Dichloropropene	9.8		ug/L	10.00		98	70-130	4	25	
Dibromochloromethane	10.4		ug/L	10.00		104	70-130	1	25	
Dibromomethane	9.6		ug/L	10.00		96	70-130	8	25	
Dichlorodifluoromethane	9.0		ug/L	10.00		90	70-130	0.9	25	
Ethylbenzene	10.3		ug/L	10.00		103	70-130	2	25	
Hexachlorobutadiene	12.7		ug/L	10.00		127	70-130	2	25	
Isopropylbenzene	9.8		ug/L	10.00		98	70-130	0.3	25	
Methyl tert-Butyl Ether	9.8		ug/L	10.00		98	70-130	4	25	
Methylene Chloride	10.4		ug/L	10.00		104	70-130	2	25	
Naphthalene	10.6		ug/L	10.00		106	70-130	4	25	
n-Butylbenzene	9.7		ug/L	10.00		97	70-130	7	25	
n-Propylbenzene	10.2		ug/L	10.00		102	70-130	0.8	25	
sec-Butylbenzene	10.6		ug/L	10.00		106	70-130	0.09	25	
Styrene	8.6		ug/L	10.00		86	70-130	2	25	
tert-Butylbenzene	9.9		ug/L	10.00		99	70-130	1	25	
Tetrachloroethene	8.3		ug/L	10.00		83	70-130	8	25	
Tetrahydrofuran	9.9		ug/L	10.00		99	70-130	2	25	
Toluene	10.1		ug/L	10.00		101	70-130	4	25	
trans-1,2-Dichloroethene	10.1		ug/L	10.00		101	70-130	0.6	25	
trans-1,3-Dichloropropene	9.0		ug/L	10.00		90	70-130	4	25	
Trans-1,4-Dichloro-2-Butene	8.8		ug/L	10.00		88	70-130	9	25	
Trichloroethene	9.3		ug/L	10.00		93	70-130	4	25	
Trichlorofluoromethane	10.6		ug/L	10.00		106	70-130	10	25	
Vinyl Chloride	10.5		ug/L	10.00		105	70-130	2	25	
Xylene O	10.6		ug/L	10.00		106	70-130	2	25	
Xylene P,M	18.5		ug/L	20.00		93	70-130	0.4	25	
Surrogate: 1,2-Dichloroethane-d4	22.6		ug/L	25.00		90	70-130			
Surrogate: 4-Bromofluorobenzene	26.9		ug/L	25.00		108	70-130			
Surrogate: Dibromofluoromethane	24.5		ug/L	25.00		98	70-130			
Surrogate: Toluene-d8	27.4		ug/L	25.00		110	70-130			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

Notes and Definitions

- Z18 Temperature is not within 23 +/-2 °C.
- U Analyte included in the analysis, but not detected
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- B- Blank Spike recovery is below lower control limit (B-).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708215

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1708215

Date Received: 8/9/2017

Shipped/Delivered Via: ESS Courier

Project Due Date: 8/17/2017

Days for Project: 5 Day

- 1. Air bill manifest present? No
Air No.: NA
- 2. Were custody seals present? No
- 3. Is radiation count <100 CPM? Yes
- 4. Is a Cooler Present? Yes
Temp: 4.4 Iced with: Ice
- 5. Was COC signed and dated by client? Yes

- 6. Does COC match bottles? Yes
- 7. Is COC complete and correct? Yes
- 8. Were samples received intact? Yes
- 9. Were labs informed about short holds & rushes? Yes / No / NA
- 10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

- 12. Were VOAs received? Yes No
- a. Air bubbles in aqueous VOAs? Yes / No NA
- b. Does methanol cover soil completely? Yes / No NA

13. Are the samples properly preserved? Yes / No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

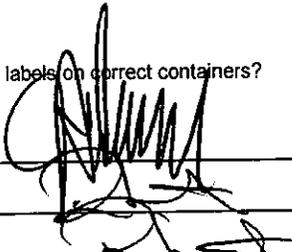
Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes No
a. Was there a need to contact the client? Yes No
Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	153402	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
01	153403	Yes	NA	Yes	Encore Sampler	NP	
02	153411	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	153410	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	153409	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	153408	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
06	153407	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
07	153406	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
08	153405	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
09	153404	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review

Are barcode labels on correct containers? Yes / No

Completed By:  Date & Time: 8/9/17 1744
Reviewed By:  Date & Time: 8/9/17 1744
Delivered By:  Date & Time: 8/9/17 1744

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-2211
 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
 1708215

Turn Time Standard Rush Approved By: _____

Reporting Limits -
 RDEC (GVA) AMC

State where samples were collected: MA RI NH NJ NY ME Other _____

Is this project for any of the following: (please circle)
 MA-MCP CT-RCP RGP Other _____

Electronic Deliverable Yes No
 Format: Excel Access PDF Other _____

GZA Project Manager: Bonker / Dave Ruszyk
 GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900
 REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # 45441.06
 Project Name: Daniel's Mill
 Contract Pricing _____
 Special Pricing: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis	Comment #
1	8/8/17	1020	G	S	B-16A (6-6.5")	2	PCBs - Manganese SPLP VOCs Heads	1.
2		1050			B-28 (0-3")	1		
		1053			B-28 (12-15")			
3		1108			B-15A (0-3")			
		1120			B-15A (12-15")			
4		1135			B-29 (0-3")			
		1138			B-29 (12-15")			
5		1145			B-31 (0-3")			
		1147			B-31 (12-15")			
		1200			B-11A (0-3")			

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAc 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
 Seals Intact Yes No NA: _____
 Cooler Temperature: 3.7-4.4 ice on

Sampled by: _____
 Comments: 1. Includes Encore Sampler

Relinquished by: (Signature) <u>Ben Grish</u>	Date/Time <u>8/9/17/0900</u>	Received by: (Signature) <u>GZA Frige</u>	Relinquished by: (Signature) <u>Fr. Ge.</u>	Date/Time <u>8/9/17/1303</u>	Received by: (Signature) <u>[Signature]</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/11/17</u>	Received by: (Signature) <u>[Signature]</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/17/1547</u>	Received by: (Signature) <u>[Signature]</u>

Please E-mail all changes to Chain of Custody in writing.

CERTIFICATE OF ANALYSIS

Benjamin Rach
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1708217

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED**By ESS Laboratory at 4:39 pm, Aug 17, 2017****Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

SAMPLE RECEIPT

The following samples were received on August 09, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Low Level VOA vials were frozen by Client on August 9, 2017 at 07:00.

Question 6: All samples for Metals, VOA and SVOA were analyzed for a subset of the required RCP list per the client's request.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1708217-01	B-21 (0.5-2)	Soil	8082A, 8260B Low
1708217-02	B-22 (0.5-2)	Soil	8082A, 8260B Low
1708217-03	B-23 (2-4)	Soil	8082A, 8260B Low
1708217-04	B-24 (0.5-2)	Soil	8082A, 8260B Low
1708217-05	B-27 (0-2)	Soil	6010C, 8082A, 8270D PAH
1708217-06	B-27 (3-5)	Soil	6010C, 8082A, 8270D PAH, CT ETPH
1708217-07	Trip Blank	Soil	8260B Low



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1708217-05 [Surrogate recovery\(ies\) above upper control limit \(S+\).](#)

Decachlorobiphenyl [2C] (1150% @ 30-150%)

CH71016-BSD1 [Relative percent difference for duplicate is outside of criteria \(D+\).](#)

Aroclor 1016 (44% @ 30%), Aroclor 1016 [2C] (44% @ 30%)

8270D Polynuclear Aromatic Hydrocarbons

C7H0159-CCV1 [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)

Fluoranthene (21% @ 20%)

CH71108-BSD1 [Relative percent difference for duplicate is outside of criteria \(D+\).](#)

Fluorene (33% @ 30%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

Laboratory Analysis
QA/QC Certification Form

Project Number: **05.0045441.06**

Sampling Date(s): **8/7/2017**

Laboratory Sample ID(s): **1708217-01 through 1708217-07**

List RCP Methods Used 8260B 8151A ETPH 6010B 7470A/1A
Other: 8270C 8081A VPH 6020 9014M
 8082 8021B EPH 7000 S 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1A	Were the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C°)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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 <input type="checkbox"/> No <input checked="" type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

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: Laboratory Director

Printed Name: Laurel Stoddard Date: August 17, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-21 (0.5-2)
 Date Sampled: 08/07/17 09:20
 Percent Solids: 91
 Initial Volume: 5.7
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-01
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Aromatic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2,3-Trichlorobenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
1,2,4-Trichlorobenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
1,2,4-Trimethylbenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
1,2-Dichlorobenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
1,3,5-Trimethylbenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
1,3-Dichlorobenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
1,4-Dichlorobenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
2-Chlorotoluene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
4-Chlorotoluene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
4-Isopropyltoluene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Benzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Bromobenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Chlorobenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Ethylbenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Isopropylbenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Naphthalene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
n-Butylbenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
n-Propylbenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
sec-Butylbenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Styrene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
tert-Butylbenzene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Toluene	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Xylene O	ND (0.0048)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Xylene P,M	ND (0.0097)		8260B Low		1	08/10/17 19:39	C7H0154	CH71028
Xylenes (Total)	ND (0.0097)		8260B Low		1	08/10/17 19:39		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	78 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	89 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	80 %		70-130
<i>Surrogate: Toluene-d8</i>	89 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-21 (0.5-2)
 Date Sampled: 08/07/17 09:20
 Percent Solids: 91
 Initial Volume: 19.5
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-01
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 5:10		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 5:10		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 5:10		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 5:10		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 5:10		CH71016
Aroclor 1254	ND (0.06)		8082A		1	08/12/17 5:10		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 5:10		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 5:10		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 5:10		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	86 %		30-150
Surrogate: Decachlorobiphenyl [2C]	81 %		30-150
Surrogate: Tetrachloro-m-xylene	85 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	91 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-22 (0.5-2)
 Date Sampled: 08/07/17 09:45
 Percent Solids: 91
 Initial Volume: 6.5
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-02
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Aromatic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2,3-Trichlorobenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
1,2,4-Trichlorobenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
1,2,4-Trimethylbenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
1,2-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
1,3,5-Trimethylbenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
1,3-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
1,4-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
2-Chlorotoluene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
4-Chlorotoluene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
4-Isopropyltoluene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Benzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Bromobenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Chlorobenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Ethylbenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Isopropylbenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Naphthalene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
n-Butylbenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
n-Propylbenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
sec-Butylbenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Styrene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
tert-Butylbenzene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Toluene	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Xylene O	ND (0.0042)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Xylene P,M	ND (0.0085)		8260B Low		1	08/10/17 20:04	C7H0154	CH71028
Xylenes (Total)	ND (0.0085)		8260B Low		1	08/10/17 20:04		[CALC]

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: 1,2-Dichloroethane-d4	80 %		70-130
Surrogate: 4-Bromofluorobenzene	87 %		70-130
Surrogate: Dibromofluoromethane	82 %		70-130
Surrogate: Toluene-d8	91 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-22 (0.5-2)
 Date Sampled: 08/07/17 09:45
 Percent Solids: 91
 Initial Volume: 19.4
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-02
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 5:29		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 5:29		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 5:29		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 5:29		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 5:29		CH71016
Aroclor 1254	3.1 (0.3)		8082A		5	08/15/17 3:56		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 5:29		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 5:29		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 5:29		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	82 %		30-150
Surrogate: Decachlorobiphenyl [2C]	81 %		30-150
Surrogate: Tetrachloro-m-xylene	79 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	84 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-23 (2-4)
 Date Sampled: 08/07/17 10:15
 Percent Solids: 93
 Initial Volume: 5.2
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-03
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Aromatic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2,3-Trichlorobenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
1,2,4-Trichlorobenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
1,2,4-Trimethylbenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
1,2-Dichlorobenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
1,3,5-Trimethylbenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
1,3-Dichlorobenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
1,4-Dichlorobenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
2-Chlorotoluene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
4-Chlorotoluene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
4-Isopropyltoluene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Benzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Bromobenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Chlorobenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Ethylbenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Isopropylbenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Naphthalene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
n-Butylbenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
n-Propylbenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
sec-Butylbenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Styrene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
tert-Butylbenzene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Toluene	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Xylene O	ND (0.0052)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Xylene P,M	ND (0.0104)		8260B Low		1	08/10/17 20:30	C7H0154	CH71028
Xylenes (Total)	ND (0.0104)		8260B Low		1	08/10/17 20:30		[CALC]

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: 1,2-Dichloroethane-d4	80 %		70-130
Surrogate: 4-Bromofluorobenzene	89 %		70-130
Surrogate: Dibromofluoromethane	81 %		70-130
Surrogate: Toluene-d8	89 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-23 (2-4)
 Date Sampled: 08/07/17 10:15
 Percent Solids: 93
 Initial Volume: 19.4
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-03
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 5:49		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 5:49		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 5:49		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 5:49		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 5:49		CH71016
Aroclor 1254	0.3 (0.06)		8082A		1	08/12/17 5:49		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 5:49		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 5:49		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 5:49		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	92 %		30-150
Surrogate: Decachlorobiphenyl [2C]	91 %		30-150
Surrogate: Tetrachloro-m-xylene	86 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	92 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-24 (0.5-2)
 Date Sampled: 08/07/17 10:35
 Percent Solids: 88
 Initial Volume: 5.5
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-04
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Aromatic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2,3-Trichlorobenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
1,2,4-Trichlorobenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
1,2,4-Trimethylbenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
1,2-Dichlorobenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
1,3,5-Trimethylbenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
1,3-Dichlorobenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
1,4-Dichlorobenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
2-Chlorotoluene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
4-Chlorotoluene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
4-Isopropyltoluene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Benzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Bromobenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Chlorobenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Ethylbenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Isopropylbenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Naphthalene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
n-Butylbenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
n-Propylbenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
sec-Butylbenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Styrene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
tert-Butylbenzene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Toluene	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Xylene O	ND (0.0051)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Xylene P,M	ND (0.0103)		8260B Low		1	08/10/17 20:55	C7H0154	CH71028
Xylenes (Total)	ND (0.0103)		8260B Low		1	08/10/17 20:55		[CALC]

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: 1,2-Dichloroethane-d4	83 %		70-130
Surrogate: 4-Bromofluorobenzene	90 %		70-130
Surrogate: Dibromofluoromethane	82 %		70-130
Surrogate: Toluene-d8	89 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-24 (0.5-2)
 Date Sampled: 08/07/17 10:35
 Percent Solids: 88
 Initial Volume: 19.8
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-04
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 6:07		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 6:07		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 6:07		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 6:07		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 6:07		CH71016
Aroclor 1254	ND (0.06)		8082A		1	08/12/17 6:07		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 6:07		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 6:07		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 6:07		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	84 %		30-150
Surrogate: Decachlorobiphenyl [2C]	82 %		30-150
Surrogate: Tetrachloro-m-xylene	87 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	96 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-27 (0-2)
Date Sampled: 08/07/17 12:03
Percent Solids: 88

ESS Laboratory Work Order: 1708217
ESS Laboratory Sample ID: 1708217-05
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.74)		6010C		1	KJK	08/11/17 13:10	2.06	100	CH70939
Lead	150 (5.49)		6010C		1	KJK	08/11/17 13:10	2.06	100	CH70939



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-27 (0-2)
 Date Sampled: 08/07/17 12:03
 Percent Solids: 88
 Initial Volume: 19.7
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-05
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 6:26		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 6:26		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 6:26		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 6:26		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 6:26		CH71016
Aroclor 1254	4.8 (0.6)		8082A		10	08/15/17 12:37		CH71016
Aroclor 1260	ND (0.06)		8082A		1	08/12/17 6:26		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 6:26		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 6:26		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	67 %		30-150
Surrogate: Decachlorobiphenyl [2C]	1150 %	S+	30-150
Surrogate: Tetrachloro-m-xylene	74 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	81 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-27 (0-2)
Date Sampled: 08/07/17 12:03
Percent Solids: 88
Initial Volume: 14.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1708217
ESS Laboratory Sample ID: 1708217-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 8/11/17 11:15

8270D Polynuclear Aromatic Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
2-Methylnaphthalene	ND (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Acenaphthene	ND (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Acenaphthylene	ND (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Anthracene	ND (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Benzo(a)anthracene	1.35 (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Benzo(a)pyrene	1.47 (0.402)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Benzo(b)fluoranthene	1.81 (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Benzo(g,h,i)perylene	ND (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Benzo(k)fluoranthene	1.33 (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Chrysene	1.38 (0.402)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Dibenzo(a,h)Anthracene	ND (0.402)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Fluoranthene	3.06 (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Fluorene	ND (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Indeno(1,2,3-cd)Pyrene	ND (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Naphthalene	ND (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Phenanthrene	1.36 (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108
Pyrene	1.93 (0.801)		8270D PAH		2	08/11/17 16:53	C7H0159	CH71108

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	34 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	43 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	40 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	46 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-27 (3-5)
Date Sampled: 08/07/17 12:05
Percent Solids: 85

ESS Laboratory Work Order: 1708217
ESS Laboratory Sample ID: 1708217-06
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	15.9 (2.22)		6010C		1	KJK	08/11/17 13:27	2.66	100	CH70939
Lead	323 (4.45)		6010C		1	KJK	08/11/17 13:27	2.66	100	CH70939



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-27 (3-5)
 Date Sampled: 08/07/17 12:05
 Percent Solids: 85
 Initial Volume: 19.4
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-06
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/12/17 6:45		CH71016
Aroclor 1221	ND (0.06)		8082A		1	08/12/17 6:45		CH71016
Aroclor 1232	ND (0.06)		8082A		1	08/12/17 6:45		CH71016
Aroclor 1242	ND (0.06)		8082A		1	08/12/17 6:45		CH71016
Aroclor 1248	ND (0.06)		8082A		1	08/12/17 6:45		CH71016
Aroclor 1254	0.3 (0.06)		8082A		1	08/12/17 6:45		CH71016
Aroclor 1260	0.06 (0.06)		8082A		1	08/12/17 6:45		CH71016
Aroclor 1262	ND (0.06)		8082A		1	08/12/17 6:45		CH71016
Aroclor 1268	ND (0.06)		8082A		1	08/12/17 6:45		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	92 %		30-150
Surrogate: Decachlorobiphenyl [2C]	126 %		30-150
Surrogate: Tetrachloro-m-xylene	69 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	75 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-27 (3-5)
Date Sampled: 08/07/17 12:05
Percent Solids: 85
Initial Volume: 14.1
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1708217
ESS Laboratory Sample ID: 1708217-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 8/11/17 11:15

8270D Polynuclear Aromatic Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
2-Methylnaphthalene	ND (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Acenaphthene	ND (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Acenaphthylene	ND (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Anthracene	1.20 (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Benzo(a)anthracene	4.71 (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Benzo(a)pyrene	4.39 (0.420)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Benzo(b)fluoranthene	5.74 (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Benzo(g,h,i)perylene	1.83 (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Benzo(k)fluoranthene	3.82 (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Chrysene	5.30 (0.420)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Dibenzo(a,h)Anthracene	1.11 (0.420)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Fluoranthene	13.0 (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Fluorene	ND (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Indeno(1,2,3-cd)Pyrene	1.79 (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Naphthalene	ND (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Phenanthrene	7.79 (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108
Pyrene	7.83 (0.838)		8270D PAH		2	08/11/17 17:27	C7H0159	CH71108

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	38 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	45 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	42 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	52 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-27 (3-5)
 Date Sampled: 08/07/17 12:05
 Percent Solids: 85
 Initial Volume: 19.6
 Final Volume: 1
 Extraction Method: 3546

ESS Laboratory Work Order: 1708217
 ESS Laboratory Sample ID: 1708217-06
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: SMR
 Prepared: 8/10/17 12:00

CT ETPH Extractable Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	398 (24.2)		CT ETPH		1	SMR	08/10/17 23:59	C7H0157	CH71019

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: O-Terphenyl</i>	83 %		50-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: Trip Blank
Date Sampled: 08/07/17 00:00
Percent Solids: N/A
Initial Volume: 5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1708217
ESS Laboratory Sample ID: 1708217-07
Sample Matrix: Soil
Units: mg/kg wet
Analyst: MEK

5035/8260B Volatile Aromatic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2,3-Trichlorobenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
1,2,4-Trichlorobenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
1,2,4-Trimethylbenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
1,2-Dichlorobenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
1,3,5-Trimethylbenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
1,3-Dichlorobenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
1,4-Dichlorobenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
2-Chlorotoluene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
4-Chlorotoluene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
4-Isopropyltoluene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Benzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Bromobenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Chlorobenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Ethylbenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Isopropylbenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Naphthalene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
n-Butylbenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
n-Propylbenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
sec-Butylbenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Styrene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
tert-Butylbenzene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Toluene	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Xylene O	ND (0.0050)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Xylene P,M	ND (0.0100)		8260B Low		1	08/10/17 15:52	C7H0154	CH71028
Xylenes (Total)	ND (0.0100)		8260B Low		1	08/10/17 15:52		[CALC]

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: 1,2-Dichloroethane-d4	79 %		70-130
Surrogate: 4-Bromofluorobenzene	90 %		70-130
Surrogate: Dibromofluoromethane	81 %		70-130
Surrogate: Toluene-d8	90 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CH70939 - 3050B

Blank										
Arsenic	ND	2.50	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
LCS										
Arsenic	110	9.62	mg/kg wet	123.0		89	80-120			
Lead	134	19.2	mg/kg wet	145.0		93	80-120			
LCS Dup										
Arsenic	113	9.43	mg/kg wet	123.0		92	80-120	2	20	
Lead	132	18.9	mg/kg wet	145.0		91	80-120	2	20	

5035/8260B Volatile Aromatic Compounds / Low Level

Batch CH71028 - 5035

Blank										
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0391		mg/kg wet	0.05000		78	70-130			
Surrogate: 4-Bromofluorobenzene	0.0446		mg/kg wet	0.05000		89	70-130			
Surrogate: Dibromofluoromethane	0.0401		mg/kg wet	0.05000		80	70-130			
Surrogate: Toluene-d8	0.0449		mg/kg wet	0.05000		90	70-130			
LCS										
1,2,3-Trichlorobenzene	0.0596	0.0050	mg/kg wet	0.05000		119	70-130			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Aromatic Compounds / Low Level

Batch CH71028 - 5035

1,2,4-Trichlorobenzene	0.0590	0.0050	mg/kg wet	0.05000		118	70-130			
1,2,4-Trimethylbenzene	0.0627	0.0050	mg/kg wet	0.05000		125	70-130			
1,2-Dichlorobenzene	0.0591	0.0050	mg/kg wet	0.05000		118	70-130			
1,3,5-Trimethylbenzene	0.0623	0.0050	mg/kg wet	0.05000		125	70-130			
1,3-Dichlorobenzene	0.0584	0.0050	mg/kg wet	0.05000		117	70-130			
1,4-Dichlorobenzene	0.0590	0.0050	mg/kg wet	0.05000		118	70-130			
2-Chlorotoluene	0.0595	0.0050	mg/kg wet	0.05000		119	70-130			
4-Chlorotoluene	0.0607	0.0050	mg/kg wet	0.05000		121	70-130			
4-Isopropyltoluene	0.0606	0.0050	mg/kg wet	0.05000		121	70-130			
Benzene	0.0547	0.0050	mg/kg wet	0.05000		109	70-130			
Bromobenzene	0.0597	0.0050	mg/kg wet	0.05000		119	70-130			
Chlorobenzene	0.0587	0.0050	mg/kg wet	0.05000		117	70-130			
Ethylbenzene	0.0626	0.0050	mg/kg wet	0.05000		125	70-130			
Isopropylbenzene	0.0598	0.0050	mg/kg wet	0.05000		120	70-130			
Naphthalene	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
n-Butylbenzene	0.0629	0.0050	mg/kg wet	0.05000		126	70-130			
n-Propylbenzene	0.0634	0.0050	mg/kg wet	0.05000		127	70-130			
sec-Butylbenzene	0.0614	0.0050	mg/kg wet	0.05000		123	70-130			
Styrene	0.0620	0.0050	mg/kg wet	0.05000		124	70-130			
tert-Butylbenzene	0.0627	0.0050	mg/kg wet	0.05000		125	70-130			
Toluene	0.0557	0.0050	mg/kg wet	0.05000		111	70-130			
Xylene O	0.0637	0.0050	mg/kg wet	0.05000		127	70-130			
Xylene P,M	0.129	0.0100	mg/kg wet	0.1000		129	70-130			
Xylenes (Total)	0.192	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0438		mg/kg wet	0.05000		88	70-130			
Surrogate: 4-Bromofluorobenzene	0.0503		mg/kg wet	0.05000		101	70-130			
Surrogate: Dibromofluoromethane	0.0445		mg/kg wet	0.05000		89	70-130			
Surrogate: Toluene-d8	0.0516		mg/kg wet	0.05000		103	70-130			

LCS Dup

1,2,3-Trichlorobenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	14	25	
1,2,4-Trichlorobenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	14	25	
1,2,4-Trimethylbenzene	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	13	25	
1,2-Dichlorobenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	14	25	
1,3,5-Trimethylbenzene	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	14	25	
1,3-Dichlorobenzene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	14	25	
1,4-Dichlorobenzene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	14	25	
2-Chlorotoluene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	13	25	
4-Chlorotoluene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	14	25	
4-Isopropyltoluene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	13	25	
Benzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	14	25	
Bromobenzene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	14	25	
Chlorobenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130	20	25	
Ethylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	20	25	
Isopropylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	13	25	
Naphthalene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	13	25	



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Aromatic Compounds / Low Level

Batch CH71028 - 5035

n-Butylbenzene	0.0544	0.0050	mg/kg wet	0.05000		109	70-130	14	25	
n-Propylbenzene	0.0555	0.0050	mg/kg wet	0.05000		111	70-130	13	25	
sec-Butylbenzene	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	14	25	
Styrene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	21	25	
tert-Butylbenzene	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	13	25	
Toluene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	13	25	
Xylene O	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	19	25	
Xylene P,M	0.106	0.0100	mg/kg wet	0.1000		106	70-130	20	25	
Xylenes (Total)	0.158	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0436		mg/kg wet	0.05000		87	70-130			
Surrogate: 4-Bromofluorobenzene	0.0474		mg/kg wet	0.05000		95	70-130			
Surrogate: Dibromofluoromethane	0.0454		mg/kg wet	0.05000		91	70-130			
Surrogate: Toluene-d8	0.0492		mg/kg wet	0.05000		98	70-130			

8082A Polychlorinated Biphenyls (PCB)

Batch CH71016 - 3540C

Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0213		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene	0.0117		mg/kg wet	0.02500		47	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0128		mg/kg wet	0.02500		51	30-150			

LCS										
Aroclor 1016	0.3	0.05	mg/kg wet	0.5000		60	40-140			
Aroclor 1016 [2C]	0.3	0.05	mg/kg wet	0.5000		60	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140			

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CH71016 - 3540C

Surrogate: Decachlorobiphenyl	0.0224		mg/kg wet	0.02500		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0216		mg/kg wet	0.02500		86	30-150			
Surrogate: Tetrachloro-m-xylene	0.00961		mg/kg wet	0.02500		38	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.00979		mg/kg wet	0.02500		39	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		93	40-140	44	30	D+
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	44	30	D+
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	4	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		81	40-140	2	30	

Surrogate: Decachlorobiphenyl	0.0205		mg/kg wet	0.02500		82	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0202		mg/kg wet	0.02500		81	30-150			
Surrogate: Tetrachloro-m-xylene	0.0213		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0214		mg/kg wet	0.02500		86	30-150			

8270D Polynuclear Aromatic Hydrocarbons

Batch CH71108 - 3546

Blank

2-Methylnaphthalene	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	1.92		mg/kg wet	3.333		57	30-130			
Surrogate: 2-Fluorobiphenyl	2.05		mg/kg wet	3.333		61	30-130			
Surrogate: Nitrobenzene-d5	2.07		mg/kg wet	3.333		62	30-130			
Surrogate: p-Terphenyl-d14	2.19		mg/kg wet	3.333		66	30-130			

LCS

2-Methylnaphthalene	2.82	0.333	mg/kg wet	3.333		85	40-140			
Acenaphthene	2.83	0.333	mg/kg wet	3.333		85	40-140			
Acenaphthylene	3.13	0.333	mg/kg wet	3.333		94	40-140			
Anthracene	3.01	0.333	mg/kg wet	3.333		90	40-140			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Polynuclear Aromatic Hydrocarbons

Batch CH71108 - 3546

Benzo(a)anthracene	3.06	0.333	mg/kg wet	3.333		92	40-140			
Benzo(a)pyrene	2.98	0.167	mg/kg wet	3.333		89	40-140			
Benzo(b)fluoranthene	3.02	0.333	mg/kg wet	3.333		91	40-140			
Benzo(g,h,i)perylene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Benzo(k)fluoranthene	2.86	0.333	mg/kg wet	3.333		86	40-140			
Chrysene	3.00	0.167	mg/kg wet	3.333		90	40-140			
Dibenzo(a,h)Anthracene	3.11	0.167	mg/kg wet	3.333		93	40-140			
Fluoranthene	3.23	0.333	mg/kg wet	3.333		97	40-140			
Fluorene	3.26	0.333	mg/kg wet	3.333		98	40-140			
Indeno(1,2,3-cd)Pyrene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Naphthalene	2.85	0.333	mg/kg wet	3.333		85	40-140			
Phenanthrene	2.84	0.333	mg/kg wet	3.333		85	40-140			
Pyrene	2.85	0.333	mg/kg wet	3.333		86	40-140			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	2.05		mg/kg wet	3.333		62	30-130			
<i>Surrogate: 2-Fluorobiphenyl</i>	2.12		mg/kg wet	3.333		64	30-130			
<i>Surrogate: Nitrobenzene-d5</i>	2.22		mg/kg wet	3.333		66	30-130			
<i>Surrogate: p-Terphenyl-d14</i>	2.21		mg/kg wet	3.333		66	30-130			

LCS Dup

2-Methylnaphthalene	2.25	0.333	mg/kg wet	3.333		67	40-140	23	30	
Acenaphthene	2.19	0.333	mg/kg wet	3.333		66	40-140	26	30	
Acenaphthylene	2.42	0.333	mg/kg wet	3.333		73	40-140	26	30	
Anthracene	2.37	0.333	mg/kg wet	3.333		71	40-140	24	30	
Benzo(a)anthracene	2.38	0.333	mg/kg wet	3.333		71	40-140	25	30	
Benzo(a)pyrene	2.37	0.167	mg/kg wet	3.333		71	40-140	23	30	
Benzo(b)fluoranthene	2.29	0.333	mg/kg wet	3.333		69	40-140	28	30	
Benzo(g,h,i)perylene	2.47	0.333	mg/kg wet	3.333		74	40-140	23	30	
Benzo(k)fluoranthene	2.34	0.333	mg/kg wet	3.333		70	40-140	20	30	
Chrysene	2.34	0.167	mg/kg wet	3.333		70	40-140	25	30	
Dibenzo(a,h)Anthracene	2.50	0.167	mg/kg wet	3.333		75	40-140	22	30	
Fluoranthene	2.61	0.333	mg/kg wet	3.333		78	40-140	21	30	
Fluorene	2.35	0.333	mg/kg wet	3.333		70	40-140	33	30	D+
Indeno(1,2,3-cd)Pyrene	2.48	0.333	mg/kg wet	3.333		74	40-140	22	30	
Naphthalene	2.22	0.333	mg/kg wet	3.333		67	40-140	25	30	
Phenanthrene	2.20	0.333	mg/kg wet	3.333		66	40-140	25	30	
Pyrene	2.31	0.333	mg/kg wet	3.333		69	40-140	21	30	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	1.53		mg/kg wet	3.333		46	30-130			
<i>Surrogate: 2-Fluorobiphenyl</i>	1.69		mg/kg wet	3.333		51	30-130			
<i>Surrogate: Nitrobenzene-d5</i>	1.68		mg/kg wet	3.333		50	30-130			
<i>Surrogate: p-Terphenyl-d14</i>	1.74		mg/kg wet	3.333		52	30-130			

CT ETPH Extractable Total Petroleum Hydrocarbons

Batch CH71019 - 3546

Blank										
Total Petroleum Hydrocarbons	ND	20.0	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
CT ETPH Extractable Total Petroleum Hydrocarbons										
Batch CH71019 - 3546										
<i>Surrogate: O-Terphenyl</i>	4.71		mg/kg wet	5.000		94	50-150			
LCS										
Total Petroleum Hydrocarbons	27.8	20.0	mg/kg wet	35.00		80	60-120			
<i>Surrogate: O-Terphenyl</i>	4.42		mg/kg wet	5.000		88	50-150			
LCS Dup										
Total Petroleum Hydrocarbons	28.5	20.0	mg/kg wet	35.00		81	60-120	2	30	
<i>Surrogate: O-Terphenyl</i>	4.49		mg/kg wet	5.000		90	50-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

Notes and Definitions

- U Analyte included in the analysis, but not detected
- S+ Surrogate recovery(ies) above upper control limit (S+).
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708217

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

CCV EVALUATION FOR COMPLIANCE WITH CT ETPH LIMITS

Data File Name GK021144.D
 Data File Path Q:\SVOA\GC9_GK\DATA\GK0817\081017\
 Date Acquired #VALUE!
 Sample Name TPH-50
 Misc Info

Name	Target Response	Target RF 50	Target RF 100	20%< 50%
C9	1740845	34817	17408	
C10	1700911	34018	17009	
C12	1753327	35067	17533	
C14	1781155	35623	17812	
C16	1821944	36439	18219	
C18	1846143	36923	18461	
C19	1911518	38230	19115	
C20	1837567	36751	18376	
C22	1851357	37027	18514	
C24	1836309	36726	18363	
C26	1844378	36888	18444	
C28	1854357	37087	18544	
C30	1840059	36801	18401	
C36	1585005	31700	15850	
Average		36007	18003	
AVG-20%		28806	14403	
AVG+20%		43208	21604	
AVG-50%		18003	9002	
AVG+50%		54010	27005	

CCV EVALUATION FOR COMPLIANCE WITH CT ETPH LIMITS

Data File Name GK021157.D
 Data File Path Q:\SVOA\GC9_GK\DATA\GK0817\081017\
 Date Acquired 8/10/2017 22:49
 Sample Name TPH-50
 Misc Info

Name	Target Response	Target RF 50	Target RF 100	20%< 50%
C9	1751743	35035	17517	
C10	1713222	34264	17132	
C12	1766671	35333	17667	
C14	1792519	35850	17925	
C16	1847544	36951	18475	
C18	1860913	37218	18609	
C19	1927480	38550	19275	
C20	1861672	37233	18617	
C22	1871175	37423	18712	
C24	1850023	37000	18500	
C26	1862481	37250	18625	
C28	1867858	37357	18679	
C30	1857838	37157	18578	
C36	1570553	31411	15706	
Average		36288	18144	
AVG-20%		29031	14515	
AVG+20%		43546	21773	
AVG-50%		18144	9072	
AVG+50%		54432	27216	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1708217

Date Received: 8/9/2017

Shipped/Delivered Via: ESS Courier

Project Due Date: 8/17/2017

Days for Project: 5 Day

1. Air bill manifest present? No
Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
Temp: 4.4 Iced with: Ice
5. Was COC signed and dated by client? Yes

6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. Were labs informed about **short holds & rushes**? Yes / No NA
10. Were any analyses received outside of hold time? Yes No

11. Any Subcontracting needed? Yes No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

12. Were VOAs received? Yes / No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
a. If metals preserved upon receipt: Date: _____
b. Low Level VOA vials frozen: Date: 8/5/17

Time: _____ By: _____
Time: 8:00 By: client

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes No
a. Was there a need to contact the client? Yes / No
Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	153428	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
01	153433	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
01	153440	Yes	NA	Yes	VOA Vial - Other	Other	
01	153441	Yes	NA	Yes	VOA Vial - Other	Other	
02	153427	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	153432	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
02	153438	Yes	NA	Yes	VOA Vial - Other	Other	
02	153439	Yes	NA	Yes	VOA Vial - Other	Other	
03	153426	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	153431	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
03	153436	Yes	NA	Yes	VOA Vial - Other	Other	
03	153437	Yes	NA	Yes	VOA Vial - Other	Other	
04	153425	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	153430	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
04	153434	Yes	NA	Yes	VOA Vial - Other	Other	
04	153435	Yes	NA	Yes	VOA Vial - Other	Other	
05	153424	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
06	153423	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
07	153429	Yes	NA	Yes	VOA Vial - Methanol	MeOH	
07	153442	Yes	NA	Yes	VOA Vial - Other	Other	

2nd Review

Are barcode labels on correct containers?

Yes / No

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZAMM

ESS Project ID: 1708217

Date Received: 8/9/2017

Completed By: [Signature]

Date & Time: 8/9/17 1740

Reviewed By: [Signature]

Date & Time: 8/9/17 1832

Delivered By: [Signature]

Date & Time: 8/9/17 1832

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-
 2211 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
 1768217

Turn Time Standard Rush Approved By: _____

Reporting Limits -
 RDEL/GA PML

State where samples were collected: MA RI NH NJ NY ME Other _____

Is this project for any of the following: (please circle)
 MA-MCP CT-RCP RGP Other _____

Electronic Deliverable Yes No
 Format: Excel Access PDF Other _____

GZA Project Manager: Ben Rock / Dave Renczyk
GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900
 REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # 45441.06
 Project Name: Daniels Mill
 Contract Pricing _____
 Special Pricing: _____

Analysis	# of Containers	Comment #
VOCs - Ambient		
PCBs (ambient)		
Hold		

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis	Comment #
7	8-7-17	-	G	DI / SW	Tray Blank	2		
1		0920		S	B-21 (0.5-2)	4	X	
		0925			B-21 (4-6)	4	X	
		0935			B-21 (8-10)	1		X
2		0945			B-22 (0.5-2)	4	X	
		0950			B-22 (4-6)	4		X
		0955			B-22 (8-10)	1		X
3		1015			B-23 (2-4)	4	X	
		1020			B-23 (5-7)	4		X
		1025			B-23 (8-10)	1		X

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAce 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
 Seals Intact Yes No NA: A
 Cooler Temperature: 3.7-4.4 C

Sampled by: BTO
 Comments: VOCs 8020

Relinquished by: (Signature) <u>[Signature]</u>	Date/Time 8/9/17 0900	Received by: (Signature) <u>GZA Fridge/Frozen</u>	Relinquished by: (Signature) <u>Frozen to be</u>	Date/Time 8/9/17 0902	Received by: (Signature) <u>[Signature]</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date/Time 8/9/17 0945	Received by: (Signature) <u>[Signature]</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time 8/9/17 1547	Received by: (Signature) <u>[Signature]</u>

Please E-mail all changes to Chain of Custody in writing.

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-
 2211 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
 1708217

Turn Time Standard Rush Approved By: _____
 State where samples were collected: MA RI CT NH NJ NY ME Other _____
 Reporting Limits - RDEL/GA PML
 Is this project for any of the following: (please circle) MA-MCP CT-RCP RGP Other _____
 Electronic Deliverable Yes No
 Format: Excel Access PDF Other _____

GZA Project Manager: Ben Reck / Dave Kuczyk
 GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900
 REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # 45441.06
 Project Name: Daniel's Mill
 Contract Pricing _____
 Special Pricing: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis	Aromatic VOCs	PCBs (monocyclic)	PCBs (polycyclic)	Hold	PAHs	Total As, Pb	STPH	Comment #
4	8.7.17	1035	G	S	B-24 (0.5-2)	4	X	X							
		1040			B-24 (4-6)	4					X				
		1045			B-24 (8-10)	1					X				
5		1203			B-27 (0-2)	1		X				X	X		
6		1205			B-27 (3-5)	1		X				X	X	X	

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAce 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
 Seals Intact Yes No NA: _____
 Cooler Temperature: 3.7-4.4°C
 Sampled by: DR
 Comments: _____

Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/9/17/0900</u>	Received by: (Signature) <u>GERT Kridge / Frozen</u>	Relinquished by: (Signature) <u>Frozen for [Signature]</u>	Date/Time <u>8/9/17/12</u>	Received by: (Signature) <u>[Signature]</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/9/17/045</u>	Received by: (Signature) <u>[Signature]</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/9/17 1547</u>	Received by: (Signature) <u>[Signature]</u>

Please E-mail all changes to Chain of Custody in writing.



CERTIFICATE OF ANALYSIS

Benjamin Rach
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1708275

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:11 pm, Aug 18, 2017

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

SAMPLE RECEIPT

The following samples were received on August 11, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question 6: All samples for Metals and SVOA were analyzed for a subset of the required RCP list per the client's request.

Lab Number	Sample Name	Matrix	Analysis
1708275-01	B-25A (0-1)	Soil	6010C, 8082A, 8270D PAH
1708275-02	B-26 (5-6)	Soil	6010C, 8082A, 8270D PAH



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

- 1708275-01 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
 Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- CH71103-MS1 [Matrix Spike recovery is outside of control limits due to coelution.](#)
 Aroclor 1260 (345% @ 40-140%), Aroclor 1260 [2C] (298% @ 40-140%)
- CH71103-MS1 [Surrogate recovery\(ies\) above upper control limit \(S+\).](#)
 Decachlorobiphenyl [2C] (608% @ 30-150%)
- CH71103-MSD1 [Matrix Spike recovery is outside of control limits due to coelution.](#)
 Aroclor 1260 (371% @ 40-140%), Aroclor 1260 [2C] (310% @ 40-140%)
- CH71103-MSD1 [Surrogate recovery\(ies\) above upper control limit \(S+\).](#)
 Decachlorobiphenyl [2C] (452% @ 30-150%)

8270D Polynuclear Aromatic Hydrocarbons

- C7H0159-CCV1 [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)
 Fluoranthene (21% @ 20%)
- CH71108-BSD1 [Relative percent difference for duplicate is outside of criteria \(D+\).](#)
 Fluorene (33% @ 30%)
- CH71108-MS1 [Due to high target values, matrix spike analyte\(s\) is masked \(MT\).](#)
- CH71108-MSD1 [Due to high target values, matrix spike analyte\(s\) is masked \(MT\).](#)

Total Metals

- CH71642-DUP1 [Relative percent difference for duplicate is outside of criteria \(D+\).](#)
 Arsenic (83% @ 35%)
- CH71642-MS1 [Due to high target values, matrix spike analyte\(s\) is masked \(MT\).](#)
 Lead (485% @ 75-125%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

- [Definitions of Quality Control Parameters](#)
- [Semivolatile Organics Internal Standard Information](#)
- [Semivolatile Organics Surrogate Information](#)
- [Volatile Organics Internal Standard Information](#)
- [Volatile Organics Surrogate Information](#)
- [EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

**Laboratory Analysis
QA/QC Certification Form**

Project Number: 05.0045441.06

Sampling Date(s): 8/9/2017

Laboratory Sample ID(s): 1708275-01 through 1708275-02

List RCP Methods Used 8260B 8151A ETPH 6010B 7470A/1A
Other: _____ 8270C 8081A VPH 6020 9014M
_____ 8082 8021B EPH 7000 S 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes () No (X)
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes (X) 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 (X)
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes (X) 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: Laboratory Director

Printed Name: Laurel Stoddard

Date: August 18, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-25A (0-1)
Date Sampled: 08/09/17 10:45
Percent Solids: 86

ESS Laboratory Work Order: 1708275
ESS Laboratory Sample ID: 1708275-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	3.50 (2.73)		6010C		1	KJK	08/16/17 22:33	2.14	100	CH71642
Lead	425 (5.46)		6010C		1	KJK	08/16/17 22:33	2.14	100	CH71642



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-25A (0-1)
 Date Sampled: 08/09/17 10:45
 Percent Solids: 86
 Initial Volume: 19.6
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708275
 ESS Laboratory Sample ID: 1708275-01
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/11/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (1.2)		8082A		20	08/16/17 16:32		CH71103
Aroclor 1221	ND (1.2)		8082A		20	08/16/17 16:32		CH71103
Aroclor 1232	ND (1.2)		8082A		20	08/16/17 16:32		CH71103
Aroclor 1242	ND (1.2)		8082A		20	08/16/17 16:32		CH71103
Aroclor 1248	ND (1.2)		8082A		20	08/16/17 16:32		CH71103
Aroclor 1254	8.4 (1.2)		8082A		20	08/16/17 16:32		CH71103
Aroclor 1260	ND (1.2)		8082A		20	08/16/17 16:32		CH71103
Aroclor 1262	ND (1.2)		8082A		20	08/16/17 16:32		CH71103
Aroclor 1268	ND (1.2)		8082A		20	08/16/17 16:32		CH71103

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-25A (0-1)
Date Sampled: 08/09/17 10:45
Percent Solids: 86
Initial Volume: 14.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1708275
ESS Laboratory Sample ID: 1708275-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 8/11/17 11:15

8270D Polynuclear Aromatic Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
2-Methylnaphthalene	2.22 (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Acenaphthene	7.08 (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Acenaphthylene	ND (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Anthracene	14.8 (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Benzo(a)anthracene	43.2 (16.3)		8270D PAH		20	08/15/17 18:13	C7H0159	CH71108
Benzo(a)pyrene	37.0 (0.819)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Benzo(b)fluoranthene	35.8 (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Benzo(g,h,i)perylene	16.3 (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Benzo(k)fluoranthene	37.9 (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Chrysene	37.6 (0.819)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Dibenzo(a,h)Anthracene	10.3 (0.819)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Fluoranthene	92.4 (16.3)		8270D PAH		20	08/15/17 18:13	C7H0159	CH71108
Fluorene	7.07 (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Indeno(1,2,3-cd)Pyrene	15.9 (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Naphthalene	5.26 (1.63)		8270D PAH		2	08/11/17 19:10	C7H0159	CH71108
Phenanthrene	67.2 (16.3)		8270D PAH		20	08/15/17 18:13	C7H0159	CH71108
Pyrene	78.1 (16.3)		8270D PAH		20	08/15/17 18:13	C7H0159	CH71108

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	40 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	54 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	45 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	70 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-26 (5-6)
Date Sampled: 08/09/17 11:20
Percent Solids: 86

ESS Laboratory Work Order: 1708275
ESS Laboratory Sample ID: 1708275-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.27)		6010C		1	KJK	08/16/17 10:34	2.57	100	CH71550
Lead	67.9 (4.55)		6010C		1	BJV	08/16/17 1:19	2.57	100	CH71550



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-26 (5-6)
Date Sampled: 08/09/17 11:20
Percent Solids: 86
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1708275
ESS Laboratory Sample ID: 1708275-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: CAD
Prepared: 8/11/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.06)		8082A		1	08/15/17 15:14		CH71103
Aroclor 1221	ND (0.06)		8082A		1	08/15/17 15:14		CH71103
Aroclor 1232	ND (0.06)		8082A		1	08/15/17 15:14		CH71103
Aroclor 1242	ND (0.06)		8082A		1	08/15/17 15:14		CH71103
Aroclor 1248	ND (0.06)		8082A		1	08/15/17 15:14		CH71103
Aroclor 1254 [2C]	0.6 (0.06)		8082A		1	08/15/17 15:14		CH71103
Aroclor 1260	ND (0.06)		8082A		1	08/15/17 15:14		CH71103
Aroclor 1262	ND (0.06)		8082A		1	08/15/17 15:14		CH71103
Aroclor 1268	ND (0.06)		8082A		1	08/15/17 15:14		CH71103

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>110 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>128 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>78 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>87 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-26 (5-6)
Date Sampled: 08/09/17 11:20
Percent Solids: 86
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1708275
ESS Laboratory Sample ID: 1708275-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: TJ
Prepared: 8/11/17 11:15

8270D Polynuclear Aromatic Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
2-Methylnaphthalene	ND (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Acenaphthene	ND (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Acenaphthylene	ND (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Anthracene	0.412 (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Benzo(a)anthracene	1.14 (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Benzo(a)pyrene	0.983 (0.186)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Benzo(b)fluoranthene	1.04 (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Benzo(g,h,i)perylene	0.456 (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Benzo(k)fluoranthene	0.899 (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Chrysene	1.06 (0.186)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Dibenzo(a,h)Anthracene	0.233 (0.186)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Fluoranthene	3.04 (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Fluorene	ND (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Indeno(1,2,3-cd)Pyrene	0.420 (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Naphthalene	ND (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Phenanthrene	1.90 (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108
Pyrene	2.26 (0.372)		8270D PAH		1	08/11/17 20:52	C7H0159	CH71108

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	54 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	56 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	56 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	64 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CH71550 - 3050B

Blank										
Arsenic	ND	2.50	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
LCS										
Arsenic	110	8.33	mg/kg wet	123.0		89	80-120			
Lead	136	16.7	mg/kg wet	145.0		94	80-120			
LCS Dup										
Arsenic	115	7.94	mg/kg wet	123.0		93	80-120	4	20	
Lead	141	15.9	mg/kg wet	145.0		98	80-120	4	20	
Duplicate Source: 1708275-01										
Arsenic	2.33	2.63	mg/kg dry		3.50			40	35	
Lead	315	5.27	mg/kg dry		425			30	35	
Matrix Spike Source: 1708275-01										
Arsenic	22.3	2.19	mg/kg dry	21.90	3.50	86	75-125			
Lead	381	4.38	mg/kg dry	21.90	425	NR	75-125			

Batch CH71642 - 3050B

Blank										
Arsenic	ND	2.50	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
LCS										
Arsenic	110	8.06	mg/kg wet	123.0		89	80-120			
Lead	130	16.1	mg/kg wet	145.0		90	80-120			
LCS Dup										
Arsenic	113	9.80	mg/kg wet	123.0		92	80-120	3	20	
Lead	136	19.6	mg/kg wet	145.0		94	80-120	4	20	
Duplicate Source: 1708275-01										
Arsenic	1.45	2.49	mg/kg dry		3.50			83	35	D+
Lead	417	4.98	mg/kg dry		425			2	35	
Matrix Spike Source: 1708275-01										
Arsenic	28.9	2.73	mg/kg dry	27.32	3.50	93	75-125			
Lead	558	5.46	mg/kg dry	27.32	425	485	75-125			MT

8082A Polychlorinated Biphenyls (PCB)

Batch CH71103 - 3540C

Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CH71103 - 3540C

Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0251		mg/kg wet	0.02500		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0244		mg/kg wet	0.02500		98	30-150			
Surrogate: Tetrachloro-m-xylene	0.0263		mg/kg wet	0.02500		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0300		mg/kg wet	0.02500		120	30-150			

LCS

Aroclor 1016	0.6	0.05	mg/kg wet	0.5000		119	40-140			
Aroclor 1016 [2C]	0.6	0.05	mg/kg wet	0.5000		117	40-140			
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		116	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		108	40-140			

Surrogate: Decachlorobiphenyl	0.0260		mg/kg wet	0.02500		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0255		mg/kg wet	0.02500		102	30-150			
Surrogate: Tetrachloro-m-xylene	0.0276		mg/kg wet	0.02500		111	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0303		mg/kg wet	0.02500		121	30-150			

LCS Dup

Aroclor 1016	0.6	0.05	mg/kg wet	0.5000		124	40-140	4	30	
Aroclor 1016 [2C]	0.6	0.05	mg/kg wet	0.5000		117	40-140	0.02	30	
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		118	40-140	2	30	
Aroclor 1260 [2C]	0.6	0.05	mg/kg wet	0.5000		111	40-140	3	30	

Surrogate: Decachlorobiphenyl	0.0257		mg/kg wet	0.02500		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0249		mg/kg wet	0.02500		100	30-150			
Surrogate: Tetrachloro-m-xylene	0.0275		mg/kg wet	0.02500		110	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0299		mg/kg wet	0.02500		120	30-150			

Matrix Spike Source: 1708275-01

Aroclor 1016	0.7	0.06	mg/kg dry	0.6059	ND	109	40-140			
Aroclor 1016 [2C]	0.7	0.06	mg/kg dry	0.6059	ND	121	40-140			
Aroclor 1260	2.1	0.3	mg/kg dry	0.6059	ND	345	40-140			MC
Aroclor 1260 [2C]	1.8	0.3	mg/kg dry	0.6059	ND	298	40-140			MC

Surrogate: Decachlorobiphenyl	0.0324		mg/kg dry	0.03030		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.184		mg/kg dry	0.03030		608	30-150			S+
Surrogate: Tetrachloro-m-xylene	0.0234		mg/kg dry	0.03030		77	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0251		mg/kg dry	0.03030		83	30-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CH71103 - 3540C

Matrix Spike Dup Source: 1708275-01

Aroclor 1016	0.5	0.06	mg/kg dry	0.5966	ND	88	40-140	24	30	
Aroclor 1016 [2C]	0.6	0.06	mg/kg dry	0.5966	ND	100	40-140	21	30	
Aroclor 1260	2.2	0.3	mg/kg dry	0.5966	ND	371	40-140	6	30	MC
Aroclor 1260 [2C]	1.8	0.3	mg/kg dry	0.5966	ND	310	40-140	2	30	MC
Surrogate: Decachlorobiphenyl	0.0266		mg/kg dry	0.02983		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.135		mg/kg dry	0.02983		452	30-150			S+
Surrogate: Tetrachloro-m-xylene	0.0185		mg/kg dry	0.02983		62	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0194		mg/kg dry	0.02983		65	30-150			

8270D Polynuclear Aromatic Hydrocarbons

Batch CH71108 - 3546

Blank

2-Methylnaphthalene	ND	0.333	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	1.92		mg/kg wet	3.333		57	30-130			
Surrogate: 2-Fluorobiphenyl	2.05		mg/kg wet	3.333		61	30-130			
Surrogate: Nitrobenzene-d5	2.07		mg/kg wet	3.333		62	30-130			
Surrogate: p-Terphenyl-d14	2.19		mg/kg wet	3.333		66	30-130			

LCS

2-Methylnaphthalene	2.82	0.333	mg/kg wet	3.333		85	40-140			
Acenaphthene	2.83	0.333	mg/kg wet	3.333		85	40-140			
Acenaphthylene	3.13	0.333	mg/kg wet	3.333		94	40-140			
Anthracene	3.01	0.333	mg/kg wet	3.333		90	40-140			
Benzo(a)anthracene	3.06	0.333	mg/kg wet	3.333		92	40-140			
Benzo(a)pyrene	2.98	0.167	mg/kg wet	3.333		89	40-140			
Benzo(b)fluoranthene	3.02	0.333	mg/kg wet	3.333		91	40-140			
Benzo(g,h,i)perylene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Benzo(k)fluoranthene	2.86	0.333	mg/kg wet	3.333		86	40-140			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Polynuclear Aromatic Hydrocarbons

Batch CH71108 - 3546

Chrysene	3.00	0.167	mg/kg wet	3.333		90	40-140			
Dibenzo(a,h)Anthracene	3.11	0.167	mg/kg wet	3.333		93	40-140			
Fluoranthene	3.23	0.333	mg/kg wet	3.333		97	40-140			
Fluorene	3.26	0.333	mg/kg wet	3.333		98	40-140			
Indeno(1,2,3-cd)Pyrene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Naphthalene	2.85	0.333	mg/kg wet	3.333		85	40-140			
Phenanthrene	2.84	0.333	mg/kg wet	3.333		85	40-140			
Pyrene	2.85	0.333	mg/kg wet	3.333		86	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.05		mg/kg wet	3.333		62	30-130			
Surrogate: 2-Fluorobiphenyl	2.12		mg/kg wet	3.333		64	30-130			
Surrogate: Nitrobenzene-d5	2.22		mg/kg wet	3.333		66	30-130			
Surrogate: p-Terphenyl-d14	2.21		mg/kg wet	3.333		66	30-130			

LCS Dup

2-Methylnaphthalene	2.25	0.333	mg/kg wet	3.333		67	40-140	23	30	
Acenaphthene	2.19	0.333	mg/kg wet	3.333		66	40-140	26	30	
Acenaphthylene	2.42	0.333	mg/kg wet	3.333		73	40-140	26	30	
Anthracene	2.37	0.333	mg/kg wet	3.333		71	40-140	24	30	
Benzo(a)anthracene	2.38	0.333	mg/kg wet	3.333		71	40-140	25	30	
Benzo(a)pyrene	2.37	0.167	mg/kg wet	3.333		71	40-140	23	30	
Benzo(b)fluoranthene	2.29	0.333	mg/kg wet	3.333		69	40-140	28	30	
Benzo(g,h,i)perylene	2.47	0.333	mg/kg wet	3.333		74	40-140	23	30	
Benzo(k)fluoranthene	2.34	0.333	mg/kg wet	3.333		70	40-140	20	30	
Chrysene	2.34	0.167	mg/kg wet	3.333		70	40-140	25	30	
Dibenzo(a,h)Anthracene	2.50	0.167	mg/kg wet	3.333		75	40-140	22	30	
Fluoranthene	2.61	0.333	mg/kg wet	3.333		78	40-140	21	30	
Fluorene	2.35	0.333	mg/kg wet	3.333		70	40-140	33	30	D+
Indeno(1,2,3-cd)Pyrene	2.48	0.333	mg/kg wet	3.333		74	40-140	22	30	
Naphthalene	2.22	0.333	mg/kg wet	3.333		67	40-140	25	30	
Phenanthrene	2.20	0.333	mg/kg wet	3.333		66	40-140	25	30	
Pyrene	2.31	0.333	mg/kg wet	3.333		69	40-140	21	30	
Surrogate: 1,2-Dichlorobenzene-d4	1.53		mg/kg wet	3.333		46	30-130			
Surrogate: 2-Fluorobiphenyl	1.69		mg/kg wet	3.333		51	30-130			
Surrogate: Nitrobenzene-d5	1.68		mg/kg wet	3.333		50	30-130			
Surrogate: p-Terphenyl-d14	1.74		mg/kg wet	3.333		52	30-130			

Matrix Spike **MT**

Source: 1708275-01

2-Methylnaphthalene	5.43	1.58	mg/kg dry	3.951	2.22	81	40-140			
Acenaphthene	12.2	1.58	mg/kg dry	3.951	7.08	130	40-140			
Acenaphthylene	5.16	1.58	mg/kg dry	3.951	1.14	102	40-140			
Anthracene	20.4	1.58	mg/kg dry	3.951	14.8	142	40-140			
Benzo(a)anthracene	54.2	15.8	mg/kg dry	3.951	43.2	278	40-140			
Benzo(a)pyrene	47.7	7.92	mg/kg dry	3.951	37.0	270	40-140			
Benzo(b)fluoranthene	45.2	15.8	mg/kg dry	3.951	35.8	237	40-140			
Benzo(g,h,i)perylene	23.0	1.58	mg/kg dry	3.951	16.3	171	40-140			
Benzo(k)fluoranthene	46.9	15.8	mg/kg dry	3.951	37.9	229	40-140			
Chrysene	51.7	7.92	mg/kg dry	3.951	37.6	359	40-140			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Polynuclear Aromatic Hydrocarbons

Batch CH71108 - 3546

Dibenzo(a,h)Anthracene	14.8	0.792	mg/kg dry	3.951	10.3	115	40-140			
Fluoranthene	138	15.8	mg/kg dry	3.951	92.4	NR	40-140			
Fluorene	12.4	1.58	mg/kg dry	3.951	7.07	134	40-140			
Indeno(1,2,3-cd)Pyrene	22.0	1.58	mg/kg dry	3.951	15.9	154	40-140			
Naphthalene	6.82	1.58	mg/kg dry	3.951	5.26	40	40-140			
Phenanthrene	87.3	15.8	mg/kg dry	3.951	67.2	507	40-140			
Pyrene	103	15.8	mg/kg dry	3.951	78.1	624	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	1.67		mg/kg dry	3.951		42	30-130			
Surrogate: 2-Fluorobiphenyl	2.11		mg/kg dry	3.951		53	30-130			
Surrogate: Nitrobenzene-d5	1.91		mg/kg dry	3.951		48	30-130			
Surrogate: p-Terphenyl-d14	3.14		mg/kg dry	3.951		79	30-130			

Matrix Spike Dup

Source: 1708275-01

MT

2-Methylnaphthalene	4.57	1.54	mg/kg dry	3.847	2.22	61	40-140	17	30	
Acenaphthene	10.7	1.54	mg/kg dry	3.847	7.08	94	40-140	13	30	
Acenaphthylene	5.03	1.54	mg/kg dry	3.847	1.14	101	40-140	3	30	
Anthracene	21.2	1.54	mg/kg dry	3.847	14.8	169	40-140	4	30	
Benzo(a)anthracene	59.6	15.4	mg/kg dry	3.847	43.2	426	40-140	10	30	
Benzo(a)pyrene	51.8	7.71	mg/kg dry	3.847	37.0	384	40-140	8	30	
Benzo(b)fluoranthene	55.9	15.4	mg/kg dry	3.847	35.8	522	40-140	21	30	
Benzo(g,h,i)perylene	23.9	1.54	mg/kg dry	3.847	16.3	199	40-140	4	30	
Benzo(k)fluoranthene	38.3	1.54	mg/kg dry	3.847	37.9	11	40-140	20	30	
Chrysene	56.0	7.71	mg/kg dry	3.847	37.6	478	40-140	8	30	
Dibenzo(a,h)Anthracene	15.3	0.771	mg/kg dry	3.847	10.3	132	40-140	3	30	
Fluoranthene	155	15.4	mg/kg dry	3.847	92.4	NR	40-140	11	30	
Fluorene	11.3	1.54	mg/kg dry	3.847	7.07	110	40-140	9	30	
Indeno(1,2,3-cd)Pyrene	22.9	1.54	mg/kg dry	3.847	15.9	182	40-140	4	30	
Naphthalene	6.21	1.54	mg/kg dry	3.847	5.26	25	40-140	9	30	
Phenanthrene	91.1	15.4	mg/kg dry	3.847	67.2	621	40-140	4	30	
Pyrene	108	15.4	mg/kg dry	3.847	78.1	775	40-140	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	1.60		mg/kg dry	3.847		41	30-130			
Surrogate: 2-Fluorobiphenyl	2.01		mg/kg dry	3.847		52	30-130			
Surrogate: Nitrobenzene-d5	1.85		mg/kg dry	3.847		48	30-130			
Surrogate: p-Terphenyl-d14	2.98		mg/kg dry	3.847		77	30-130			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

Notes and Definitions

- U Analyte included in the analysis, but not detected
- SD Surrogate recovery(ies) diluted below the MRL (SD).
- S+ Surrogate recovery(ies) above upper control limit (S+).
- MT Due to high target values, matrix spike analyte(s) is masked (MT).
- MC Matrix Spike recovery is outside of control limits due to coelution.
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708275

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1708275
 Date Received: 8/10/2017
 Project Due Date: 8/18/2017
 Days for Project: 5 Day

Shipped/Delivered Via: ESS Courier

- 1. Air bill manifest present? No
Air No.: NA
- 2. Were custody seals present? No
- 3. Is radiation count <100 CPM? Yes
- 4. Is a Cooler Present? Yes
Temp: 0.3 Iced with: Ice
- 5. Was COC signed and dated by client? Yes

- 6. Does COC match bottles? Yes
- 7. Is COC complete and correct? Yes
- 8. Were samples received intact? Yes
- 9. Were labs informed about short holds & rushes? Yes / No / NA
- 10. Were any analyses received outside of hold time? Yes No

- 11. Any Subcontracting needed? Yes No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

- 12. Were VOAs received? Yes / No
 a. Air bubbles in aqueous VOAs? Yes / No
 b. Does methanol cover soil completely? Yes / No / NA

- 13. Are the samples properly preserved? Yes / No
 a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
 b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

- 14. Was there a need to contact Project Manager? Yes No
 a. Was there a need to contact the client? Yes / No
 Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	153955	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
01	153956	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	153957	Yes	NA	Yes	8 oz. Jar - Unpres	NP	

2nd Review
 Are barcode labels on correct containers? Yes / No

Completed By:  Date & Time: 8/10/17 1842

Reviewed By:  Date & Time: 8/10/17 1853

Delivered By:  Date & Time: 8/10/17 1853

CERTIFICATE OF ANALYSIS

Benjamin Rach
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1708472

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 12:50 pm, Aug 25, 2017

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708472

SAMPLE RECEIPT

The following samples were received on August 18, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

This sample was originally received on hold on August 9, 2017.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1708472-01	B-22 (4-6)	Soil	8082A



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708472

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708472

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708472

Laboratory Analysis
QA/QC Certification Form

Project Number: 05.0045441.06

Sampling Date(s): 8/7/2017

Laboratory Sample ID(s): 1708472-01

List RCP Methods Used () 8260B () 8151A () ETPH () 6010B () 7470A/1A
Other: _____ () 8270C () 8081A () VPH () 6020 () 9014M
_____ (X) 8082 () 8021B () EPH () 7000 S () 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes (X) No ()
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes (X) 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 (X) No ()
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes () No (X)

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: Laboratory Director

Printed Name: Laurel Stoddard Date: August 25, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-22 (4-6)
 Date Sampled: 08/07/17 09:50
 Percent Solids: 93
 Initial Volume: 19.8
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708472
 ESS Laboratory Sample ID: 1708472-01
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/18/17 18:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.05)		8082A		1	08/22/17 2:11		CH71814
Aroclor 1221	ND (0.05)		8082A		1	08/22/17 2:11		CH71814
Aroclor 1232	ND (0.05)		8082A		1	08/22/17 2:11		CH71814
Aroclor 1242	ND (0.05)		8082A		1	08/22/17 2:11		CH71814
Aroclor 1248	ND (0.05)		8082A		1	08/22/17 2:11		CH71814
Aroclor 1254	ND (0.05)		8082A		1	08/22/17 2:11		CH71814
Aroclor 1260	ND (0.05)		8082A		1	08/22/17 2:11		CH71814
Aroclor 1262	ND (0.05)		8082A		1	08/22/17 2:11		CH71814
Aroclor 1268	ND (0.05)		8082A		1	08/22/17 2:11		CH71814

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	54 %		30-150
Surrogate: Decachlorobiphenyl [2C]	47 %		30-150
Surrogate: Tetrachloro-m-xylene	52 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	57 %		30-150

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708472

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

8082A Polychlorinated Biphenyls (PCB)

Batch CH71814 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0267		mg/kg wet	0.02500		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0239		mg/kg wet	0.02500		95	30-150			
Surrogate: Tetrachloro-m-xylene	0.0266		mg/kg wet	0.02500		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0268		mg/kg wet	0.02500		107	30-150			

LCS

Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		84	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		77	40-140			

Surrogate: Decachlorobiphenyl	0.0280		mg/kg wet	0.02500		112	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0256		mg/kg wet	0.02500		103	30-150			
Surrogate: Tetrachloro-m-xylene	0.0270		mg/kg wet	0.02500		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0267		mg/kg wet	0.02500		107	30-150			

LCS Dup

Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		87	40-140	2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140	3	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		88	40-140	5	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		81	40-140	6	30	

Surrogate: Decachlorobiphenyl	0.0299		mg/kg wet	0.02500		120	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0266		mg/kg wet	0.02500		106	30-150			
Surrogate: Tetrachloro-m-xylene	0.0270		mg/kg wet	0.02500		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0268		mg/kg wet	0.02500		107	30-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708472

Notes and Definitions

- U Analyte included in the analysis, but not detected
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708472

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1708472

Date Received: 8/18/2017

Shipped/Delivered Via: ESS Courier

Project Due Date: 8/25/2017

Days for Project: 5 Day

1. Air bill manifest present? No
Air No.: NA

6. Does COC match bottles? Yes

2. Were custody seals present? No

7. Is COC complete and correct? Yes

3. Is radiation count <100 CPM? Yes

8. Were samples received intact? Yes

4. Is a Cooler Present? Yes
Temp: 4.4 Iced with: Ice

9. Were labs informed about **short holds & rushes**? Yes / No / NA

5. Was COC signed and dated by client? Yes

10. Were any analyses received outside of hold time? Yes No

11. Any Subcontracting needed? Yes / No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

12. Were VOAs received? Yes No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No NA

13. Are the samples properly preserved? Yes / No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes: Relog of 1708218-3 CA 8/18/17

14. Was there a need to contact Project Manager? Yes / No
a. Was there a need to contact the client? Yes / No
Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	155804	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review
Are barcode labels on correct containers? Yes / No

Completed By: [Signature] Date & Time: 8/18/17 1635

Reviewed By: [Signature] Date & Time: 8/18/17 1638

Delivered By: [Signature] Date & Time: 8/18/17 1638

ML 8/18/17

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910
 2211 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
 1708218 1708472
 Reporting Limits -
 RDEL / GA PML

Turn Time Standard Rush Approved By: _____
 State where samples were collected: MA RI ~~CT~~ NH NJ NY ME Other _____
 Is this project for any of the following: (please circle)
 MA-MCP CT-RCP RGP Other _____
 Electronic Deliverable Yes No
 Format: Excel Access PDF Other _____

GZA Project Manager: Ben Reed / Dave Renszkyk
 GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900
 REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # 45441.06
 Project Name: Daniel's Mill
 Contract Pricing _____
 Special Pricing _____

ESS Lab Sample ID	Date	Collection Time	Grab-G Composite-C	Matrix	Sample Identification	# of Containers	VOCs - Aqueous	PCBs (Aqueous)	PCBs (Solid)	Hold	PCB	Comment #
	8-7-17		G	Soil	Top Deck	2	X					
		0920		S	B-21 (0.5-2)	4	X	X				
1		0925			B-21 (4-6)	4			X			
2		0935			B-21 (8-10)	1			X			
		0945			B-22 (0.5-2)	4	X	X				
3		0950			B-22 (4-6)	4			X	X		
4		0955			B-22 (8-10)	1			X			
		1015			B-23 (2-4)	4	X	X				
5		1020			B-23 (5-7)	4			X			
6		1025			B-23 (8-10)	1			X			

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAce 9-
 Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA
 Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
 Seals Intact Yes No NA: _____
 Cooler Temperature: 3.7-4.4 C
 Sampled by: BTD
 Comments: VOCs 8020

Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8-17-17</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>8/17/17</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/17/17</u>	Received by: (Signature) <u>[Signature]</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/17/17</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>8/17/17</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/17/17</u>	Received by: (Signature) <u>[Signature]</u>

Please E-mail all changes to Chain of Custody in writing.

CERTIFICATE OF ANALYSIS

Benjamin Rach
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1708503

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED**By ESS Laboratory at 3:54 pm, Aug 28, 2017****Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

SAMPLE RECEIPT

The following samples were received on August 21, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Sample 1708503-01 was originally received on August 9, 2017 as ESS Laboratory Sample ID 1708217-06. Sample 1708503-02 was originally received on August 10, 2017 as ESS Laboratory Sample ID 1708275-01.

Lab Number	Sample Name	Matrix	Analysis
1708503-01	B-27 (3-5)	Soil	1312, 1312/6010C, 1312/8270D
1708503-02	B-25A (0-1)	Soil	1312, 1312/6010C, 1312/8270D



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

PROJECT NARRATIVE

1312/8270D Semi Volatile SPLP Compounds

C7H0324-CCV1 [Calibration required quadratic regression \(O\).](#)

4,6-Dinitro-2-Methylphenol (110% @ 80-120%)

C7H0324-CCV1 [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)

2,4-Dinitrophenol (23% @ 20%)

C7H0337-CCV1 [Calibration required quadratic regression \(O\).](#)

4,6-Dinitro-2-Methylphenol (106% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-27 (3-5)
Date Sampled: 08/07/17 12:05
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1708503
ESS Laboratory Sample ID: 1708503-01
Sample Matrix: Soil
Units: ug/L
Analyst: TJ
Prepared: 8/22/17 15:05

1312/8270D Semi Volatile SPLP Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2,4,5-Tetrachlorobenzene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
1,2,4-Trichlorobenzene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2,4,5-Trichlorophenol	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2,4,6-Trichlorophenol	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2,4-Dichlorophenol	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2,4-Dimethylphenol	ND (50.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2,4-Dinitrophenol	ND (50.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2,4-Dinitrotoluene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2,6-Dinitrotoluene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2-Chloronaphthalene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2-Chlorophenol	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2-Methylnaphthalene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2-Methylphenol	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2-Nitroaniline	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
2-Nitrophenol	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
3,3'-Dichlorobenzidine	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
3+4-Methylphenol	ND (20.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
3-Nitroaniline	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
4,6-Dinitro-2-Methylphenol	ND (50.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
4-Bromophenyl-phenylether	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
4-Chloro-3-Methylphenol	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
4-Chloroaniline	ND (20.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
4-Chloro-phenyl-phenyl ether	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
4-Nitroaniline	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
4-Nitrophenol	ND (50.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Acenaphthene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Acenaphthylene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Aniline	ND (5.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Anthracene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Benzo(a)anthracene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Benzo(a)pyrene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Benzo(b)fluoranthene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-27 (3-5)
Date Sampled: 08/07/17 12:05
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1708503
ESS Laboratory Sample ID: 1708503-01
Sample Matrix: Soil
Units: ug/L
Analyst: TJ
Prepared: 8/22/17 15:05

1312/8270D Semi Volatile SPLP Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Benzo(g,h,i)perylene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Benzo(k)fluoranthene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
bis(2-Chloroethoxy)methane	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
bis(2-Chloroethyl)ether	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
bis(2-chloroisopropyl)Ether	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
bis(2-Ethylhexyl)phthalate	ND (5.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Butylbenzylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Carbazole	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Chrysene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Dibenzo(a,h)Anthracene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Dibenzofuran	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Diethylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Dimethylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Di-n-butylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Di-n-octylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Fluoranthene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Fluorene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Hexachlorobenzene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Hexachlorobutadiene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Hexachlorocyclopentadiene	ND (25.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Hexachloroethane	ND (5.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Indeno(1,2,3-cd)Pyrene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Isophorone	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Naphthalene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Nitrobenzene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
N-Nitroso-Di-n-Propylamine	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
N-nitrosodiphenylamine	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Pentachloronitrobenzene	ND (50.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Pentachlorophenol	ND (50.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Phenanthrene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Phenol	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221
Pyrene	ND (10.0)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-27 (3-5)
 Date Sampled: 08/07/17 12:05
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 1
 Extraction Method: 3520C

ESS Laboratory Work Order: 1708503
 ESS Laboratory Sample ID: 1708503-01
 Sample Matrix: Soil
 Units: ug/L
 Analyst: TJ
 Prepared: 8/22/17 15:05

1312/8270D Semi Volatile SPLP Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Pyridine	ND (100)		1312/8270D		1	08/23/17 17:10	C7H0337	CH72221

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	52 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	92 %		15-110
<i>Surrogate: 2-Chlorophenol-d4</i>	76 %		15-110
<i>Surrogate: 2-Fluorobiphenyl</i>	57 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	72 %		15-110
<i>Surrogate: Nitrobenzene-d5</i>	53 %		30-130
<i>Surrogate: Phenol-d6</i>	77 %		15-110
<i>Surrogate: p-Terphenyl-d14</i>	65 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-27 (3-5)
Date Sampled: 08/07/17 12:05
Percent Solids: N/A

ESS Laboratory Work Order: 1708503
ESS Laboratory Sample ID: 1708503-01
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A SPLP

1312 SPLP Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (0.025)		1312/6010C		1	KJK	08/23/17 3:49	50	25	CH72220
Lead	ND (0.010)		1312/6010C		1	KJK	08/23/17 3:49	50	25	CH72220



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-27 (3-5)
Date Sampled: 08/07/17 12:05
Percent Solids: N/A
Initial Volume: 100
Final Volume: 2000
Extraction Method: 1312

ESS Laboratory Work Order: 1708503
ESS Laboratory Sample ID: 1708503-01
Sample Matrix: Soil
Units: °C
Analyst: NAR
Prepared: 8/21/17 18:40

SPLP Extraction by 1312

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	19.6 (N/A)		1312		1	NAR	08/22/17 11:25	CH72136
Temperature (Max C)	20.9 (N/A)		1312		1	NAR	08/22/17 11:25	CH72136
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-25A (0-1)
 Date Sampled: 08/09/17 10:45
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 1
 Extraction Method: 3520C

ESS Laboratory Work Order: 1708503
 ESS Laboratory Sample ID: 1708503-02
 Sample Matrix: Soil
 Units: ug/L
 Analyst: TJ
 Prepared: 8/22/17 15:05

1312/8270D Semi Volatile SPLP Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,2,4,5-Tetrachlorobenzene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
1,2,4-Trichlorobenzene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2,4,5-Trichlorophenol	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2,4,6-Trichlorophenol	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2,4-Dichlorophenol	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2,4-Dimethylphenol	ND (50.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2,4-Dinitrophenol	ND (50.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2,4-Dinitrotoluene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2,6-Dinitrotoluene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2-Chloronaphthalene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2-Chlorophenol	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2-Methylnaphthalene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2-Methylphenol	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2-Nitroaniline	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
2-Nitrophenol	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
3,3'-Dichlorobenzidine	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
3+4-Methylphenol	ND (20.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
3-Nitroaniline	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
4,6-Dinitro-2-Methylphenol	ND (50.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
4-Bromophenyl-phenylether	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
4-Chloro-3-Methylphenol	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
4-Chloroaniline	ND (20.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
4-Chloro-phenyl-phenyl ether	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
4-Nitroaniline	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
4-Nitrophenol	ND (50.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Acenaphthene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Acenaphthylene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Aniline	ND (5.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Anthracene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Benzo(a)anthracene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Benzo(a)pyrene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Benzo(b)fluoranthene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-25A (0-1)
Date Sampled: 08/09/17 10:45
Percent Solids: N/A
Initial Volume: 1000
Final Volume: 1
Extraction Method: 3520C

ESS Laboratory Work Order: 1708503
ESS Laboratory Sample ID: 1708503-02
Sample Matrix: Soil
Units: ug/L
Analyst: TJ
Prepared: 8/22/17 15:05

1312/8270D Semi Volatile SPLP Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Benzo(g,h,i)perylene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Benzo(k)fluoranthene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
bis(2-Chloroethoxy)methane	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
bis(2-Chloroethyl)ether	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
bis(2-chloroisopropyl)Ether	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
bis(2-Ethylhexyl)phthalate	ND (5.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Butylbenzylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Carbazole	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Chrysene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Dibenzo(a,h)Anthracene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Dibenzofuran	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Diethylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Dimethylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Di-n-butylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Di-n-octylphthalate	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Fluoranthene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Fluorene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Hexachlorobenzene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Hexachlorobutadiene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Hexachlorocyclopentadiene	ND (25.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Hexachloroethane	ND (5.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Indeno(1,2,3-cd)Pyrene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Isophorone	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Naphthalene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Nitrobenzene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
N-Nitroso-Di-n-Propylamine	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
N-nitrosodiphenylamine	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Pentachloronitrobenzene	ND (50.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Pentachlorophenol	ND (50.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Phenanthrene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Phenol	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221
Pyrene	ND (10.0)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-25A (0-1)
 Date Sampled: 08/09/17 10:45
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 1
 Extraction Method: 3520C

ESS Laboratory Work Order: 1708503
 ESS Laboratory Sample ID: 1708503-02
 Sample Matrix: Soil
 Units: ug/L
 Analyst: TJ
 Prepared: 8/22/17 15:05

1312/8270D Semi Volatile SPLP Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Pyridine	ND (100)		1312/8270D		1	08/23/17 17:44	C7H0337	CH72221

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	50 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	98 %		15-110
<i>Surrogate: 2-Chlorophenol-d4</i>	73 %		15-110
<i>Surrogate: 2-Fluorobiphenyl</i>	61 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	70 %		15-110
<i>Surrogate: Nitrobenzene-d5</i>	53 %		30-130
<i>Surrogate: Phenol-d6</i>	70 %		15-110
<i>Surrogate: p-Terphenyl-d14</i>	72 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: B-25A (0-1)
Date Sampled: 08/09/17 10:45
Percent Solids: N/A

ESS Laboratory Work Order: 1708503
ESS Laboratory Sample ID: 1708503-02
Sample Matrix: Soil
Units: mg/L

Extraction Method: 3005A SPLP

1312 SPLP Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	0.025 (0.010)		1312/6010C		1	KJK	08/23/17 3:53	50	25	CH72220



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: B-25A (0-1)
 Date Sampled: 08/09/17 10:45
 Percent Solids: N/A
 Initial Volume: 100
 Final Volume: 2000
 Extraction Method: 1312

ESS Laboratory Work Order: 1708503
 ESS Laboratory Sample ID: 1708503-02
 Sample Matrix: Soil
 Units: °C
 Analyst: NAR
 Prepared: 8/21/17 18:40

SPLP Extraction by 1312

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	19.6 (N/A)		1312		1	NAR	08/22/17 11:25	CH72136
Temperature (Max C)	20.9 (N/A)		1312		1	NAR	08/22/17 11:25	CH72136
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312/8270D Semi Volatile SPLP Compounds

Batch CH72221 - 3520C

Blank

1,2,4,5-Tetrachlorobenzene	ND	10.0	ug/L
1,2,4-Trichlorobenzene	ND	10.0	ug/L
2,4,5-Trichlorophenol	ND	10.0	ug/L
2,4,6-Trichlorophenol	ND	10.0	ug/L
2,4-Dichlorophenol	ND	10.0	ug/L
2,4-Dimethylphenol	ND	50.0	ug/L
2,4-Dinitrophenol	ND	50.0	ug/L
2,4-Dinitrotoluene	ND	10.0	ug/L
2,6-Dinitrotoluene	ND	10.0	ug/L
2-Chloronaphthalene	ND	10.0	ug/L
2-Chlorophenol	ND	10.0	ug/L
2-Methylnaphthalene	ND	10.0	ug/L
2-Methylphenol	ND	10.0	ug/L
2-Nitroaniline	ND	10.0	ug/L
2-Nitrophenol	ND	10.0	ug/L
3,3'-Dichlorobenzidine	ND	10.0	ug/L
3+4-Methylphenol	ND	20.0	ug/L
3-Nitroaniline	ND	10.0	ug/L
4,6-Dinitro-2-Methylphenol	ND	50.0	ug/L
4-Bromophenyl-phenylether	ND	10.0	ug/L
4-Chloro-3-Methylphenol	ND	10.0	ug/L
4-Chloroaniline	ND	20.0	ug/L
4-Chloro-phenyl-phenyl ether	ND	10.0	ug/L
4-Nitroaniline	ND	10.0	ug/L
4-Nitrophenol	ND	50.0	ug/L
Acenaphthene	ND	10.0	ug/L
Acenaphthylene	ND	10.0	ug/L
Aniline	ND	5.0	ug/L
Anthracene	ND	10.0	ug/L
Benzo(a)anthracene	ND	10.0	ug/L
Benzo(a)pyrene	ND	10.0	ug/L
Benzo(b)fluoranthene	ND	10.0	ug/L
Benzo(g,h,i)perylene	ND	10.0	ug/L
Benzo(k)fluoranthene	ND	10.0	ug/L
bis(2-Chloroethoxy)methane	ND	10.0	ug/L
bis(2-Chloroethyl)ether	ND	10.0	ug/L
bis(2-chloroisopropyl)Ether	ND	10.0	ug/L
bis(2-Ethylhexyl)phthalate	ND	5.0	ug/L
Butylbenzylphthalate	ND	10.0	ug/L
Carbazole	ND	10.0	ug/L
Chrysene	ND	10.0	ug/L
Dibenzo(a,h)Anthracene	ND	10.0	ug/L
Dibenzofuran	ND	10.0	ug/L
Diethylphthalate	ND	10.0	ug/L



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312/8270D Semi Volatile SPLP Compounds

Batch CH72221 - 3520C

Dimethylphthalate	ND	10.0	ug/L							
Di-n-butylphthalate	ND	10.0	ug/L							
Di-n-octylphthalate	ND	10.0	ug/L							
Fluoranthene	ND	10.0	ug/L							
Fluorene	ND	10.0	ug/L							
Hexachlorobenzene	ND	10.0	ug/L							
Hexachlorobutadiene	ND	10.0	ug/L							
Hexachlorocyclopentadiene	ND	25.0	ug/L							
Hexachloroethane	ND	5.0	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	10.0	ug/L							
Isophorone	ND	10.0	ug/L							
Naphthalene	ND	10.0	ug/L							
Nitrobenzene	ND	10.0	ug/L							
N-Nitroso-Di-n-Propylamine	ND	10.0	ug/L							
N-nitrosodiphenylamine	ND	10.0	ug/L							
Pentachloronitrobenzene	ND	50.0	ug/L							
Pentachlorophenol	ND	50.0	ug/L							
Phenanthrene	ND	10.0	ug/L							
Phenol	ND	10.0	ug/L							
Pyrene	ND	10.0	ug/L							
Pyridine	ND	100	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	56.5		ug/L	100.0		57	30-130			
Surrogate: 2,4,6-Tribromophenol	147		ug/L	150.0		98	15-110			
Surrogate: 2-Chlorophenol-d4	114		ug/L	150.0		76	15-110			
Surrogate: 2-Fluorobiphenyl	63.5		ug/L	100.0		64	30-130			
Surrogate: 2-Fluorophenol	92.5		ug/L	150.0		62	15-110			
Surrogate: Nitrobenzene-d5	59.2		ug/L	100.0		59	30-130			
Surrogate: Phenol-d6	114		ug/L	150.0		76	15-110			
Surrogate: p-Terphenyl-d14	68.7		ug/L	100.0		69	30-130			

LCS

1,2,4,5-Tetrachlorobenzene	85.0	10.0	ug/L	100.0		85	40-140			
1,2,4-Trichlorobenzene	73.1	10.0	ug/L	100.0		73	40-140			
2,4,5-Trichlorophenol	85.9	10.0	ug/L	100.0		86	30-130			
2,4,6-Trichlorophenol	85.1	10.0	ug/L	100.0		85	30-130			
2,4-Dichlorophenol	74.8	10.0	ug/L	100.0		75	30-130			
2,4-Dimethylphenol	74.0	50.0	ug/L	100.0		74	30-130			
2,4-Dinitrophenol	84.5	50.0	ug/L	100.0		84	30-130			
2,4-Dinitrotoluene	81.3	10.0	ug/L	100.0		81	40-140			
2,6-Dinitrotoluene	80.0	10.0	ug/L	100.0		80	40-140			
2-Chloronaphthalene	67.4	10.0	ug/L	100.0		67	40-140			
2-Chlorophenol	63.5	10.0	ug/L	100.0		64	30-130			
2-Methylnaphthalene	70.7	10.0	ug/L	100.0		71	40-140			
2-Methylphenol	65.3	10.0	ug/L	100.0		65	30-130			
2-Nitroaniline	55.3	10.0	ug/L	100.0		55	40-140			
2-Nitrophenol	70.6	10.0	ug/L	100.0		71	30-130			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312/8270D Semi Volatile SPLP Compounds

Batch CH72221 - 3520C

3,3'-Dichlorobenzidine	70.5	10.0	ug/L	100.0		71	40-140			
3+4-Methylphenol	141	20.0	ug/L	200.0		70	30-130			
3-Nitroaniline	75.8	10.0	ug/L	100.0		76	40-140			
4,6-Dinitro-2-Methylphenol	87.7	50.0	ug/L	100.0		88	30-130			
4-Bromophenyl-phenylether	85.9	10.0	ug/L	100.0		86	40-140			
4-Chloro-3-Methylphenol	72.6	10.0	ug/L	100.0		73	30-130			
4-Chloroaniline	72.9	20.0	ug/L	100.0		73	40-140			
4-Chloro-phenyl-phenyl ether	81.7	10.0	ug/L	100.0		82	40-140			
4-Nitroaniline	76.1	10.0	ug/L	100.0		76	40-140			
4-Nitrophenol	71.0	50.0	ug/L	100.0		71	30-130			
Acenaphthene	72.9	10.0	ug/L	100.0		73	40-140			
Acenaphthylene	81.2	10.0	ug/L	100.0		81	40-140			
Aniline	63.2	5.0	ug/L	100.0		63	40-140			
Anthracene	82.3	10.0	ug/L	100.0		82	40-140			
Benzo(a)anthracene	85.9	10.0	ug/L	100.0		86	40-140			
Benzo(a)pyrene	83.2	10.0	ug/L	100.0		83	40-140			
Benzo(b)fluoranthene	85.8	10.0	ug/L	100.0		86	40-140			
Benzo(g,h,i)perylene	86.2	10.0	ug/L	100.0		86	40-140			
Benzo(k)fluoranthene	79.7	10.0	ug/L	100.0		80	40-140			
bis(2-Chloroethoxy)methane	67.6	10.0	ug/L	100.0		68	40-140			
bis(2-Chloroethyl)ether	66.6	10.0	ug/L	100.0		67	40-140			
bis(2-chloroisopropyl)Ether	64.8	10.0	ug/L	100.0		65	40-140			
bis(2-Ethylhexyl)phthalate	82.8	5.0	ug/L	100.0		83	40-140			
Butylbenzylphthalate	80.0	10.0	ug/L	100.0		80	40-140			
Carbazole	86.8	10.0	ug/L	100.0		87	40-140			
Chrysene	79.6	10.0	ug/L	100.0		80	40-140			
Dibenzo(a,h)Anthracene	88.4	10.0	ug/L	100.0		88	40-140			
Dibenzofuran	76.4	10.0	ug/L	100.0		76	40-140			
Diethylphthalate	83.1	10.0	ug/L	100.0		83	40-140			
Dimethylphthalate	81.0	10.0	ug/L	100.0		81	40-140			
Di-n-butylphthalate	84.3	10.0	ug/L	100.0		84	40-140			
Di-n-octylphthalate	80.9	10.0	ug/L	100.0		81	40-140			
Fluoranthene	89.7	10.0	ug/L	100.0		90	40-140			
Fluorene	82.3	10.0	ug/L	100.0		82	40-140			
Hexachlorobenzene	87.8	10.0	ug/L	100.0		88	40-140			
Hexachlorobutadiene	73.0	10.0	ug/L	100.0		73	40-140			
Hexachlorocyclopentadiene	66.3	25.0	ug/L	100.0		66	40-140			
Hexachloroethane	58.9	5.0	ug/L	100.0		59	40-140			
Indeno(1,2,3-cd)Pyrene	88.0	10.0	ug/L	100.0		88	40-140			
Isophorone	68.5	10.0	ug/L	100.0		68	40-140			
Naphthalene	70.2	10.0	ug/L	100.0		70	40-140			
Nitrobenzene	65.5	10.0	ug/L	100.0		66	40-140			
N-Nitroso-Di-n-Propylamine	63.9	10.0	ug/L	100.0		64	40-140			
N-nitrosodiphenylamine	89.0	10.0	ug/L	100.0		89	40-140			
Pentachloronitrobenzene	92.0	50.0	ug/L	100.0		92	40-140			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312/8270D Semi Volatile SPLP Compounds

Batch CH72221 - 3520C

Pentachlorophenol	88.6	50.0	ug/L	100.0		89	30-130			
Phenanthrene	78.4	10.0	ug/L	100.0		78	40-140			
Phenol	58.0	10.0	ug/L	100.0		58	30-130			
Pyrene	86.3	10.0	ug/L	100.0		86	40-140			
Pyridine	48.5	100	ug/L	100.0		49	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	49.1		ug/L	100.0		49	30-130			
Surrogate: 2,4,6-Tribromophenol	142		ug/L	150.0		94	15-110			
Surrogate: 2-Chlorophenol-d4	104		ug/L	150.0		69	15-110			
Surrogate: 2-Fluorobiphenyl	57.9		ug/L	100.0		58	30-130			
Surrogate: 2-Fluorophenol	86.9		ug/L	150.0		58	15-110			
Surrogate: Nitrobenzene-d5	53.3		ug/L	100.0		53	30-130			
Surrogate: Phenol-d6	103		ug/L	150.0		69	15-110			
Surrogate: p-Terphenyl-d14	69.9		ug/L	100.0		70	30-130			

LCS Dup

1,2,4,5-Tetrachlorobenzene	77.7	10.0	ug/L	100.0		78	40-140	9	20	
1,2,4-Trichlorobenzene	69.8	10.0	ug/L	100.0		70	40-140	5	20	
2,4,5-Trichlorophenol	78.3	10.0	ug/L	100.0		78	30-130	9	20	
2,4,6-Trichlorophenol	77.4	10.0	ug/L	100.0		77	30-130	9	20	
2,4-Dichlorophenol	69.8	10.0	ug/L	100.0		70	30-130	7	20	
2,4-Dimethylphenol	67.8	50.0	ug/L	100.0		68	30-130	9	20	
2,4-Dinitrophenol	78.1	50.0	ug/L	100.0		78	30-130	8	20	
2,4-Dinitrotoluene	72.2	10.0	ug/L	100.0		72	40-140	12	20	
2,6-Dinitrotoluene	72.0	10.0	ug/L	100.0		72	40-140	11	20	
2-Chloronaphthalene	61.3	10.0	ug/L	100.0		61	40-140	9	20	
2-Chlorophenol	60.5	10.0	ug/L	100.0		61	30-130	5	20	
2-Methylnaphthalene	65.2	10.0	ug/L	100.0		65	40-140	8	20	
2-Methylphenol	60.7	10.0	ug/L	100.0		61	30-130	7	20	
2-Nitroaniline	49.4	10.0	ug/L	100.0		49	40-140	11	20	
2-Nitrophenol	67.5	10.0	ug/L	100.0		68	30-130	5	20	
3,3'-Dichlorobenzidine	68.8	10.0	ug/L	100.0		69	40-140	3	20	
3+4-Methylphenol	129	20.0	ug/L	200.0		65	30-130	8	20	
3-Nitroaniline	67.6	10.0	ug/L	100.0		68	40-140	11	20	
4,6-Dinitro-2-Methylphenol	82.9	50.0	ug/L	100.0		83	30-130	6	20	
4-Bromophenyl-phenylether	82.2	10.0	ug/L	100.0		82	40-140	4	20	
4-Chloro-3-Methylphenol	65.5	10.0	ug/L	100.0		66	30-130	10	20	
4-Chloroaniline	67.2	20.0	ug/L	100.0		67	40-140	8	20	
4-Chloro-phenyl-phenyl ether	74.9	10.0	ug/L	100.0		75	40-140	9	20	
4-Nitroaniline	69.8	10.0	ug/L	100.0		70	40-140	9	20	
4-Nitrophenol	64.1	50.0	ug/L	100.0		64	30-130	10	20	
Acenaphthene	66.1	10.0	ug/L	100.0		66	40-140	10	20	
Acenaphthylene	73.4	10.0	ug/L	100.0		73	40-140	10	20	
Aniline	56.4	5.0	ug/L	100.0		56	40-140	11	20	
Anthracene	76.1	10.0	ug/L	100.0		76	40-140	8	20	
Benzo(a)anthracene	80.7	10.0	ug/L	100.0		81	40-140	6	20	
Benzo(a)pyrene	79.8	10.0	ug/L	100.0		80	40-140	4	20	

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312/8270D Semi Volatile SPLP Compounds

Batch CH72221 - 3520C

Benzo(b)fluoranthene	81.1	10.0	ug/L	100.0		81	40-140	6	20	
Benzo(g,h,i)perylene	80.9	10.0	ug/L	100.0		81	40-140	6	20	
Benzo(k)fluoranthene	76.7	10.0	ug/L	100.0		77	40-140	4	20	
bis(2-Chloroethoxy)methane	63.3	10.0	ug/L	100.0		63	40-140	7	20	
bis(2-Chloroethyl)ether	62.1	10.0	ug/L	100.0		62	40-140	7	20	
bis(2-chloroisopropyl)Ether	61.7	10.0	ug/L	100.0		62	40-140	5	20	
bis(2-Ethylhexyl)phthalate	77.0	5.0	ug/L	100.0		77	40-140	7	20	
Butylbenzylphthalate	74.2	10.0	ug/L	100.0		74	40-140	7	20	
Carbazole	79.9	10.0	ug/L	100.0		80	40-140	8	20	
Chrysene	75.0	10.0	ug/L	100.0		75	40-140	6	20	
Dibenzo(a,h)Anthracene	83.5	10.0	ug/L	100.0		83	40-140	6	20	
Dibenzofuran	68.2	10.0	ug/L	100.0		68	40-140	11	20	
Diethylphthalate	75.3	10.0	ug/L	100.0		75	40-140	10	20	
Dimethylphthalate	73.9	10.0	ug/L	100.0		74	40-140	9	20	
Di-n-butylphthalate	78.2	10.0	ug/L	100.0		78	40-140	8	20	
Di-n-octylphthalate	79.0	10.0	ug/L	100.0		79	40-140	2	20	
Fluoranthene	83.9	10.0	ug/L	100.0		84	40-140	7	20	
Fluorene	74.1	10.0	ug/L	100.0		74	40-140	10	20	
Hexachlorobenzene	83.5	10.0	ug/L	100.0		83	40-140	5	20	
Hexachlorobutadiene	71.0	10.0	ug/L	100.0		71	40-140	3	20	
Hexachlorocyclopentadiene	64.2	25.0	ug/L	100.0		64	40-140	3	20	
Hexachloroethane	56.0	5.0	ug/L	100.0		56	40-140	5	20	
Indeno(1,2,3-cd)Pyrene	82.5	10.0	ug/L	100.0		82	40-140	7	20	
Isophorone	64.0	10.0	ug/L	100.0		64	40-140	7	20	
Naphthalene	65.9	10.0	ug/L	100.0		66	40-140	6	20	
Nitrobenzene	60.2	10.0	ug/L	100.0		60	40-140	8	20	
N-Nitroso-Di-n-Propylamine	58.1	10.0	ug/L	100.0		58	40-140	9	20	
N-nitrosodiphenylamine	83.3	10.0	ug/L	100.0		83	40-140	7	20	
Pentachloronitrobenzene	84.8	50.0	ug/L	100.0		85	40-140	8	20	
Pentachlorophenol	84.8	50.0	ug/L	100.0		85	30-130	4	20	
Phenanthrene	72.8	10.0	ug/L	100.0		73	40-140	8	20	
Phenol	55.4	10.0	ug/L	100.0		55	30-130	5	20	
Pyrene	77.1	10.0	ug/L	100.0		77	40-140	11	20	
Pyridine	44.0	100	ug/L	100.0		44	40-140	10	20	
Surrogate: 1,2-Dichlorobenzene-d4	43.9		ug/L	100.0		44	30-130			
Surrogate: 2,4,6-Tribromophenol	133		ug/L	150.0		89	15-110			
Surrogate: 2-Chlorophenol-d4	95.8		ug/L	150.0		64	15-110			
Surrogate: 2-Fluorobiphenyl	52.8		ug/L	100.0		53	30-130			
Surrogate: 2-Fluorophenol	83.9		ug/L	150.0		56	15-110			
Surrogate: Nitrobenzene-d5	48.8		ug/L	100.0		49	30-130			
Surrogate: Phenol-d6	95.1		ug/L	150.0		63	15-110			
Surrogate: p-Terphenyl-d14	61.7		ug/L	100.0		62	30-130			

1312 SPLP Metals

Batch CH72220 - 3005A_SPLP



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312 SPLP Metals

Batch CH72220 - 3005A_SPLP

Blank

Arsenic	ND	0.025	mg/L							
Lead	ND	0.010	mg/L							

LCS

Arsenic	0.237	0.025	mg/L	0.2500		95	80-120			
Lead	0.252	0.010	mg/L	0.2500		101	80-120			

LCS Dup

Arsenic	0.248	0.025	mg/L	0.2500		99	80-120	4	20	
Lead	0.258	0.010	mg/L	0.2500		103	80-120	3	20	



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

Notes and Definitions

- Z18 Temperature is not within 23 +/-2 °C.
- U Analyte included in the analysis, but not detected
- Q Calibration required quadratic regression (Q).
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708503

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM
 Shipped/Delivered Via: ESS Courier

ESS Project ID: 1708503
 Date Received: 8/21/2017
 Project Due Date: 8/28/2017
 Days for Project: 5 Day

- 1. Air bill manifest present? No
Air No.: NA
- 2. Were custody seals present? No
- 3. Is radiation count <100 CPM? Yes
- 4. Is a Cooler Present? Yes
Temp: 4.4 Iced with: Ice
- 5. Was COC signed and dated by client? Yes
- 6. Does COC match bottles? Yes
- 7. Is COC complete and correct? Yes
- 8. Were samples received intact? Yes
- 9. Were labs informed about **short holds & rushes**? Yes No / NA
- 10. Were any analyses received outside of hold time? Yes No

- 11. Any Subcontracting needed? Yes No
 ESS Sample IDs: _____
 Analysis: _____
 TAT: _____
- 12. Were VOAs received? Yes No
 a. Air bubbles in aqueous VOAs? Yes / No
 b. Does methanol cover soil completely? Yes / No / NA
- 13. Are the samples properly preserved? Yes No
 a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
 b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:
Relog of 1708217 - 6 and 1708275 - 1 @ 8/21/17

- 14. Was there a need to contact Project Manager? Yes No
 a. Was there a need to contact the client? Yes No
 Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	156140	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	156139	Yes	NA	Yes	8 oz. Jar - Unpres	NP	

2nd Review
 Are barcode labels on correct containers? Yes No

Completed By: [Signature] Date & Time: 8/21/17 1452
 Reviewed By: [Signature] Date & Time: 8/21/17 1500
 Delivered By: [Signature] Date & Time: 8/21/17 1503

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910
 2211 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
 1708217-1708503

Turn Time Standard Rush Approved By: _____
 State where samples were collected: MA RI CT NH NJ NY ME Other _____
 Reporting Limits - RDEL/GA PML
 Is this project for any of the following: (please circle) MA-MCP CT-RCP RGP Other _____
 Electronic Deliverable Yes No
 Format: Excel Access PDF Other _____

GZA Project Manager: Ben Reck / Dave Kozzick
GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900
REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # 45441.06
 Project Name: Daniel's Mill
 Contract Pricing _____
 Special Pricing _____

ESS Lab Sample ID	Date	Collection Time	Grab-G Composite-C	Matrix	Sample Identification	# of Containers	Analysis	Asmet. Vols	PCBs (soxhlet)	Hold	PATs	Total As, Pb	STPH	SPLP As, Pb	SPLP SVOC	Comment #	
4	8.7.17	1035	G	S	B-21 (0.5-2)	4	X	X	X	X	X	X	X	X	X	X	
		1040			B-21 (4-6)	4				X							
		1045			B-21 (8-10)	1				X							
5		1203			B-27 (0-2)	1	X	X	X	X	X	X	X	X	X	X	
6		1205			B-27 (3-5)	1											

M 8/21/17

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAce 9-_____
 Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
 Seals Intact Yes No NA: _____
 Cooler Temperature: 3.7-4.4°C
 Sampled by: ML
 Comments: _____

Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/9/17 09:00</u>	Received by: (Signature) <u>GET V-ridge / Frozen</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/17 1547</u>	Received by: (Signature) <u>[Signature]</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/17/17</u>	Received by: (Signature) <u>[Signature]</u>	Relinquished by: (Signature) _____	Date/Time _____	Received by: (Signature) _____

Please E-mail all changes to Chain of Custody in writing.

CHANGED MADE BY ML 8/21/17

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-
 2211 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
~~766275~~ 1708503

Turn Time Standard Rush Approved By: _____

Reporting Limits -
 RDEC/GA/PMC

State where samples were collected: MA RI CT NH NJ NY ME Other _____

Is this project for any of the following: (please circle)
 MA-MCP CT-RCP RGP Other _____

Electronic Deliverable Yes No
 Format: Excel Access PDF Other _____

GZA Project Manager: Ben Koch / Dave Ruckeyk
GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900
REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # 45471.06
 Project Name:
Daniel's Mill
 Contract Pricing _____
 Special Pricing: _____

Analysis	# of Containers	PAHs	PCBs	Total As Pb	MS/MJD	SPLP Pb	SPLP SVOC	Comment #
	2	X	X	X	X	X	X	
	1	X	X	X				

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification
<u>2</u> <u>1</u>	<u>8/9/17</u>	<u>1045</u>	<u>G</u>	<u>S</u>	<u>B-25A (0-1)</u>
<u>2</u> <u>2</u>	<u>8/9/17</u>	<u>1120</u>	<u>G</u>	<u>S</u>	<u>B-26 (5-6)</u>

M
8/21/17

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAc 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA
 Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
 Seals Intact Yes No NA:
 Cooler Temperature: 0.3 Ice

Sampled by: Ben Koch
 Comments:

Relinquished by: (Signature) <u>Ben Koch</u>	Date/Time <u>8/9/17 14:40</u>	Received by: (Signature) <u>GZA Field</u>	Date/Time <u>8/10/17 13:45</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/10/17 13:45</u>	Received by: (Signature) <u>[Signature]</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/10/17 17:36</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>8/10/17 17:36</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>8/10/17 17:36</u>	Received by: (Signature) <u>[Signature]</u>

Please E-mail all changes to Chain of Custody in writing.



Monday, June 24, 2019

Attn: Benjamin Rach
GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd 3rd Fl
Glastonbury, CT 06033

Project ID: DANIELS MILL
SDG ID: GCD32406
Sample ID#s: CD32406, CD32408, CD32411

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

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



SDG Comments

June 24, 2019

SDG I.D.: GCD32406

Version 2: Per client request PAH and ETPH were added on to sample CD32408.



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

Sample Id Cross Reference

June 24, 2019

SDG I.D.: GCD32406

Project ID: DANIELS MILL

Client Id	Lab Id	Matrix
B-36 (0-2)	CD32406	SOIL
B-36 (4-6)	CD32408	SOIL
B-37 (0-1.75)	CD32411	SOIL



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

Analysis Report

June 24, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

9:50
 13:42

Laboratory Data

SDG ID: GCD32406
 Phoenix ID: CD32406

Project ID: DANIELS MILL
 Client ID: B-36 (0-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	2.96	0.68	mg/Kg	1	06/13/19	EK	SW6010D
Lead	183	3.4	mg/Kg	10	06/17/19	EK	SW6010D
Percent Solid	92		%		06/12/19	ML	SW846-%Solid
Soil Extraction SVOA PAH	Completed				06/13/19	JNT/LV	SW3545A
Extraction of CT ETPH	Completed				06/13/19	GNT/VL	SW3545A
Total Metals Digest	Completed				06/12/19	M/AG	SW3050B

TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	320	270	mg/Kg	5	06/17/19	JRB	CTETPH 8015D
Identification	**		mg/Kg	5	06/17/19	JRB	CTETPH 8015D

QA/QC Surrogates

% n-Pentacosane	94		%	5	06/17/19	JRB	50 - 150 %
Client MS/MSD	Completed				06/14/19		

Polynuclear Aromatic HC

2-Methylnaphthalene	330	250	ug/Kg	1	06/14/19	AW	SW8270D
Acenaphthene	540	250	ug/Kg	1	06/14/19	AW	SW8270D
Acenaphthylene	570	250	ug/Kg	1	06/14/19	AW	SW8270D
Anthracene	1300	250	ug/Kg	1	06/14/19	AW	SW8270D
Benz(a)anthracene	4700	250	ug/Kg	1	06/14/19	AW	SW8270D
Benzo(a)pyrene	5300	250	ug/Kg	1	06/14/19	AW	SW8270D
Benzo(b)fluoranthene	5400	250	ug/Kg	1	06/14/19	AW	SW8270D
Benzo(ghi)perylene	4900	250	ug/Kg	1	06/14/19	AW	SW8270D
Benzo(k)fluoranthene	4300	250	ug/Kg	1	06/14/19	AW	SW8270D
Chrysene	5100	250	ug/Kg	1	06/14/19	AW	SW8270D
Dibenz(a,h)anthracene	1300	250	ug/Kg	1	06/14/19	AW	SW8270D
Fluoranthene	6300	2500	ug/Kg	10	06/14/19	AW	SW8270D
Fluorene	460	250	ug/Kg	1	06/14/19	AW	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Indeno(1,2,3-cd)pyrene	4300	250	ug/Kg	1	06/14/19	AW	SW8270D
Naphthalene	560	250	ug/Kg	1	06/14/19	AW	SW8270D
Phenanthrene	6000	250	ug/Kg	1	06/14/19	AW	SW8270D
Pyrene	5600	2500	ug/Kg	10	06/14/19	AW	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	59		%	1	06/14/19	AW	30 - 130 %
% Nitrobenzene-d5	74		%	1	06/14/19	AW	30 - 130 %
% Terphenyl-d14	66		%	1	06/14/19	AW	30 - 130 %
% 2-Fluorobiphenyl (10x)	Diluted Out		%	10	06/14/19	AW	30 - 130 %
% Nitrobenzene-d5 (10x)	Diluted Out		%	10	06/14/19	AW	30 - 130 %
% Terphenyl-d14 (10x)	Diluted Out		%	10	06/14/19	AW	30 - 130 %

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

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TPH Comment:

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

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

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

10:40
 13:42

Laboratory Data

SDG ID: GCD32406
 Phoenix ID: CD32408

Project ID: DANIELS MILL
 Client ID: B-36 (4-6)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Soil Extraction SVOA PAH	Completed				06/19/19	JNT/EE	SW3545A
Extraction of CT ETPH	Completed				06/19/19	GNT/EE	SW3545A

TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	49	mg/Kg	1	06/20/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	06/20/19	JRB	CTETPH 8015D

QA/QC Surrogates

% n-Pentacosane	75		%	1	06/20/19	JRB	50 - 150 %
-----------------	----	--	---	---	----------	-----	------------

Polynuclear Aromatic HC

2-Methylnaphthalene	ND	230	ug/Kg	1	06/20/19	WB	SW8270D
Acenaphthene	ND	230	ug/Kg	1	06/20/19	WB	SW8270D
Acenaphthylene	ND	230	ug/Kg	1	06/20/19	WB	SW8270D
Anthracene	ND	230	ug/Kg	1	06/20/19	WB	SW8270D
Benz(a)anthracene	290	230	ug/Kg	1	06/20/19	WB	SW8270D
Benzo(a)pyrene	300	230	ug/Kg	1	06/20/19	WB	SW8270D
Benzo(b)fluoranthene	320	230	ug/Kg	1	06/20/19	WB	SW8270D
Benzo(ghi)perylene	ND	230	ug/Kg	1	06/20/19	WB	SW8270D
Benzo(k)fluoranthene	270	230	ug/Kg	1	06/20/19	WB	SW8270D
Chrysene	330	230	ug/Kg	1	06/20/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	230	ug/Kg	1	06/20/19	WB	SW8270D
Fluoranthene	530	230	ug/Kg	1	06/20/19	WB	SW8270D
Fluorene	ND	230	ug/Kg	1	06/20/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	ND	230	ug/Kg	1	06/20/19	WB	SW8270D
Naphthalene	ND	230	ug/Kg	1	06/20/19	WB	SW8270D
Phenanthrene	480	230	ug/Kg	1	06/20/19	WB	SW8270D
Pyrene	460	230	ug/Kg	1	06/20/19	WB	SW8270D

QA/QC Surrogates

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 2-Fluorobiphenyl	70		%	1	06/20/19	WB	30 - 130 %
% Nitrobenzene-d5	64		%	1	06/20/19	WB	30 - 130 %
% Terphenyl-d14	59		%	1	06/20/19	WB	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 you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

12:20
 13:42

Laboratory Data

SDG ID: GCD32406
 Phoenix ID: CD32411

Project ID: DANIELS MILL
 Client ID: B-37 (0-1.75)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	1.96	0.63	mg/Kg	1	06/14/19	EK	SW6010D
Lead	12.1	0.32	mg/Kg	1	06/14/19	EK	SW6010D
Percent Solid	93		%		06/12/19	ML	SW846-%Solid
Soil Extraction SVOA PAH	Completed				06/13/19	JNT/LV	SW3545A
Extraction of CT ETPH	Completed				06/13/19	GNT/VL	SW3545A
Total Metals Digest	Completed				06/12/19	M/AG	SW3050B

TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	53	mg/Kg	1	06/15/19	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	06/15/19	JRB	CTETPH 8015D

QA/QC Surrogates

% n-Pentacosane	81		%	1	06/15/19	JRB	50 - 150 %
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Polynuclear Aromatic HC

2-Methylnaphthalene	ND	250	ug/Kg	1	06/16/19	WB	SW8270D
Acenaphthene	ND	250	ug/Kg	1	06/16/19	WB	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	06/16/19	WB	SW8270D
Anthracene	ND	250	ug/Kg	1	06/16/19	WB	SW8270D
Benz(a)anthracene	400	250	ug/Kg	1	06/16/19	WB	SW8270D
Benzo(a)pyrene	430	250	ug/Kg	1	06/16/19	WB	SW8270D
Benzo(b)fluoranthene	380	250	ug/Kg	1	06/16/19	WB	SW8270D
Benzo(ghi)perylene	ND	250	ug/Kg	1	06/16/19	WB	SW8270D
Benzo(k)fluoranthene	380	250	ug/Kg	1	06/16/19	WB	SW8270D
Chrysene	390	250	ug/Kg	1	06/16/19	WB	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	06/16/19	WB	SW8270D
Fluoranthene	650	250	ug/Kg	1	06/16/19	WB	SW8270D
Fluorene	ND	250	ug/Kg	1	06/16/19	WB	SW8270D
Indeno(1,2,3-cd)pyrene	250	250	ug/Kg	1	06/16/19	WB	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Naphthalene	ND	250	ug/Kg	1	06/16/19	WB	SW8270D
Phenanthrene	420	250	ug/Kg	1	06/16/19	WB	SW8270D
Pyrene	570	250	ug/Kg	1	06/16/19	WB	SW8270D
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	65		%	1	06/16/19	WB	30 - 130 %
% Nitrobenzene-d5	73		%	1	06/16/19	WB	30 - 130 %
% Terphenyl-d14	48		%	1	06/16/19	WB	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:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

QA/QC Data

SDG I.D.: GCD32406

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 483015 (mg/kg), QC Sample No: CD32406 (CD32406, CD32411)													
<u>ICP Metals - Soil</u>													
Arsenic	BRL	0.67	2.96	4.09	NC	108	92.3	15.7	91.9	89.9	2.2	75 - 125	30
Lead	BRL	0.33	183	366	66.7	110	94.7	14.9	98.9	126	24.1	75 - 125	30 m,r

m = This parameter is outside laboratory MS/MSD specified recovery limits.
 r = This parameter is outside laboratory RPD specified recovery limits.



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QA/QC Report

June 24, 2019

QA/QC Data

SDG I.D.: GCD32406

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

QA/QC Batch 483208 (mg/Kg), QC Sample No: CD32406 (CD32406, CD32411)

TPH by GC (Extractable Products) - Soil

Ext. Petroleum H.C. (C9-C36)	ND	50	111	119	7.0				60 - 120	30
% n-Pentacosane	75	%	83	96	14.5				50 - 150	30

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 484215 (mg/Kg), QC Sample No: CD33835 (CD32408)

TPH by GC (Extractable Products) - Soil

Ext. Petroleum H.C. (C9-C36)	ND	50	90	89	1.1	85	85	0.0	60 - 120	30
% n-Pentacosane	83	%	82	81	1.2	85	84	1.2	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 483257 (ug/kg), QC Sample No: CD32406 (CD32406, CD32411)

Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	230	71	70	1.4	88	71	21.4	30 - 130	30
Acenaphthene	ND	230	69	69	0.0	105	75	33.3	30 - 130	30
Acenaphthylene	ND	230	67	67	0.0	59	66	11.2	30 - 130	30
Anthracene	ND	230	71	69	2.9	118	75	44.6	30 - 130	30
Benz(a)anthracene	ND	230	70	70	0.0	NC	NC	NC	30 - 130	30
Benzo(a)pyrene	ND	230	70	70	0.0	NC	NC	NC	30 - 130	30
Benzo(b)fluoranthene	ND	230	76	73	4.0	NC	NC	NC	30 - 130	30
Benzo(ghi)perylene	ND	230	56	56	0.0	NC	NC	NC	30 - 130	30
Benzo(k)fluoranthene	ND	230	75	75	0.0	NC	NC	NC	30 - 130	30
Chrysene	ND	230	70	69	1.4	NC	NC	NC	30 - 130	30
Dibenz(a,h)anthracene	ND	230	66	65	1.5	88	85	3.5	30 - 130	30
Fluoranthene	ND	230	79	75	5.2	NC	NC	NC	30 - 130	30
Fluorene	ND	230	80	80	0.0	111	82	30.1	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	66	64	3.1	NC	NC	NC	30 - 130	30
Naphthalene	ND	230	63	62	1.6	100	68	38.1	30 - 130	30
Phenanthrene	ND	230	68	68	0.0	NC	NC	NC	30 - 130	30
Pyrene	ND	230	81	75	7.7	NC	NC	NC	30 - 130	30
% 2-Fluorobiphenyl	60	%	55	56	1.8	50	62	21.4	30 - 130	30
% Nitrobenzene-d5	66	%	76	72	5.4	67	83	21.3	30 - 130	30
% Terphenyl-d14	60	%	70	64	9.0	53	66	21.8	30 - 130	30

Comment:

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

QA/QC Data

SDG I.D.: GCD32406

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
QA/QC Batch 484214 (ug/kg), QC Sample No: CD33835 (CD32408)										
<u>Polynuclear Aromatic HC - Soil</u>										
2-Methylnaphthalene	ND	230	48	53	9.9	62	67	7.8	30 - 130	30
Acenaphthene	ND	230	58	58	0.0	68	73	7.1	30 - 130	30
Acenaphthylene	ND	230	54	57	5.4	62	67	7.8	30 - 130	30
Anthracene	ND	230	61	63	3.2	69	76	9.7	30 - 130	30
Benz(a)anthracene	ND	230	61	62	1.6	65	74	12.9	30 - 130	30
Benzo(a)pyrene	ND	230	59	60	1.7	65	74	12.9	30 - 130	30
Benzo(b)fluoranthene	ND	230	64	70	9.0	69	78	12.2	30 - 130	30
Benzo(ghi)perylene	ND	230	29	29	0.0	33	45	30.8	30 - 130	30
Benzo(k)fluoranthene	ND	230	65	69	6.0	68	79	15.0	30 - 130	30
Chrysene	ND	230	62	64	3.2	64	74	14.5	30 - 130	30
Dibenz(a,h)anthracene	ND	230	39	38	2.6	52	66	23.7	30 - 130	30
Fluoranthene	ND	230	59	59	0.0	52	61	15.9	30 - 130	30
Fluorene	ND	230	58	60	3.4	66	70	5.9	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	230	39	38	2.6	49	64	26.5	30 - 130	30
Naphthalene	ND	230	46	49	6.3	59	63	6.6	30 - 130	30
Phenanthrene	ND	230	62	64	3.2	55	60	8.7	30 - 130	30
Pyrene	ND	230	60	61	1.7	51	60	16.2	30 - 130	30
% 2-Fluorobiphenyl	53	%	48	53	9.9	62	66	6.3	30 - 130	30
% Nitrobenzene-d5	42	%	42	46	9.1	57	59	3.4	30 - 130	30
% Terphenyl-d14	65	%	50	51	2.0	57	66	14.6	30 - 130	30

l,r

Comment:

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

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.

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

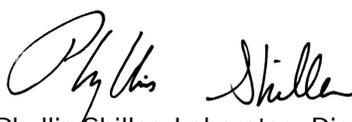
LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference


 Phyllis Shiller, Laboratory Director
 June 24, 2019

Monday, June 24, 2019

Criteria: CT: GAM, RC

State: CT

Sample Criteria Exceedances Report

GCD32406 - GZACTENG

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CD32406	\$8100SMR	Indeno(1,2,3-cd)pyrene	CT / RSR DEC RES (mg/kg) / APS Organics	4300	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Dibenz(a,h)anthracene	CT / RSR DEC RES (mg/kg) / APS Organics	1300	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Benzo(a)pyrene	CT / RSR DEC RES (mg/kg) / Semivolatiles	5300	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Benzo(b)fluoranthene	CT / RSR DEC RES (mg/kg) / Semivolatiles	5400	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Benz(a)anthracene	CT / RSR DEC RES (mg/kg) / Semivolatiles	4700	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Chrysene	CT / RSR GA,GAA (mg/kg) / APS Organics	5100	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Benzo(ghi)perylene	CT / RSR GA,GAA (mg/kg) / APS Organics	4900	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Dibenz(a,h)anthracene	CT / RSR GA,GAA (mg/kg) / APS Organics	1300	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Indeno(1,2,3-cd)pyrene	CT / RSR GA,GAA (mg/kg) / APS Organics	4300	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Pyrene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	5600	2500	4000	4000	ug/Kg
CD32406	\$8100SMR	Fluoranthene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	6300	2500	5600	5600	ug/Kg
CD32406	\$8100SMR	Benzo(b)fluoranthene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	5400	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Benzo(a)pyrene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	5300	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Phenanthrene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	6000	250	4000	4000	ug/Kg
CD32406	\$8100SMR	Benz(a)anthracene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	4700	250	1000	1000	ug/Kg
CD32406	\$8100SMR	Benzo(k)fluoranthene	CT / RSR GA,GAA (mg/kg) / Semivolatiles	4300	250	1000	1000	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedances. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedance 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: GZA GeoEnvironmental, Inc.

Project Location: DANIELS MILL

Project Number:

Laboratory Sample ID(s): CD32406,
CD32411

Sampling Date(s): 6/12/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1A	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1B	<u>YPH and EPH methods only:</u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Sections: ICP Narration, SVOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Monday, June 24, 2019

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



RCP Certification Report

June 24, 2019

SDG I.D.: GCD32406

SDG Comments

Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list. Only Arsenic and Lead are reported as requested on the chain of custody.

8270 Semi-volatile Organics:

The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

Temperature above 6C:

The samples were received in a cooler with ice packs. The samples were delivered to the Laboratory within a short period of time after sample collection. Therefore no significant bias is suspected.

ETPH Narration

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

Instrument:

AU-FID11 06/14/19-1

Jeff Bucko, Chemist 06/14/19

CD32411

The initial calibration (ETPH513I) RSD for the compound list was less than 30% except for the following compounds: None. As per section 7.2.3, a discrimination check standard was run (614A003A_1) and contained the following outliers: None. The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID11 06/17/19-1

Jeff Bucko, Chemist 06/17/19

CD32406

The initial calibration (ETPH513I) RSD for the compound list was less than 30% except for the following compounds: None. As per section 7.2.3, a discrimination check standard was run (617A003A_1) and contained the following outliers: None. The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID21 06/20/19-1

Jeff Bucko, Chemist 06/20/19

CD32408

The initial calibration (ETPH429I) RSD for the compound list was less than 30% except for the following compounds: None. As per section 7.2.3, a discrimination check standard was run (620A003_1) and contained the following outliers: None. The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

Batch 484215 (CD33835)

CD32408

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.

QC (Site Specific):

Batch 483208 (CD32406)

CD32406, CD32411



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RCP Certification Report

June 24, 2019

SDG I.D.: GCD32406

ETPH Narration

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.

ICP Metals Narration

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

QC Batch 483015 (Samples: CD32406, CD32411): -----

The MS and/or the MSD recovery is above the upper range, therefore a slight high bias is possible. (Lead)

The Sample/Duplicate RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (Lead)

Instrument:

ARCOS 06/13/19 08:03 Emily Kolominskaya, Chemist 06/13/19

CD32406, CD32411

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 06/17/19 09:13 Emily Kolominskaya, Chemist 06/17/19

CD32406

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.

QC (Site Specific):

Batch 483015 (CD32406)

CD32406, CD32411

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

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

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

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

All MSD recoveries were within 75 - 125 with the following exceptions: Lead(126%)

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

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



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



Certification Report

June 24, 2019

SDG I.D.: GCD32406

ICP Metals Narration

compounds are within criteria.

SVOA Narration

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

QC Batch 483257 (Samples: CD32406, CD32411): ----

The MS/MSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (Acenaphthene, Anthracene, Naphthalene)

QC Batch 484214 (Samples: CD32408): ----

One or more analytes is below the method criteria. A low bias for these analytes is possible. (Benzo(ghi)perylene)

The MS/MSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (Benzo(ghi)perylene)

Instrument:

CHEM06 06/13/19-3

Wes Bryon, Chemist 06/13/19

CD32406

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6_BN_0609):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

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

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

Continuing Calibration Verification (CHEM06/0613_39-6_BN_0609):

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.

CHEM06 06/16/19-1

Matt Richard, Chemist 06/16/19

CD32411

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6_BN_0609):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.



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RCP Certification Report

June 24, 2019

SDG I.D.: GCD32406

SVOA Narration

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

Continuing Calibration Verification (CHEM06/0616_03-6_BN_0609):
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.

CHEM06 06/20/19-1 Matt Richard, Chemist 06/20/19

CD32408

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM06/6_BN_0617):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM06/0620_03-6_BN_0617):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: Benzo(ghi)perylene 34%L (30%)
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CHEM28 06/14/19-1 Adam Werner, Chemist 06/14/19

CD32406

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM28/28_BN_0610):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM28/0614_03-28_BN_0610):
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.



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



RCP Certification Report

June 24, 2019

SDG I.D.: GCD32406

SVOA Narration

QC (Batch Specific):

Batch 484214 (CD33835)

CD32408

All LCS recoveries were within 30 - 130 with the following exceptions: Benzo(ghi)perylene(29%)

All LCSD recoveries were within 30 - 130 with the following exceptions: Benzo(ghi)perylene(29%)

All LCS/LCSD RPDs were less than 30% 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%)

QC (Site Specific):

Batch 483257 (CD32406)

CD32406, CD32411

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

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

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

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

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

All MS/MSD RPDs were less than 30% with the following exceptions: Acenaphthene(33.3%), Anthracene(44.6%), Naphthalene(38.1%)

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%)

Temperature Narration

The samples were received at 8.5C with cooling initiated.

(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



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

Coolant: Yes No
 IPK ICE
 Temp: 65 °C Pg 1 of 81

Data Delivery/Contact Options:

Fax:
 Phone:
 Email: phoenixlabs@phoenixlabs.com

Project: DARRELS MILL
 Report to: BEN RASH
 Invoice to: ↓
 QUOTE # _____

Project P.O.: D.S. 007541.06
 This section **MUST** be completed with **Bottle Quantities.**

Sampler's Signature: Anthony 2 Date: 6/12/19

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 X = _____ (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
32406	B-36 (0-2)	S	6/12/19	0950
32407	B-36 (2-4)	S	6/12/19	1015
32408	B-36 (4-6)	S	6/12/19	1040
32409	B-36 (6-8)	S	6/12/19	1100
32410	B-36 (8-9.75)	S	6/12/19	1120
32411	B-37 (0-1.75)	S	6/12/19	1220

Analysis Request	RI	CI	MA	Data Format
<u>PAH</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Excel
<u>LEAD</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> PDF
<u>EMPH</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> GIS/Key
<u>FIELD</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ECuIS
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Data Package
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Tier I Checklist
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Full Data Package*
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Phoenix Std Report
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other

Relinquished by: Anthony Sari Accepted by: Kayraal Hove Date: 6/12/19 Time: 13:42

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

Comments, Special Requirements or Regulations:
1. EXTRA VOLUME FOR MS/MSD

State where samples were collected: CT

* SURCHARGE APPLIES

* SURCHARGE APPLIES

Cooler: Yes No
 IPK ICE
 Temp: 05 °C Pg 1 of 81

CHAIN OF CUSTODY RECORD

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



Project: DAYKELS MILL
 Report to: NEW BRX H
 Invoice to: ↓
 QUOTE # _____

Customer: GCA
 Address: 95 CLAYTONBURY BLVD, 3RD FLOOR
CLAYTONBURY, CT

This section **MUST** be completed with **Bottle Quantities**.

Analysis Request

Client Sample - Information - Identification
 Sampler's Signature: Anthony 2 Date: 6/12/19

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 X=(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
32406	B-36 (0-2)	S	6/12/19	0930	X X
32407	B-36 (2-4)	S	6/12/19	1015	X X
32408	B-36 (4-6)	S	6/12/19	1040	X X
32409	B-26 (6-8)	S	6/12/19	1100	X X
32410	B-26 (8-9.7)	S	6/12/19	1120	X X
32411	B-37 (0-1.7)	S	6/12/19	1220	X X

Relinquished by: Anthony Sani Accepted by: Kayal Hale Date: 6/12/19 Time: 13:42

Comments, Special Requirements or Regulations:
1. EXTRA VOLUME FOR MS/MSD

State where samples were collected: CT

* SURCHARGE APPLIES



Monday, June 24, 2019

Attn: Mr. Benjamin Rach
GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd 3rd Fl
Glastonbury, CT 06033

Project ID: DANIELS MILL

SDG ID: GCD26852

Sample ID#s: CD26852 - CD26855, CD26858 - CD26862, CD26864, CD26866, CD26868,
CD26870, CD26872 - CD26876, CD26878 - CD26880, CD26882, CD26884 -
CD26888, CD26890 - CD26894, CD26896 - CD26898

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style with a large initial "P".

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

Sample Id Cross Reference

June 24, 2019

SDG I.D.: GCD26852

Project ID: DANIELS MILL

Client Id	Lab Id	Matrix
B-23A (6-9``)	CD26852	SOIL
B-23A (12-15``)	CD26853	SOIL
B-23A (21-24``)	CD26854	SOIL
B-22A (6-9``)	CD26855	SOIL
B-22A (30-33``)	CD26858	SOIL
B-22A (36-39``)	CD26859	SOIL
B-35 (6-9``)	CD26860	SOIL
B-35 (10.5-13.5``)	CD26861	SOIL
B-38 (7-10``)	CD26862	SOIL
B-39 (6-9``)	CD26864	SOIL
B-40 (4-7``)	CD26866	SOIL
B-41 (1-4``)	CD26868	SOIL
B-42 (7-10``)	CD26870	SOIL
B-43 (3-6``)	CD26872	SOIL
B-44 (0-3``)	CD26873	SOIL
B-43 (15-18``)	CD26874	SOIL
B-44 (12.5-15.5``)	CD26875	SOIL
B-45 (5.5-8.5``)	CD26876	SOIL
B-46 (4-7``)	CD26878	SOIL
B-46 (16-19``)	CD26879	SOIL
B-47 (8-11``)	CD26880	SOIL
B-48 (4-7``)	CD26882	SOIL
B-49 (4-7``)	CD26884	SOIL
B-49 (16-19``)	CD26885	SOIL
B-56 (8-10``)	CD26886	SOIL
GZ-99	CD26887	SOIL
B-50 (4-7``)	CD26888	SOIL
B-51 (1-4``)	CD26890	SOIL
B-51 (13-16``)	CD26891	SOIL
B-52 (6-9``)	CD26892	SOIL



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

Sample Id Cross Reference

June 24, 2019

SDG I.D.: GCD26852

Project ID: DANIELS MILL

Client Id	Lab Id	Matrix
B-52 (13-16``)	CD26893	SOIL
B-53 (7-10``)	CD26894	SOIL
B-54 (18-21``)	CD26896	SOIL
B-54 (30-33``)	CD26897	SOIL
B-55 (8-11``)	CD26898	SOIL



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

Analysis Report

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

10:00
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26852

Project ID: DANIELS MILL
 Client ID: B-23A (6-9`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/05/19	Q/X/ML/KLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1221	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1232	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1242	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1248	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1254	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1260	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1262	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1268	ND	71	ug/Kg	2	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	107		%	2	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	86		%	2	06/07/19	SC	30 - 150 %
% TCMX	82		%	2	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	78		%	2	06/07/19	SC	30 - 150 %

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

Comments:

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

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

10:15
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26853

Project ID: DANIELS MILL
 Client ID: B-23A (12-15`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	96		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/05/19	Q/X/ML/KLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	340	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1221	ND	340	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1232	ND	340	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1242	ND	340	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1248	ND	340	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1254	2800	340	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1260	ND	340	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1262	ND	340	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1268	ND	340	ug/Kg	10	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	88		%	10	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	145		%	10	06/07/19	SC	30 - 150 %
% TCMX	96		%	10	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	102		%	10	06/07/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

10:30
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26854

Project ID: DANIELS MILL
 Client ID: B-23A (21-24`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	94		%		06/17/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/19/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	560	ug/Kg	5	06/21/19	SC	SW8082A
PCB-1221	ND	560	ug/Kg	5	06/21/19	SC	SW8082A
PCB-1232	ND	560	ug/Kg	5	06/21/19	SC	SW8082A
PCB-1242	ND	560	ug/Kg	5	06/21/19	SC	SW8082A
PCB-1248	ND	560	ug/Kg	5	06/21/19	SC	SW8082A
PCB-1254	1700	560	ug/Kg	5	06/21/19	SC	SW8082A
PCB-1260	ND	560	ug/Kg	5	06/21/19	SC	SW8082A
PCB-1262	ND	560	ug/Kg	5	06/21/19	SC	SW8082A
PCB-1268	ND	560	ug/Kg	5	06/21/19	SC	SW8082A

QA/QC Surrogates

% DCBP	96		%	5	06/21/19	SC	30 - 150 %
% DCBP (Confirmation)	88		%	5	06/21/19	SC	30 - 150 %
% TCMX	98		%	5	06/21/19	SC	30 - 150 %
% TCMX (Confirmation)	92		%	5	06/21/19	SC	30 - 150 %

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

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

Comments:

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

10:45
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26855

Project ID: DANIELS MILL
 Client ID: B-22A (6-9`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/05/19	Q/X/ML/KLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1221	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1232	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1242	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1248	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1254	570	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1260	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1262	ND	71	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1268	ND	71	ug/Kg	2	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	69		%	2	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	64		%	2	06/07/19	SC	30 - 150 %
% TCMX	66		%	2	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	67		%	2	06/07/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

11:30
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26858

Project ID: DANIELS MILL
 Client ID: B-22A (30-33`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	91		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/05/19	Q/X/ML/KLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	360	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1221	ND	360	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1232	ND	360	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1242	ND	360	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1248	ND	360	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1254	1200	360	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1260	ND	360	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1262	ND	360	ug/Kg	10	06/07/19	SC	SW8082A
PCB-1268	ND	360	ug/Kg	10	06/07/19	SC	SW8082A

QA/QC Surrogates

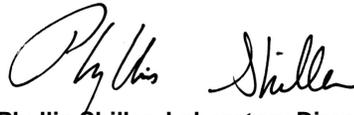
% DCBP	72		%	10	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	85		%	10	06/07/19	SC	30 - 150 %
% TCMX	56		%	10	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	61		%	10	06/07/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

11:45
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26859

Project ID: DANIELS MILL
 Client ID: B-22A (36-39``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		06/17/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/17/19	X/KL/SB/MSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1221	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1232	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1242	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1248	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1254	2400	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1260	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1262	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1268	ND	360	ug/Kg	10	06/18/19	SC	SW8082A

QA/QC Surrogates

% DCBP	89		%	10	06/18/19	SC	30 - 150 %
% DCBP (Confirmation)	87		%	10	06/18/19	SC	30 - 150 %
% TCMX	86		%	10	06/18/19	SC	30 - 150 %
% TCMX (Confirmation)	85		%	10	06/18/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

12:00
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26860

Project ID: DANIELS MILL
 Client ID: B-35 (6-9`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/05/19	Q/X/ML/KLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	72	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1221	ND	72	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1232	ND	72	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1242	ND	72	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1248	ND	72	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1254	130	72	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1260	ND	72	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1262	ND	72	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1268	ND	72	ug/Kg	2	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	83		%	2	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	85		%	2	06/07/19	SC	30 - 150 %
% TCMX	70		%	2	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	75		%	2	06/07/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

12:15
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26861

Project ID: DANIELS MILL
 Client ID: B-35 (10.5-13.5`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	95		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/05/19	X/KL/JR/Λ	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	6800	ug/Kg	200	06/08/19	SC	SW8082A
PCB-1221	ND	6800	ug/Kg	200	06/08/19	SC	SW8082A
PCB-1232	ND	6800	ug/Kg	200	06/08/19	SC	SW8082A
PCB-1242	ND	6800	ug/Kg	200	06/08/19	SC	SW8082A
PCB-1248	ND	6800	ug/Kg	200	06/08/19	SC	SW8082A
PCB-1254	26000	6800	ug/Kg	200	06/08/19	SC	SW8082A
PCB-1260	ND	6800	ug/Kg	200	06/08/19	SC	SW8082A
PCB-1262	ND	6800	ug/Kg	200	06/08/19	SC	SW8082A
PCB-1268	ND	6800	ug/Kg	200	06/08/19	SC	SW8082A

QA/QC Surrogates

% DCBP	Diluted Out		%	200	06/08/19	SC	30 - 150 %
% DCBP (Confirmation)	Diluted Out		%	200	06/08/19	SC	30 - 150 %
% TCMX	Diluted Out		%	200	06/08/19	SC	30 - 150 %
% TCMX (Confirmation)	Diluted Out		%	200	06/08/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

15:45
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26862

Project ID: DANIELS MILL
 Client ID: B-38 (7-10`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	89		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	X/ML/SB/	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1221	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1232	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1242	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1248	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1254	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1260	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1262	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1268	ND	74	ug/Kg	2	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	73		%	2	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	66		%	2	06/07/19	SC	30 - 150 %
% TCMX	54		%	2	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	51		%	2	06/07/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

16:15
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26864

Project ID: DANIELS MILL
 Client ID: B-39 (6-9`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	92		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/10/19	XX/KL/JR	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	72	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1221	ND	72	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1232	ND	72	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1242	ND	72	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1248	ND	72	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1254	ND	72	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1260	ND	72	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1262	ND	72	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1268	ND	72	ug/Kg	2	06/11/19	SC	SW8082A

QA/QC Surrogates

% DCBP	45		%	2	06/11/19	SC	30 - 150 %
% DCBP (Confirmation)	52		%	2	06/11/19	SC	30 - 150 %
% TCMX	32		%	2	06/11/19	SC	30 - 150 %
% TCMX (Confirmation)	34		%	2	06/11/19	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
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Comments:

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

16:30
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26866

Project ID: DANIELS MILL
 Client ID: B-40 (4-7`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	89		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	X/ML/SB/	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	73	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1221	ND	73	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1232	ND	73	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1242	ND	73	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1248	ND	73	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1254	ND	73	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1260	ND	73	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1262	ND	73	ug/Kg	2	06/11/19	SC	SW8082A
PCB-1268	ND	73	ug/Kg	2	06/11/19	SC	SW8082A

QA/QC Surrogates

% DCBP	75		%	2	06/11/19	SC	30 - 150 %
% DCBP (Confirmation)	73		%	2	06/11/19	SC	30 - 150 %
% TCMX	60		%	2	06/11/19	SC	30 - 150 %
% TCMX (Confirmation)	60		%	2	06/11/19	SC	30 - 150 %

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

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

16:50
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26868

Project ID: DANIELS MILL
 Client ID: B-41 (1-4`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	84		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	X/ML/SB/	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	78	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1221	ND	78	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1232	ND	78	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1242	ND	78	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1248	ND	78	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1254	290	78	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1260	ND	78	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1262	ND	78	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1268	ND	78	ug/Kg	2	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	67		%	2	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	63		%	2	06/07/19	SC	30 - 150 %
% TCMX	64		%	2	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	61		%	2	06/07/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/03/19
 06/04/19

Time

17:10
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26870

Project ID: DANIELS MILL
 Client ID: B-42 (7-10`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	92		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	X/ML/SB/	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1221	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1232	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1242	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1248	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1254	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1260	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1262	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1268	ND	70	ug/Kg	2	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	79		%	2	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	73		%	2	06/07/19	SC	30 - 150 %
% TCMX	69		%	2	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	67		%	2	06/07/19	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

9:35
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26872

Project ID: DANIELS MILL
 Client ID: B-43 (3-6`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	X/ML/SB/	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	370	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1221	ND	370	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1232	ND	370	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1242	ND	370	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1248	ND	370	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1254	1800	370	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1260	ND	370	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1262	ND	370	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1268	ND	370	ug/Kg	10	06/08/19	SC	SW8082A

QA/QC Surrogates

% DCBP	75		%	10	06/08/19	SC	30 - 150 %
% DCBP (Confirmation)	85		%	10	06/08/19	SC	30 - 150 %
% TCMX	65		%	10	06/08/19	SC	30 - 150 %
% TCMX (Confirmation)	66		%	10	06/08/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

10:10
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26873

Project ID: DANIELS MILL
 Client ID: B-44 (0-3`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	88		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	X/ML/SB/	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1221	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1232	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1242	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1248	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1254	1800	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1260	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1262	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1268	ND	370	ug/Kg	10	06/10/19	SC	SW8082A

QA/QC Surrogates

% DCBP	80		%	10	06/10/19	SC	30 - 150 %
% DCBP (Confirmation)	97		%	10	06/10/19	SC	30 - 150 %
% TCMX	84		%	10	06/10/19	SC	30 - 150 %
% TCMX (Confirmation)	84		%	10	06/10/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

9:40
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26874

Project ID: DANIELS MILL
 Client ID: B-43 (15-18``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		06/17/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/17/19	X/KL/SB/M	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	350	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1221	ND	350	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1232	ND	350	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1242	ND	350	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1248	ND	350	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1254	ND	350	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1260	ND	350	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1262	ND	350	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1268	ND	350	ug/Kg	10	06/18/19	SC	SW8082A

QA/QC Surrogates

% DCBP	76		%	10	06/18/19	SC	30 - 150 %
% DCBP (Confirmation)	81		%	10	06/18/19	SC	30 - 150 %
% TCMX	71		%	10	06/18/19	SC	30 - 150 %
% TCMX (Confirmation)	72		%	10	06/18/19	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

10:15
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26875

Project ID: DANIELS MILL
 Client ID: B-44 (12.5-15.5`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	86		%		06/17/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/17/19	X/KL/SB/MSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1221	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1232	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1242	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1248	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1254	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1260	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1262	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1268	ND	380	ug/Kg	10	06/18/19	SC	SW8082A

QA/QC Surrogates

% DCBP	88		%	10	06/18/19	SC	30 - 150 %
% DCBP (Confirmation)	92		%	10	06/18/19	SC	30 - 150 %
% TCMX	88		%	10	06/18/19	SC	30 - 150 %
% TCMX (Confirmation)	91		%	10	06/18/19	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

10:25
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26876

Project ID: DANIELS MILL
 Client ID: B-45 (5.5-8.5`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	X/ML/SB/	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1221	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1232	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1242	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1248	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1254	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1260	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1262	ND	74	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1268	ND	74	ug/Kg	2	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	113		%	2	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	68		%	2	06/07/19	SC	30 - 150 %
% TCMX	69		%	2	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	67		%	2	06/07/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

10:45
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26878

Project ID: DANIELS MILL
 Client ID: B-46 (4-7`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	X/ML/SB/	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1221	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1232	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1242	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1248	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1254	2100	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1260	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1262	ND	370	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1268	ND	370	ug/Kg	10	06/10/19	SC	SW8082A

QA/QC Surrogates

% DCBP	118		%	10	06/10/19	SC	30 - 150 %
% DCBP (Confirmation)	138		%	10	06/10/19	SC	30 - 150 %
% TCMX	104		%	10	06/10/19	SC	30 - 150 %
% TCMX (Confirmation)	106		%	10	06/10/19	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

10:50
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26879

Project ID: DANIELS MILL
 Client ID: B-46 (16-19``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	97		%		06/17/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/17/19	X/KL/SB/M	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	340	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1221	ND	340	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1232	ND	340	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1242	ND	340	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1248	ND	340	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1254	ND	340	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1260	ND	340	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1262	ND	340	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1268	ND	340	ug/Kg	10	06/18/19	SC	SW8082A

QA/QC Surrogates

% DCBP	85		%	10	06/18/19	SC	30 - 150 %
% DCBP (Confirmation)	88		%	10	06/18/19	SC	30 - 150 %
% TCMX	82		%	10	06/18/19	SC	30 - 150 %
% TCMX (Confirmation)	84		%	10	06/18/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

10:55
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26880

Project ID: DANIELS MILL
 Client ID: B-47 (8-11`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	85		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	X/ML/SB/	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	380	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1221	ND	380	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1232	ND	380	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1242	ND	380	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1248	ND	380	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1254	2000	380	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1260	ND	380	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1262	ND	380	ug/Kg	10	06/08/19	SC	SW8082A
PCB-1268	ND	380	ug/Kg	10	06/08/19	SC	SW8082A

QA/QC Surrogates

% DCBP	73		%	10	06/08/19	SC	30 - 150 %
% DCBP (Confirmation)	95		%	10	06/08/19	SC	30 - 150 %
% TCMX	55		%	10	06/08/19	SC	30 - 150 %
% TCMX (Confirmation)	58		%	10	06/08/19	SC	30 - 150 %

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

12:15
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26882

Project ID: DANIELS MILL
 Client ID: B-48 (4-7`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	Q/X/KL/ML	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1221	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1232	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1242	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1248	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1254	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1260	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1262	ND	70	ug/Kg	2	06/07/19	SC	SW8082A
PCB-1268	ND	70	ug/Kg	2	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	44		%	2	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	43		%	2	06/07/19	SC	30 - 150 %
% TCMX	30		%	2	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	30		%	2	06/07/19	SC	30 - 150 %

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

PCB Comment:
Sample was evaluated against an external standard.

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

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

13:05
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26884

Project ID: DANIELS MILL
 Client ID: B-49 (4-7`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	84		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	Q/X/KL/MLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	390	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1221	ND	390	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1232	ND	390	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1242	ND	390	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1248	ND	390	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1254	1400	390	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1260	ND	390	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1262	ND	390	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1268	ND	390	ug/Kg	10	06/10/19	SC	SW8082A

QA/QC Surrogates

% DCBP	116		%	10	06/10/19	SC	30 - 150 %
% DCBP (Confirmation)	131		%	10	06/10/19	SC	30 - 150 %
% TCMX	127		%	10	06/10/19	SC	30 - 150 %
% TCMX (Confirmation)	120		%	10	06/10/19	SC	30 - 150 %

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

13:15
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26885

Project ID: DANIELS MILL
 Client ID: B-49 (16-19``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		06/17/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/17/19	X/KL/SB/MSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1221	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1232	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1242	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1248	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1254	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1260	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1262	ND	380	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1268	ND	380	ug/Kg	10	06/18/19	SC	SW8082A

QA/QC Surrogates

% DCBP	88		%	10	06/18/19	SC	30 - 150 %
% DCBP (Confirmation)	88		%	10	06/18/19	SC	30 - 150 %
% TCMX	87		%	10	06/18/19	SC	30 - 150 %
% TCMX (Confirmation)	87		%	10	06/18/19	SC	30 - 150 %

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

17:10
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26886

Project ID: DANIELS MILL
 Client ID: B-56 (8-10`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				06/06/19	J/X/KL/MLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	410	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1221	ND	410	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1232	ND	410	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1242	ND	410	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1248	ND	410	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1254	2100	410	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1260	ND	410	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1262	ND	410	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1268	ND	410	ug/Kg	5	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	128		%	5	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	137		%	5	06/07/19	SC	30 - 150 %
% TCMX	115		%	5	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	116		%	5	06/07/19	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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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 you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26887

Project ID: DANIELS MILL
 Client ID: GZ-99

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/07/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	360	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1221	ND	360	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1232	ND	360	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1242	ND	360	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1248	ND	360	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1254	2200	360	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1260	ND	360	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1262	ND	360	ug/Kg	10	06/10/19	SC	SW8082A
PCB-1268	ND	360	ug/Kg	10	06/10/19	SC	SW8082A

QA/QC Surrogates

% DCBP	Interference		%	10	06/10/19	SC	30 - 150 %
% DCBP (Confirmation)	Interference		%	10	06/10/19	SC	30 - 150 %
% TCMX	97		%	10	06/10/19	SC	30 - 150 %
% TCMX (Confirmation)	92		%	10	06/10/19	SC	30 - 150 %
Client MS/MSD	Completed				06/10/19		

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

PCB Comment:

Due to matrix interference from non target compounds in the sample, surrogate could not be reported.

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

13:25
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26888

Project ID: DANIELS MILL
 Client ID: B-50 (4-7`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	91		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	Q/X/KL/MLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	77	ug/Kg	1	06/07/19	SC	SW8082A
PCB-1221	ND	77	ug/Kg	1	06/07/19	SC	SW8082A
PCB-1232	ND	77	ug/Kg	1	06/07/19	SC	SW8082A
PCB-1242	ND	77	ug/Kg	1	06/07/19	SC	SW8082A
PCB-1248	ND	77	ug/Kg	1	06/07/19	SC	SW8082A
PCB-1254	ND	77	ug/Kg	1	06/07/19	SC	SW8082A
PCB-1260	ND	77	ug/Kg	1	06/07/19	SC	SW8082A
PCB-1262	ND	77	ug/Kg	1	06/07/19	SC	SW8082A
PCB-1268	ND	77	ug/Kg	1	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	42		%	1	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	56		%	1	06/07/19	SC	30 - 150 %
% TCMX	43		%	1	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	40		%	1	06/07/19	SC	30 - 150 %

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

14:15
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26890

Project ID: DANIELS MILL
 Client ID: B-51 (1-4`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	84		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	Q/X/KL/MLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	5900	ug/Kg	100	06/07/19	SC	SW8082A
PCB-1221	ND	5900	ug/Kg	100	06/07/19	SC	SW8082A
PCB-1232	ND	5900	ug/Kg	100	06/07/19	SC	SW8082A
PCB-1242	ND	5900	ug/Kg	100	06/07/19	SC	SW8082A
PCB-1248	ND	5900	ug/Kg	100	06/07/19	SC	SW8082A
PCB-1254	11000	5900	ug/Kg	100	06/07/19	SC	SW8082A
PCB-1260	ND	5900	ug/Kg	100	06/07/19	SC	SW8082A
PCB-1262	ND	5900	ug/Kg	100	06/07/19	SC	SW8082A
PCB-1268	ND	5900	ug/Kg	100	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	Diluted Out		%	100	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	Diluted Out		%	100	06/07/19	SC	30 - 150 %
% TCMX	Diluted Out		%	100	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	Diluted Out		%	100	06/07/19	SC	30 - 150 %

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

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

14:20
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26891

Project ID: DANIELS MILL
 Client ID: B-51 (13-16``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	74		%		06/17/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/17/19	X/KL/SB/M	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	450	ug/Kg	10	06/19/19	SC	SW8082A
PCB-1221	ND	450	ug/Kg	10	06/19/19	SC	SW8082A
PCB-1232	ND	450	ug/Kg	10	06/19/19	SC	SW8082A
PCB-1242	ND	450	ug/Kg	10	06/19/19	SC	SW8082A
PCB-1248	ND	450	ug/Kg	10	06/19/19	SC	SW8082A
PCB-1254	ND	450	ug/Kg	10	06/19/19	SC	SW8082A
PCB-1260	ND	450	ug/Kg	10	06/19/19	SC	SW8082A
PCB-1262	ND	450	ug/Kg	10	06/19/19	SC	SW8082A
PCB-1268	ND	450	ug/Kg	10	06/19/19	SC	SW8082A

QA/QC Surrogates

% DCBP	116		%	10	06/19/19	SC	30 - 150 %
% DCBP (Confirmation)	113		%	10	06/19/19	SC	30 - 150 %
% TCMX	97		%	10	06/19/19	SC	30 - 150 %
% TCMX (Confirmation)	99		%	10	06/19/19	SC	30 - 150 %

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

14:25
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26892

Project ID: DANIELS MILL
 Client ID: B-52 (6-9`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	Q/X/KL/MLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	540	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1221	ND	540	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1232	ND	540	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1242	ND	540	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1248	ND	540	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1254	3700	540	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1260	ND	540	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1262	ND	540	ug/Kg	5	06/07/19	SC	SW8082A
PCB-1268	ND	540	ug/Kg	5	06/07/19	SC	SW8082A

QA/QC Surrogates

% DCBP	91		%	5	06/07/19	SC	30 - 150 %
% DCBP (Confirmation)	101		%	5	06/07/19	SC	30 - 150 %
% TCMX	64		%	5	06/07/19	SC	30 - 150 %
% TCMX (Confirmation)	66		%	5	06/07/19	SC	30 - 150 %

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

Comments:

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

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

14:30
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26893

Project ID: DANIELS MILL
 Client ID: B-52 (13-16``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	91		%		06/17/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/19/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	360	ug/Kg	10	06/20/19	SC	SW8082A
PCB-1221	ND	360	ug/Kg	10	06/20/19	SC	SW8082A
PCB-1232	ND	360	ug/Kg	10	06/20/19	SC	SW8082A
PCB-1242	ND	360	ug/Kg	10	06/20/19	SC	SW8082A
PCB-1248	ND	360	ug/Kg	10	06/20/19	SC	SW8082A
PCB-1254	ND	360	ug/Kg	10	06/20/19	SC	SW8082A
PCB-1260	ND	360	ug/Kg	10	06/20/19	SC	SW8082A
PCB-1262	ND	360	ug/Kg	10	06/20/19	SC	SW8082A
PCB-1268	ND	360	ug/Kg	10	06/20/19	SC	SW8082A

QA/QC Surrogates

% DCBP	115		%	10	06/20/19	SC	30 - 150 %
% DCBP (Confirmation)	123		%	10	06/20/19	SC	30 - 150 %
% TCMX	114		%	10	06/20/19	SC	30 - 150 %
% TCMX (Confirmation)	117		%	10	06/20/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

15:25
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26894

Project ID: DANIELS MILL
 Client ID: B-53 (7-10`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/06/19	Q/X/KL/MLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	78	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1221	ND	78	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1232	ND	78	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1242	ND	78	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1248	ND	78	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1254	ND	78	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1260	ND	78	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1262	ND	78	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1268	ND	78	ug/Kg	1	06/11/19	SC	SW8082A

QA/QC Surrogates

% DCBP	77		%	1	06/11/19	SC	30 - 150 %
% DCBP (Confirmation)	67		%	1	06/11/19	SC	30 - 150 %
% TCMX	72		%	1	06/11/19	SC	30 - 150 %
% TCMX (Confirmation)	61		%	1	06/11/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

15:35
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26896

Project ID: DANIELS MILL
 Client ID: B-54 (18-21``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	91		%		06/04/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/10/19	XX/KL/JR	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	330	ug/Kg	5	06/11/19	SC	SW8082A
PCB-1221	ND	330	ug/Kg	5	06/11/19	SC	SW8082A
PCB-1232	ND	330	ug/Kg	5	06/11/19	SC	SW8082A
PCB-1242	ND	330	ug/Kg	5	06/11/19	SC	SW8082A
PCB-1248	ND	330	ug/Kg	5	06/11/19	SC	SW8082A
PCB-1254	1300	330	ug/Kg	5	06/11/19	SC	SW8082A
PCB-1260	ND	330	ug/Kg	5	06/11/19	SC	SW8082A
PCB-1262	ND	330	ug/Kg	5	06/11/19	SC	SW8082A
PCB-1268	ND	330	ug/Kg	5	06/11/19	SC	SW8082A

QA/QC Surrogates

% DCBP	109		%	5	06/11/19	SC	30 - 150 %
% DCBP (Confirmation)	100		%	5	06/11/19	SC	30 - 150 %
% TCMX	89		%	5	06/11/19	SC	30 - 150 %
% TCMX (Confirmation)	83		%	5	06/11/19	SC	30 - 150 %

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

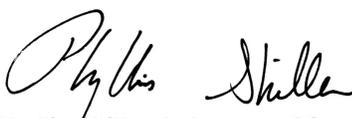
Comments:

PCB Comment:

For PCBs, in order to reach the desired RL, multiple cleanup steps were performed. The extract was cleaned up with a combination of sulfuric acid, potassium permanganate, copper powder and additional florisil.

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Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

15:40
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26897

Project ID: DANIELS MILL
 Client ID: B-54 (30-33`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	92		%		06/17/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/17/19	X/KL/SB/M	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1221	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1232	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1242	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1248	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1254	520	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1260	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1262	ND	360	ug/Kg	10	06/18/19	SC	SW8082A
PCB-1268	ND	360	ug/Kg	10	06/18/19	SC	SW8082A

QA/QC Surrogates

% DCBP	83		%	10	06/18/19	SC	30 - 150 %
% DCBP (Confirmation)	85		%	10	06/18/19	SC	30 - 150 %
% TCMX	77		%	10	06/18/19	SC	30 - 150 %
% TCMX (Confirmation)	80		%	10	06/18/19	SC	30 - 150 %

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

Comments:

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

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 45441.06

Custody Information

Collected by: SC
 Received by: B
 Analyzed by: see "By" below

Date

06/04/19
 06/04/19

Time

16:50
 18:50

Laboratory Data

SDG ID: GCD26852
 Phoenix ID: CD26898

Project ID: DANIELS MILL
 Client ID: B-55 (8-11`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				06/06/19	Q/X/KL/MLSW3540C	

PCB (Soxhlet SW3540C)

PCB-1016	ND	57	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1221	ND	57	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1232	ND	57	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1242	ND	57	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1248	ND	57	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1254	ND	57	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1260	ND	57	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1262	ND	57	ug/Kg	1	06/11/19	SC	SW8082A
PCB-1268	ND	57	ug/Kg	1	06/11/19	SC	SW8082A

QA/QC Surrogates

% DCBP	56		%	1	06/11/19	SC	30 - 150 %
% DCBP (Confirmation)	52		%	1	06/11/19	SC	30 - 150 %
% TCMX	41		%	1	06/11/19	SC	30 - 150 %
% TCMX (Confirmation)	41		%	1	06/11/19	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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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 you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 24, 2019

Reviewed and Released by: Rashmi Makol, 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

June 24, 2019

QA/QC Data

SDG I.D.: GCD26852

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 482080 (ug/Kg), QC Sample No: CD25154 10X (CD26862, CD26866, CD26868, CD26870, CD26872, CD26873, CD26876, CD26878, CD26880)										
<u>Polychlorinated Biphenyls - Soil</u>										
PCB-1016	ND	170	99			80	73	9.2	40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	106			84	80	4.9	40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	113	%	112			76	72	5.4	30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	110	%	109			73	71	2.8	30 - 150	30
% TCMX (Surrogate Rec)	108	%	109			69	63	9.1	30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	102	%	107			68	60	12.5	30 - 150	30
Comment: This batch consists of a Blank, LCS, MS and MSD.										
QA/QC Batch 482564 (ug/Kg), QC Sample No: CD25883 10X (CD26864, CD26896)										
<u>Polychlorinated Biphenyls - Soil</u>										
PCB-1016	ND	170	46	129	94.9	91	56	47.6	40 - 140	30 r
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	60	143	81.8	114	63	57.6	40 - 140	30 l,r
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	66	%	63	162	88.0	108	64	51.2	30 - 150	30 l,r
% DCBP (Surrogate Rec) (Confirm)	70	%	68	161	81.2	113	69	48.4	30 - 150	30 l,r
% TCMX (Surrogate Rec)	80	%	34	114	108.1	89	55	47.2	30 - 150	30 r
% TCMX (Surrogate Rec) (Confirm)	77	%	36	108	100.0	93	58	46.4	30 - 150	30 r
QA/QC Batch 481904 (ug/Kg), QC Sample No: CD25902 10X (CD26861)										
<u>Polychlorinated Biphenyls - Soil</u>										
PCB-1016	ND	170	90	86	4.5	38	85	76.4	40 - 140	30 m,r
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	93	92	1.1	48	96	66.7	40 - 140	30 r

QA/QC Data

SDG I.D.: GCD26852

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
	Blank	RL									
PCB-1262	ND	170							40 - 140	30	
PCB-1268	ND	170							40 - 140	30	
% DCBP (Surrogate Rec)	92	%	91	89	2.2	40	85	72.0	30 - 150	30	r
% DCBP (Surrogate Rec) (Confirm	104	%	102	101	1.0	51	96	61.2	30 - 150	30	r
% TCMX (Surrogate Rec)	95	%	89	89	0.0	37	86	79.7	30 - 150	30	r
% TCMX (Surrogate Rec) (Confirm	96	%	90	91	1.1	39	89	78.1	30 - 150	30	r

QA/QC Batch 483699 (ug/Kg), QC Sample No: CD26874 10X (CD26859, CD26874, CD26875, CD26879, CD26885, CD26891, CD26897)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	170	89			52	70	29.5	40 - 140	30	
PCB-1221	ND	170							40 - 140	30	
PCB-1232	ND	170							40 - 140	30	
PCB-1242	ND	170							40 - 140	30	
PCB-1248	ND	170							40 - 140	30	
PCB-1254	ND	170							40 - 140	30	
PCB-1260	ND	170	106			79	93	16.3	40 - 140	30	
PCB-1262	ND	170							40 - 140	30	
PCB-1268	ND	170							40 - 140	30	
% DCBP (Surrogate Rec)	86	%	94			72	88	20.0	30 - 150	30	
% DCBP (Surrogate Rec) (Confirm	80	%	111			84	101	18.4	30 - 150	30	
% TCMX (Surrogate Rec)	72	%	89			31	76	84.1	30 - 150	30	r
% TCMX (Surrogate Rec) (Confirm	69	%	96			35	82	80.3	30 - 150	30	r

Comment:

The Batch consists of a Blank, LCS, MS and MSD

QA/QC Batch 482099 (ug/Kg), QC Sample No: CD26882 10X (CD26882, CD26884, CD26886, CD26888, CD26890, CD26892, CD26894, CD26898)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	170	65	75	14.3	77			40 - 140	30	
PCB-1221	ND	170							40 - 140	30	
PCB-1232	ND	170							40 - 140	30	
PCB-1242	ND	170							40 - 140	30	
PCB-1248	ND	170							40 - 140	30	
PCB-1254	ND	170							40 - 140	30	
PCB-1260	ND	170	66	92	32.9	89			40 - 140	30	r
PCB-1262	ND	170							40 - 140	30	
PCB-1268	ND	170							40 - 140	30	
% DCBP (Surrogate Rec)	128	%	77	94	19.9	101			30 - 150	30	
% DCBP (Surrogate Rec) (Confirm	155	%	75	115	42.1	102			30 - 150	30	r,s
% TCMX (Surrogate Rec)	114	%	68	86	23.4	67			30 - 150	30	
% TCMX (Surrogate Rec) (Confirm	140	%	67	93	32.5	67			30 - 150	30	r

Comment:

This batch consists of a Blank, LCS, LCSD and MS.

QA/QC Batch 481772 (ug/Kg), QC Sample No: CD26887 10X (CD26852, CD26853, CD26855, CD26858, CD26860)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	170	65	70	7.4	79	66	17.9	40 - 140	30	
PCB-1221	ND	170							40 - 140	30	
PCB-1232	ND	170							40 - 140	30	
PCB-1242	ND	170							40 - 140	30	
PCB-1248	ND	170							40 - 140	30	
PCB-1254	ND	170							40 - 140	30	
PCB-1260	ND	170	84	89	5.8	134	112	17.9	40 - 140	30	

QA/QC Data

SDG I.D.: GCD26852

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	102	%	92	95	3.2	90	82	9.3	30 - 150	30
% DCBP (Surrogate Rec) (Confirm	117	%	106	111	4.6	103	86	18.0	30 - 150	30
% TCMX (Surrogate Rec)	75	%	60	67	11.0	90	72	22.2	30 - 150	30
% TCMX (Surrogate Rec) (Confirm	77	%	63	70	10.5	96	78	20.7	30 - 150	30

QA/QC Batch 482279 (ug/Kg), QC Sample No: CD26887 10X (CD26887)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	170	65	70	7.4	79	66	17.9	40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	84	89	5.8	134	112	17.9	40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	102	%	92	95	3.2	90	82	9.3	30 - 150	30
% DCBP (Surrogate Rec) (Confirm	117	%	106	111	4.6	103	86	18.0	30 - 150	30
% TCMX (Surrogate Rec)	75	%	60	67	11.0	90	72	22.2	30 - 150	30
% TCMX (Surrogate Rec) (Confirm	77	%	63	70	10.5	96	78	20.7	30 - 150	30

QA/QC Batch 484095 (ug/Kg), QC Sample No: CD36927 10X (CD26854, CD26893)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	170	100	89	11.6				40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	103	98	5.0				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	107	%	113	107	5.5				30 - 150	30
% DCBP (Surrogate Rec) (Confirm	104	%	107	113	5.5				30 - 150	30
% TCMX (Surrogate Rec)	105	%	110	104	5.6				30 - 150	30
% TCMX (Surrogate Rec) (Confirm	99	%	106	109	2.8				30 - 150	30

Comment:

Due to PCB in the unspiked sample, MS/MSD could not be reported.

- 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.
- s = This parameter is outside laboratory Blank Surrogate 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
 June 24, 2019

Monday, June 24, 2019

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCD26852 - GZACTENG

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CD26853	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	340	100	100	ug/Kg
CD26853	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	340	100	100	ug/Kg
CD26853	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	340	100	100	ug/Kg
CD26853	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	340	100	100	ug/Kg
CD26853	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	2800	340	100	100	ug/Kg
CD26853	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	340	100	100	ug/Kg
CD26853	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	340	100	100	ug/Kg
CD26853	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	340	100	100	ug/Kg
CD26853	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	340	100	100	ug/Kg
CD26854	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1700	560	1000	1000	ug/Kg
CD26855	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	570	71	100	100	ug/Kg
CD26858	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	360	100	100	ug/Kg
CD26858	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1200	360	100	100	ug/Kg
CD26858	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	360	100	100	ug/Kg
CD26858	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	360	100	100	ug/Kg
CD26858	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	360	100	100	ug/Kg
CD26858	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	360	100	100	ug/Kg
CD26858	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	360	100	100	ug/Kg
CD26858	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	360	100	100	ug/Kg
CD26858	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	360	100	100	ug/Kg
CD26859	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	2400	360	1000	1000	ug/Kg
CD26860	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	130	72	100	100	ug/Kg
CD26861	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	26000	6800	100	100	ug/Kg
CD26861	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	6800	100	100	ug/Kg
CD26861	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	6800	100	100	ug/Kg
CD26861	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	6800	100	100	ug/Kg
CD26861	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	6800	100	100	ug/Kg
CD26861	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	6800	100	100	ug/Kg
CD26861	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	6800	100	100	ug/Kg
CD26861	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	6800	100	100	ug/Kg
CD26861	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	6800	100	100	ug/Kg
CD26868	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	290	78	100	100	ug/Kg
CD26872	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26872	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26872	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26872	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	370	100	100	ug/Kg

Monday, June 24, 2019

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCD26852 - GZACTENG

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CD26872	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26872	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26872	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26872	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26872	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1800	370	100	100	ug/Kg
CD26873	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1800	370	100	100	ug/Kg
CD26873	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26873	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26873	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26873	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26873	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26873	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26873	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26873	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26878	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26878	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26878	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26878	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26878	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26878	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	2100	370	100	100	ug/Kg
CD26878	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26878	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26878	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	370	100	100	ug/Kg
CD26880	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	380	100	100	ug/Kg
CD26880	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	380	100	100	ug/Kg
CD26880	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	380	100	100	ug/Kg
CD26880	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	380	100	100	ug/Kg
CD26880	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	2000	380	100	100	ug/Kg
CD26880	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	380	100	100	ug/Kg
CD26880	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	380	100	100	ug/Kg
CD26880	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	380	100	100	ug/Kg
CD26880	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	380	100	100	ug/Kg
CD26884	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	390	100	100	ug/Kg
CD26884	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	390	100	100	ug/Kg
CD26884	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1400	390	100	100	ug/Kg
CD26884	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	390	100	100	ug/Kg
CD26884	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	390	100	100	ug/Kg
CD26884	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	390	100	100	ug/Kg
CD26884	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	390	100	100	ug/Kg

Monday, June 24, 2019

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCD26852 - GZACTENG

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL	Criteria	Analysis Units
CD26884	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	390	100	100	100	ug/Kg
CD26884	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	390	100	100	100	ug/Kg
CD26886	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	410	100	100	100	ug/Kg
CD26886	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	410	100	100	100	ug/Kg
CD26886	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	410	100	100	100	ug/Kg
CD26886	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	410	100	100	100	ug/Kg
CD26886	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	410	100	100	100	ug/Kg
CD26886	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	410	100	100	100	ug/Kg
CD26886	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	410	100	100	100	ug/Kg
CD26886	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	410	100	100	100	ug/Kg
CD26886	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	2100	410	100	100	100	ug/Kg
CD26887	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	2200	360	100	100	100	ug/Kg
CD26887	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	360	100	100	100	ug/Kg
CD26887	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	360	100	100	100	ug/Kg
CD26887	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	360	100	100	100	ug/Kg
CD26887	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	360	100	100	100	ug/Kg
CD26887	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	360	100	100	100	ug/Kg
CD26887	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	360	100	100	100	ug/Kg
CD26887	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	360	100	100	100	ug/Kg
CD26887	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	360	100	100	100	ug/Kg
CD26890	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	5900	100	100	100	ug/Kg
CD26890	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	5900	100	100	100	ug/Kg
CD26890	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	5900	100	100	100	ug/Kg
CD26890	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	5900	100	100	100	ug/Kg
CD26890	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	5900	100	100	100	ug/Kg
CD26890	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	5900	100	100	100	ug/Kg
CD26890	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	5900	100	100	100	ug/Kg
CD26890	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	5900	100	100	100	ug/Kg
CD26890	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	11000	5900	100	100	100	ug/Kg
CD26892	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	3700	540	100	100	100	ug/Kg
CD26892	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	540	100	100	100	ug/Kg
CD26892	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	540	100	100	100	ug/Kg
CD26892	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	540	100	100	100	ug/Kg
CD26892	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	540	100	100	100	ug/Kg
CD26892	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	540	100	100	100	ug/Kg
CD26892	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	540	100	100	100	ug/Kg
CD26892	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	540	100	100	100	ug/Kg
CD26892	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	540	100	100	100	ug/Kg

Monday, June 24, 2019

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCD26852 - GZACTENG

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CD26896	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	330	100	100	ug/Kg
CD26896	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	330	100	100	ug/Kg
CD26896	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	330	100	100	ug/Kg
CD26896	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	330	100	100	ug/Kg
CD26896	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	330	100	100	ug/Kg
CD26896	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	330	100	100	ug/Kg
CD26896	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1300	330	100	100	ug/Kg
CD26896	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	330	100	100	ug/Kg
CD26896	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	330	100	100	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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: GZA GeoEnvironmental, Inc.

Project Location: DANIELS MILL

Project Number:

Laboratory Sample ID(s): CD26852, CD26853,

Sampling Date(s): 6/3/2019, 6/4/2019

CD26855, CD26858, CD26860-CD26862, CD26864, CD26866, CD26868, CD26870, CD26872, CD26873, CD26876, CD26878, CD26880, CD26882, CD26884, CD26886-CD26888, CD26890, CD26892, CD26894, CD26896, CD26898

List RCP Methods Used (e.g., 8260, 8270, et cetera) 8082

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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1A	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1B	<i>VPH and EPH methods only:</i> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Section: PCB Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Monday, June 24, 2019

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



RCP Certification Report

June 24, 2019

SDG I.D.: GCD26852

PCB Narration

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

QC Batch 482099 (Samples: CD26882, CD26884, CD26886, CD26888, CD26890, CD26892, CD26894, CD26898): -----

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. (PCB-1260)

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) (Confirmation), % TCMX (Surrogate Rec) (Confirmation))

QC Batch 482564 (Samples: CD26864, CD26896): -----

One or more surrogates is outside of criteria. (% DCBP (Surrogate Rec), % DCBP (Surrogate Rec) (Confirmation))

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. (PCB-1260)

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. (PCB-1016, PCB-1260)

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), % DCBP (Surrogate Rec) (Confirmation), % TCMX (Surrogate Rec), % TCMX (Surrogate Rec) (Confirmation))

QC Batch 483699 (Samples: CD26859, CD26874, CD26875, CD26879, CD26885, CD26891, CD26897): -----

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

Instrument:

AU-ECD1 06/06/19-1

Saadia Chudary, Chemist 06/06/19

CD26860

The initial calibration (PC531AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC531BI) 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-ECD1 06/11/19-1

Saadia Chudary, Chemist 06/11/19

CD26896

The initial calibration (PC531AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC531BI) 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 06/20/19-1

Saadia Chudary, Chemist 06/20/19

CD26854

The initial calibration (PC617AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC617BI) RSD for the compound list was less than 20% except for the following compounds: None.



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



RCP Certification Report

June 24, 2019

SDG I.D.: GCD26852

PCB Narration

The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

AU-ECD3 06/07/19-1 Saadia Chudary, Chemist 06/07/19

CD26882

The initial calibration (PC423AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC423BI) 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-ECD3 06/18/19-1 Saadia Chudary, Chemist 06/18/19

CD26891

The initial calibration (PC423AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC423BI) 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-ECD48 06/06/19-1 Saadia Chudary, Chemist 06/06/19

CD26853

The initial calibration (PC603AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC603BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds:

Samples: CD26853

Preceding CC 606B038 - None.

Succeeding CC 606B051 - TCMX SURR -18%L (15%)

AU-ECD48 06/07/19-1 Saadia Chudary, Chemist 06/07/19

CD26852, CD26855, CD26858, CD26861, CD26872, CD26880

The initial calibration (PC603AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC603BI) 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-ECD48 06/10/19-1 Saadia Chudary, Chemist 06/10/19

CD26873, CD26878, CD26884, CD26887

The initial calibration (PC603AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC603BI) 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-ECD48 06/11/19-1 Saadia Chudary, Chemist 06/11/19

CD26864

The initial calibration (PC603AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC603BI) 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-ECD6 06/07/19-1 Saadia Chudary, Chemist 06/07/19

CD26862, CD26868, CD26870, CD26876

The initial calibration (PC524AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC524BI) 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-ECD6 06/10/19-1 Saadia Chudary, Chemist 06/10/19

CD26866, CD26894, CD26898



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



RCP Certification Report

June 24, 2019

SDG I.D.: GCD26852

PCB Narration

The initial calibration (PC524AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC524BI) 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-ECD6 06/18/19-1 Saadia Chudary, Chemist 06/18/19

CD26859, CD26874, CD26875, CD26879, CD26885, CD26897

The initial calibration (PC614AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC614BI) 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-ECD6 06/20/19-1 Saadia Chudary, Chemist 06/20/19

CD26893

The initial calibration (PC614AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC614BI) 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-ECD8 06/07/19-1 Saadia Chudary, Chemist 06/07/19

CD26886, CD26888, CD26890, CD26892

The initial calibration (PC513AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC513BI) 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 481904 (CD25902)

CD26861

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 482080 (CD25154)

CD26862, CD26866, CD26868, CD26870, CD26872, CD26873, CD26876, CD26878, CD26880

All LCS recoveries were within 40 - 140 with the following exceptions: None.
This batch consists of a Blank, LCS, MS and MSD.

Batch 482564 (CD25883)

CD26864, CD26896

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: % DCBP (Surrogate Rec)(162%), % DCBP (Surrogate Rec) (Confirmation)(161%), PCB-1260(143%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: % DCBP (Surrogate Rec)(88.0%), % DCBP (Surrogate Rec) (Confirmation)(81.2%), % TCMX (Surrogate Rec)(108.1%), % TCMX (Surrogate Rec) (Confirmation)(100.0%), PCB-1016(94.9%), PCB-1260(81.8%)

Batch 484095 (CD36927)

CD26854, CD26893

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.



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Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

June 24, 2019

SDG I.D.: GCD26852

PCB Narration

Due to PCB in the unspiked sample, MS/MSD could not be reported.

QC (Site Specific):

Batch 481772 (CD26887)

CD26852, CD26853, CD26855, CD26858, CD26860

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

Batch 482099 (CD26882)

CD26882, CD26884, CD26886, CD26888, CD26890, CD26892, CD26894, CD26898

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: % DCBP (Surrogate Rec) (Confirmation)(42.1%), % TCMX (Surrogate Rec) (Confirmation)(32.5%), PCB-1260(32.9%)
All MS recoveries were within 40 - 140 with the following exceptions: None.
This batch consists of a Blank, LCS, LCSD and MS.

Batch 482279 (CD26887)

CD26887

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

Batch 483699 (CD26874)

CD26859, CD26874, CD26875, CD26879, CD26885, CD26891, CD26897

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All MS recoveries were within 40 - 140 with the following exceptions: None.
All MSD recoveries were within 40 - 140 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: % TCMX (Surrogate Rec)(84.1%), % TCMX (Surrogate Rec) (Confirmation)(80.3%)
The Batch consists of a Blank, LCS, MS and MSD

Temperature Narration

The samples were received at 4.1C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



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

Cooler: Yes No
 Coolant: IPK ICE
 Temp: 41°C Pg 2 of 54
 Data Delivery/Contact Options: ASU

Customer: GZA Geo Environmental Inc.
 Address: 95 Chestnutbury Boulevard
 Third Floor
 Chestnutbury CT 06033

Project: Samuels Mill
 Report to: Ben Bach
 Invoice to: Ben Bach
 QUOTE #: 04 # 45441.06

Project P.O.: _____

This section **MUST** be completed with **Bottle Quantities.**

Sampler's Signature: *A.A. Wick* Date: 2019-06-13

Client Sample - Information - Identification

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

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
260804	B-39 (6-9")	S	6/3/19	16:15	X
260805	B-39 (15-17")	S	6/3/19	16:25	X
260806	B-40 (4-7")	S	6/3/19	16:30	X
260807	B-40 (16-19")	S	6/3/19	16:45	X
260808	B-41 (1-4")	S	6/3/19	16:50	X
260809	B-41 (13-16")	S	6/3/19	17:00	X
260870	B-42 (7-10")	S	6/3/19	17:10	X
260871	B-42 (11-13")	S	6/3/19	17:15	X
260872	B-43 (3-6")	S	6/4/19	9:35	X
260873	B-44 (0-3")	S	6/4/19	10:10	X
260874	B-43 (15-18")	S	6/4/19	9:40	X
260875	B-44 (22.5-25.5")	S	6/4/19	10:15	X

Relinquished by: *A.A. Wick* Accepted by: *[Signature]*

Date: 2019-06-04 Time: 18:50

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

* SURCHARGE APPLIES

RI: Direct Exposure (Residential) GW Other

GT: RCP Cert GW Protection SW Protection GA Mobility GB Mobility Residential DEC I/C DEC Other *Send*

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

Data Format: Excel PDF GIS/Key EQUIS Other

Data Package: Tier II Checklist Full Data Package* Phoenix Std Report Other

* SURCHARGE APPLIES

State where samples were collected: CT

Comments, Special Requirements or Regulations:
 * All detection limits shall be 0.1 mg/kg

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



Customer: GZA GeoEnvironmental, Inc.
 Address: 95 Glenbury Boulevard
West Fleet
Glenbury Ct 06033

Project: Damich Mill
 Report to: Ben Bach
 Invoice to: Ben Bach
 QUOTE # 24 #4544106

Temp: 41 °C Pg 4 of 8
 Cooler: Yes No
 Coolant: IPK ICE
 Data Delivery/Contact Options: Ag

Fax:
 Phone:
 Email: benbach@phoenixlabs.com
 Project P.O.: _____
This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification
 Sampler's Signature: A. A. Wilch Date: 2019-06-04

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 X=(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request	GL Amber 8 w/HP04	GL Soil VOA Vials [Inertrol] [H2O]	GL Soil container (oz)	40 ml VOA Vial [As Is] [H2SO4]	PL Amber 1000ml [As Is] [HCl]	PL H2SO4 [1250ml] [As Is] [H2SO4]	PL HNO3 250ml [1500ml] [1000ml]	Bacteria Bottle w/Info
26888	B-50 (4-7")	S	2019-06-04	13:25	X								
26889	B-50 (16-19")	S	2019-06-04	13:30	X								
26890	B-51 (1-4")	S	2019-06-04	14:05	X								
26891	B-51 (13-16")	S	2019-06-04	14:20	X								
26892	B-52 (6-9")	S	2019-06-04	14:25	X								
26893	B-52 (13-16")	S	2019-06-04	14:30	X								
26894	B-53 (7-10")	S	2019-06-04	15:25	X								
26895	B-53 (21-22")	S	2019-06-04	15:30	X								
26896	B-54 (14-21")	S	2019-06-04	15:35	X								
26897	B-54 (30-33")	S	2019-06-04	15:40	X								
26898	B-55 (8-11")	S	2019-06-04	16:50	X								
26899	B-55 (16-19")	S	2019-06-04	16:55	X								

Relinquished by: A. A. Wilch Accepted by: [Signature]
 Date: 2019-06-04 Time: 16:50
 Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other
 * SURCHARGE APPLIES

Analysis Request: TOXIC ANALYSIS (PPE)

RI Direct Exposure (Residential) GW Other

CT RCP Cert GW Protection SW Protection GA Mobility GB Mobility Residential DEC I/C DEC Other see table

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

Data Format: Excel PDF GIS/Key EQUIS Other

Data Package: Tier II Checklist Full Data Package* Phoenix Std Report Other

* SURCHARGE APPLIES

Comments, Special Requirements or Regulations:
* All detection limits shall be 0.1 mg/kg



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

CHAIN OF CUSTODY RECORD

Customer: GZA GeoEnvironmental
 Address: 95 Glastonbury Blvd
Glastonbury CT 06033

Project: Daniels Mill
 Report to: Ben Rich
 Invoice to: Ben Rich
 QUOTE # Jan 2 45741-06

Project P.O.: 45741-06
 This section MUST be completed with Bottle Quantities.

Client Sample Information - Identification
 Date: 6/3/19
 Signature: [Signature]

Matrix Code:
 DM=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SF=Settlement SL=Sludge S=Soil SP=Solid W=Water OIL=Oil
 B=Bulk L=Liquid X = (Other)

PHOENIX USE ONLY	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
260852	B-23A (6-9")	S	6/3/19	1000	X
260853	B-23A (12-15")	S	6/3/19	1015	X
260854	B-23A (21-24")	S	6/3/19	1030	X
260855	B-23A (6-9")	S	6/3/19	1045	X
260856	B-22A (12-15")	S	6/3/19	1100	X
260857	B-22A (21-24")	S	6/3/19	1115	X
260858	B-22A (30-33")	S	6/3/19	1130	X
260859	B-22A (36-39")	S	6/3/19	1145	X
260860	B-35L (6-9")	S	6/3/19	1200	X
260861	B-35L (10.5-13.5")	S	6/7/19	1205	X
260862	B-38 (7-10")	S	6/3/19	15:15	X
260863	B-38 (14-21")	S	6/3/19	16:00	X

Relinquished by: [Signature]
 Accepted by: [Signature]
 Date: 26-06-09 Time: 18:50

Comments: Special Requirements or Regulations:
 * All data to be provided by limits shall be 0.1 mg/kg

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard

State where samples were collected: CT

* SURCHARGE APPLIES

Cooler: Yes No
 PK ICE
 Temp: 4.6 °C Pg 1 of 8
 Data Delivery/Contact Options: AK
 Fax:
 Phone:
 Email: BenRich@GZA.com



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

CHAIN OF CUSTODY RECORD

Client: G2A Geo Environmental, Inc.
 Address: 95 Colerbury Boulevard
Third Floor
Colerbury, CT 06033

Customer: G2A Geo Environmental, Inc.
 Address: 95 Colerbury Boulevard
Third Floor
Colerbury, CT 06033

Project: Quantity #11
 Report to: Ben Reilly
 Invoice to: Ben Reilly
 QUOTE # 204 # 45111.06

Project P.O. 204 # 45111.06

This section MUST be completed with Bottle Quantities.

Matrix Code: DM=Drinking Water, GW=Ground Water, SM=Surface Water, WM=Waste Water, RW=Raw Water, SE=Sediment, SL=Sludge, S=Soil, SD=Solid, W=Wipe, OIL=Oil, B=Bulk, L=Liquid, X= (Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
208064	B-39 (6-9")	S	6/3/19	16:15
208065	B-37 (6-9")	S	6/3/19	16:25
208066	B-40 (4-7")	S	6/3/19	16:30
208067	B-40 (16-19")	S	6/3/19	16:45
208068	B-41 (4-4")	S	6/3/19	16:50
208069	B-41 (13-16")	S	6/3/19	17:00
208070	B-42 (7-10")	S	6/3/19	17:10
208071	B-42 (11-13")	S	6/3/19	17:15
208072	B-43 (3-6")	S	6/4/19	9:35
208073	B-44 (0-3")	S	6/4/19	10:10
208074	B-43 (15-18")	S	6/4/19	1:40
208075	B-44 (22.5-25.5")	S	6/4/19	10:15

Analysis Request: Asst. (Groundwater) (11)

GL Amber 6 oz water/DO
 GL VOA Vial 1 methanol | 1 HD
 GL Soil container 1 | 2
 40 ml VOA Vial 1 or 15
 GL Amber 100ml | 14 15 | 142SD4
 PL A1a | 120ml | 150ml | 150ml
 PL H2SO4 | 250ml | 150ml
 PL HNO3 250ml
 PL HNO3 250ml
 Plastic bottle with
 Plastic bottle with

Requester by:	Accepted by:	Date:	Time:	RI	CI	MA	Data Format
<u>A. Will</u>	<u>[Signature]</u>	<u>2018-06-04</u>	<u>18:50</u>	<input type="checkbox"/> Direct Exposure (Residential)	<input type="checkbox"/> RCP Cert	<input type="checkbox"/> MCP Certification	<input type="checkbox"/> Excel <input checked="" type="checkbox"/> PDF <input type="checkbox"/> GIS/Key <input type="checkbox"/> EQUIS <input type="checkbox"/> Other

Components, Special Requirements or Regulations:
* All detection limits shall be 0.1 mg/kg

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard

State where samples were collected: CT

* SURCHARGE APPLIES



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

CHAIN OF CUSTODY RECORD

Customer: GZA GeoEnvironmental, Inc.
 Address: 95 Graftonbury Boulevard
Third Floor
Quincy, CT 06035

Project: Quincy Mill
 Report to: Ben Kelly
 Invoice to: Ben Kelly
 QUOTE # 09-4544.05

Project P.O.: _____
 This section **MUST** be completed with Bottle Quantities.

Sampler's Signature: [Signature] Date: 2014-02-04

Matrix Code: GW-Ground Water SM-Surface Water WM-Waste Water
DM-Drinking Water RW-Raw Water SE-Sediment SL-Sludge S-Soil SD-Solid W-Wipe DL-Oil
B-Bulk L-Liquid X = (Other)

PHOENIX USE ONLY	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request	RI	CT	MA	Data Format
26876	B-45 (5.5" x 9.5")	S	2014-02-04	10:25	X				
26877	B-45 (3.5" x 20.5")	S	2014-02-04	10:30	X				
26878	B-46 (4-7")	S	2014-02-04	10:45	X				
26879	B-46 (36-19")	S	2014-02-04	10:50	X				
26880	B-47 (8-19")	S	2014-02-04	10:55	X				
26881	B-47 (20-23")	S	2014-02-04	11:55	X				
26882	B-48 (4-7")	S	2014-02-04	12:15	X				
26883	B-48 (4-14")	S	2014-02-04	12:25	X				
26884	B-49 (4-7")	S	2014-02-04	13:05	X				
26885	B-49 (46-19")	S	2014-02-04	13:45	X				
26886	B-56 (8-10")	S	2014-02-04	17:10	X				
26887	GZ-99	S	2014-02-04	—	X				

Relinquished by: [Signature] Accepted by: [Signature] Date: 2014-02-04 Time: 18:50

Comments: Special Requirements or Regulations: * All detection limits shall be 0.2 mg/kg

Turnaround Time: 1 Day* 2 Days* 3 Days* Standard

State where samples were collected: CT

Direct Exposure (Residential) GW Other

RCP Cert GW-1 GW-2 GW-3 S-1 GW-1 S-1 GW-2 S-1 GW-3 S-2 GW-1 S-2 GW-2 S-2 GW-3 S-3 GW-1 S-3 GW-2 S-3 GW-3 MWRRA eSMART Other

Data Package Excel PDF GIS/Key EQUIS Other

Full Data Package* Phoenix Std Report

* SURCHARGE APPLIES



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

CHAIN OF CUSTODY RECORD

Customer: 624 (S&B) Environmental, Inc.
 Address: 95 Cloughway Boulevard
Third Floor
Clonbury CT 06033

Project: Daniel Hill
 Report to: Ben Reah
 Invoice to: Ben Reah
 QUOTE # 59 # 4544126

Project P.O.: Proforma, Check # 25606

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

State where samples were collected: OR

Sampler's Signature: [Signature] Date: 2019-06-01

Analysis Request

Matrix Code:
 DM=Drinking Water GW=Ground Water SM=Surface Water WM=Waste Water
 RM=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil
 B=Bulk L=Liquid X = (Other)

PHOENIX USE ONLY	SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampling	Analysis Request	RI	CI	MA	Data Format
	26888	R-50 (4-7")	S	2019-06-01	13:25	X				
	26889	R-50 (16-19")	S	2019-06-01	13:30	X				
	26890	R-51 (1-4")	S	2019-06-01	14:15	X				
	26891	R-52 (13-16")	S	2019-06-01	14:20	X				
	26892	R-52 (6-9")	S	2019-06-01	14:25	X				
	26893	R-52 (3-6")	S	2019-06-01	14:30	X				
	26894	D-53 (7-10")	S	2019-06-01	15:25	X				
	26895	D-53 (21-22")	S	2019-06-01	15:30	X				
	26896	R-54 (14-17")	S	2019-06-01	15:35	X				
	26897	R-54 (20-23")	S	2019-06-01	15:40	X				
	26898	R-55 (8-11")	S	2019-06-01	16:50	X				
	26899	R-55 (16-19")	S	2019-06-01	16:55	X				

Relinquished by: [Signature] Accepted by: [Signature] Date: 2019-06-01 Time: 18:50

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

State where samples were collected: OR

• SURCHARGE APPLIES

Bobbi Aloisa

From: Benjamin Rach <Benjamin.Rach@gza.com>
Sent: Monday, June 17, 2019 10:42 AM
To: Bobbi Aloisa
Subject: additional analysis request
Attachments: 1855_001.pdf

Good Morning Bobbi,

Congrats on your son getting promoted. I saw you and Keith at the ceremony. My daughter Maddox is off to E.O. Smith next year. I can't believe they are in high school now!!

Anyways, down to business. I need to request some additional analysis via manual Soxhlet extraction. See attached as marked.

Thanks!

Sincerely,

Ben

Benjamin D. Rach

Project Manager

GZA | 95 Glastonbury Boulevard, 3rd Floor | Glastonbury, CT 06033

o: 860.858.3131 | c: 860.250.7327 | benjamin.rach@gza.com | www.gza.com | [LinkedIn](#)

GEOTECHNICAL | ENVIRONMENTAL | ECOLOGICAL | WATER | CONSTRUCTION MANAGEMENT

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"Change the things that can be changed, accept those that cannot, and have the wisdom to know the difference"
Dr. Richard Carlson

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For information about GZA GeoEnvironmental, Inc. and its services, please visit our website at www.gza.com.



Wednesday, June 26, 2019

Attn: Mr. Benjamin Rach
GZA GeoEnvironmental Inc
655 Winding Brook Drive
Suite 402
Glastonbury, CT 06033

Project ID: DANIELS
SDG ID: GCD41078
Sample ID#s: CD41078, CD41080, CD41082 - CD41083, CD41085

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.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

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

Sample Id Cross Reference

June 26, 2019

SDG I.D.: GCD41078

Project ID: DANIELS

Client Id	Lab Id	Matrix
B-57 (5.5-8.5``)	CD41078	SOIL
B-35A (21-24``)	CD41080	SOIL
B-23B (33-36``)	CD41082	SOIL
B-58 (10-13``)	CD41083	SOIL
B-22B (45-48``)	CD41085	SOIL



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

June 26, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by: AW
 Received by: B
 Analyzed by: see "By" below

Date

06/24/19
 06/24/19

Time

13:50
 16:47

Laboratory Data

SDG ID: GCD41078
 Phoenix ID: CD41078

Project ID: DANIELS
 Client ID: B-57 (5.5-8.5`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		06/24/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/24/19	XX/KL	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.072	mg/kg	2	06/25/19	SC	SW8082A
PCB-1221	ND	0.072	mg/kg	2	06/25/19	SC	SW8082A
PCB-1232	ND	0.072	mg/kg	2	06/25/19	SC	SW8082A
PCB-1242	ND	0.072	mg/kg	2	06/25/19	SC	SW8082A
PCB-1248	ND	0.072	mg/kg	2	06/25/19	SC	SW8082A
PCB-1254	0.09	0.072	mg/kg	2	06/25/19	SC	SW8082A
PCB-1260	ND	0.072	mg/kg	2	06/25/19	SC	SW8082A
PCB-1262	ND	0.072	mg/kg	2	06/25/19	SC	SW8082A
PCB-1268	ND	0.072	mg/kg	2	06/25/19	SC	SW8082A

QA/QC Surrogates

% DCBP	81		%	2	06/25/19	SC	30 - 150 %
% DCBP (Confirmation)	54		%	2	06/25/19	SC	30 - 150 %
% TCMX	80		%	2	06/25/19	SC	30 - 150 %
% TCMX (Confirmation)	61		%	2	06/25/19	SC	30 - 150 %

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

Comments:

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

June 26, 2019

Reviewed and Released by: Rashmi Makol, 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

June 26, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by: AW
 Received by: B
 Analyzed by: see "By" below

Date

06/24/19
 06/24/19

Time

14:45
 16:47

Laboratory Data

SDG ID: GCD41078
 Phoenix ID: CD41080

Project ID: DANIELS
 Client ID: B-35A (21-24`)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		06/24/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/24/19	XX/KL	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1221	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1232	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1242	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1248	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1254	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1260	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1262	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1268	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A

QA/QC Surrogates

% DCBP	80		%	2	06/25/19	SC	30 - 150 %
% DCBP (Confirmation)	52		%	2	06/25/19	SC	30 - 150 %
% TCMX	84		%	2	06/25/19	SC	30 - 150 %
% TCMX (Confirmation)	63		%	2	06/25/19	SC	30 - 150 %

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

June 26, 2019

Reviewed and Released by: Rashmi Makol, 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

June 26, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by: AW
 Received by: B
 Analyzed by: see "By" below

Date

06/24/19
 06/24/19

Time

15:00
 16:47

Laboratory Data

SDG ID: GCD41078
 Phoenix ID: CD41082

Project ID: DANIELS
 Client ID: B-23B (33-36``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		06/24/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/24/19	XX/KL	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1221	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1232	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1242	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1248	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1254	0.55	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1260	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1262	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1268	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A

QA/QC Surrogates

% DCBP	65		%	2	06/25/19	SC	30 - 150 %
% DCBP (Confirmation)	51		%	2	06/25/19	SC	30 - 150 %
% TCMX	57		%	2	06/25/19	SC	30 - 150 %
% TCMX (Confirmation)	54		%	2	06/25/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

June 26, 2019

Reviewed and Released by: Rashmi Makol, 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

June 26, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by: AW
 Received by: B
 Analyzed by: see "By" below

Date

06/24/19
 06/24/19

Time

15:25
 16:47

Laboratory Data

SDG ID: GCD41078
 Phoenix ID: CD41083

Project ID: DANIELS
 Client ID: B-58 (10-13``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	95		%		06/24/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/24/19	XX/KL	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.069	mg/kg	2	06/25/19	SC	SW8082A
PCB-1221	ND	0.069	mg/kg	2	06/25/19	SC	SW8082A
PCB-1232	ND	0.069	mg/kg	2	06/25/19	SC	SW8082A
PCB-1242	ND	0.069	mg/kg	2	06/25/19	SC	SW8082A
PCB-1248	ND	0.069	mg/kg	2	06/25/19	SC	SW8082A
PCB-1254	0.16	0.069	mg/kg	2	06/25/19	SC	SW8082A
PCB-1260	ND	0.069	mg/kg	2	06/25/19	SC	SW8082A
PCB-1262	ND	0.069	mg/kg	2	06/25/19	SC	SW8082A
PCB-1268	ND	0.069	mg/kg	2	06/25/19	SC	SW8082A

QA/QC Surrogates

% DCBP	60		%	2	06/25/19	SC	30 - 150 %
% DCBP (Confirmation)	47		%	2	06/25/19	SC	30 - 150 %
% TCMX	60		%	2	06/25/19	SC	30 - 150 %
% TCMX (Confirmation)	53		%	2	06/25/19	SC	30 - 150 %

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

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

Comments:

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Phyllis Shiller, Laboratory Director

June 26, 2019

Reviewed and Released by: Rashmi Makol, 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

June 26, 2019

FOR: Attn: Mr. Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by: AW
 Received by: B
 Analyzed by: see "By" below

Date

06/24/19
 06/24/19

Time

15:55
 16:47

Laboratory Data

SDG ID: GCD41078
 Phoenix ID: CD41085

Project ID: DANIELS
 Client ID: B-22B (45-48``)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	94		%		06/24/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/24/19	XX/KL	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1221	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1232	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1242	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1248	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1254	0.3	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1260	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1262	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A
PCB-1268	ND	0.07	mg/kg	2	06/25/19	SC	SW8082A

QA/QC Surrogates

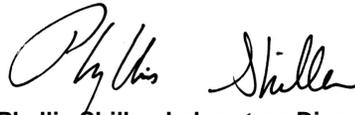
% DCBP	63		%	2	06/25/19	SC	30 - 150 %
% DCBP (Confirmation)	48		%	2	06/25/19	SC	30 - 150 %
% TCMX	67		%	2	06/25/19	SC	30 - 150 %
% TCMX (Confirmation)	56		%	2	06/25/19	SC	30 - 150 %

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

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

Comments:

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If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

June 26, 2019

Reviewed and Released by: Rashmi Makol, 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

June 26, 2019

QA/QC Data

SDG I.D.: GCD41078

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 484857 (ug/Kg), QC Sample No: CD40699 10X (CD41078, CD41080, CD41082, CD41083, CD41085)										
<u>Polychlorinated Biphenyls - Soil</u>										
PCB-1016	ND	170	60	70	15.4	92	84	9.1	40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	64	74	14.5	96	87	9.8	40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	104	%	58	90	43.2	103	94	9.1	30 - 150	30 r
% DCBP (Surrogate Rec) (Confirm)	110	%	66	89	29.7	102	93	9.2	30 - 150	30
% TCMX (Surrogate Rec)	97	%	58	85	37.8	101	96	5.1	30 - 150	30 r
% TCMX (Surrogate Rec) (Confirm)	100	%	61	82	29.4	98	94	4.2	30 - 150	30

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
 June 26, 2019

Wednesday, June 26, 2019

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCD41078 - GZA-PCB

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CD41082	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	0.55	0.07	0.1	0.1	mg/kg
CD41083	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	0.16	0.069	0.1	0.1	mg/kg
CD41085	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	0.3	0.07	0.1	0.1	mg/kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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.



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



Analysis Comments

June 26, 2019

SDG I.D.: GCD41078

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

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



Customer: QTA GeoEnvironmental, Inc.
Address: 95 Glenbury Boulevard, Third Floor
Glenbury, CT 06033

Project: Damels Mill

Report to: Ben Sachs
Invoice to: Ben Sachs
Phone #: _____
Fax #: _____

Data Delivery:
 Fax #:
 Email: ben.sachs@qta.com

Cooler: Yes No
 Coolant: IPK ICE
 Temp: 4.3 °C Pg 4 of 1

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [Signature]
Client Sample - Information - Identification: _____ Date: 2019-06-24
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

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
41078	B-57 (5.5-15')	S	2019-06-24	13:50	X
41079	B-57 (21.5-26.5')	S	2019-06-24	14:00	X
41080	B-55A (21-24')	S	2019-06-24	14:45	X
41081	B-35A (33-36')	S	2019-06-24	14:50	X
41082	B-23A (33-36')	S	2019-06-24	15:00	X
41083	B-58 (20-23')	S	2019-06-24	15:15	X
41084	B-58 (22-24')	S	2019-06-24	15:15	X
41085	B-22A (15-19')	S	2019-06-24	15:35	X

Relinquished by: [Signature]
Accepted by: [Signature]
Date: 2019-06-24 **Time:** 16:47

Comments, Special Requirements or Regulations:
* All detection limits shall be 0.1 mg/kg

RI Direct Exposure (Residential) GW Other

CT RCP Cert GW Protection SW Protection GA Mobility GB Mobility Residential DEC I/C DEC Other See Note

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

Data Format
 Excel PDF GIS/Key EQUIS Other

Data Package
 Tier II Checklist Full Data Package* Phoenix Std Report Other

State where samples were collected: CT

* SURCHARGE APPLIES



Monday, July 08, 2019

Attn: Benjamin Rach
GZA GeoEnvironmental Inc
655 Winding Brook Drive
Suite 402
Glastonbury, CT 06033

Project ID: DANIELS MILL
SDG ID: GCD32412
Sample ID#s: CD32412 - CD32418, CD32421 - CD32423

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 are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

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

Sample Id Cross Reference

July 08, 2019

SDG I.D.: GCD32412

Project ID: DANIELS MILL

Client Id	Lab Id	Matrix
B-25B (0-0.25)	CD32412	SOIL
B-25B (0.75-1)	CD32413	SOIL
B-7A (0-0.25)	CD32414	SOIL
B-7A (1.75-2)	CD32415	SOIL
B-7A (2.75-3)	CD32416	SOIL
B-27A (0-0.25)	CD32417	SOIL
B-27A (1.75-2)	CD32418	SOIL
B-36A (2.75-3)	CD32421	SOIL
B-36A (4-4.25)	CD32422	SOIL
B-36A (6-6.25)	CD32423	SOIL



Environmental Laboratories, Inc.
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Analysis Report

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

7:58
 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32412

Project ID: DANIELS MILL
 Client ID: B-25B (0-0.25)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		06/12/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/12/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.38	mg/kg	10	06/13/19	SC	SW8082A
PCB-1221	ND	0.38	mg/kg	10	06/13/19	SC	SW8082A
PCB-1232	ND	0.38	mg/kg	10	06/13/19	SC	SW8082A
PCB-1242	ND	0.38	mg/kg	10	06/13/19	SC	SW8082A
PCB-1248	ND	0.38	mg/kg	10	06/13/19	SC	SW8082A
PCB-1254	1.7	0.38	mg/kg	10	06/13/19	SC	SW8082A
PCB-1260	ND	0.38	mg/kg	10	06/13/19	SC	SW8082A
PCB-1262	ND	0.38	mg/kg	10	06/13/19	SC	SW8082A
PCB-1268	ND	0.38	mg/kg	10	06/13/19	SC	SW8082A

QA/QC Surrogates

% DCBP	Interference		%	10	06/13/19	SC	30 - 150 %
% DCBP (Confirmation)	120		%	10	06/13/19	SC	30 - 150 %
% TCMX	98		%	10	06/13/19	SC	30 - 150 %
% TCMX (Confirmation)	100		%	10	06/13/19	SC	30 - 150 %

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

Comments:

PCB Comment:

Due to matrix interference from non target compounds in the sample, surrogate could not be reported.

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

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

8:35
 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32413

Project ID: DANIELS MILL
 Client ID: B-25B (0.75-1)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	82		%		06/12/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/12/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.4	mg/kg	10	06/13/19	SC	SW8082A
PCB-1221	ND	0.4	mg/kg	10	06/13/19	SC	SW8082A
PCB-1232	ND	0.4	mg/kg	10	06/13/19	SC	SW8082A
PCB-1242	ND	0.4	mg/kg	10	06/13/19	SC	SW8082A
PCB-1248	ND	0.4	mg/kg	10	06/13/19	SC	SW8082A
PCB-1254	0.93	0.4	mg/kg	10	06/13/19	SC	SW8082A
PCB-1260	ND	0.4	mg/kg	10	06/13/19	SC	SW8082A
PCB-1262	ND	0.4	mg/kg	10	06/13/19	SC	SW8082A
PCB-1268	ND	0.4	mg/kg	10	06/13/19	SC	SW8082A

QA/QC Surrogates

% DCBP	98		%	10	06/13/19	SC	30 - 150 %
% DCBP (Confirmation)	Interference		%	10	06/13/19	SC	30 - 150 %
% TCMX	77		%	10	06/13/19	SC	30 - 150 %
% TCMX (Confirmation)	83		%	10	06/13/19	SC	30 - 150 %

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

PCB Comment:
Due to matrix interference from non target compounds in the sample, surrogate could not be reported.

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

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

8:45
 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32414

Project ID: DANIELS MILL
 Client ID: B-7A (0-0.25)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	90		%		06/12/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/12/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	1.8	mg/kg	50	06/13/19	SC	SW8082A
PCB-1221	ND	1.8	mg/kg	50	06/13/19	SC	SW8082A
PCB-1232	ND	1.8	mg/kg	50	06/13/19	SC	SW8082A
PCB-1242	ND	1.8	mg/kg	50	06/13/19	SC	SW8082A
PCB-1248	ND	1.8	mg/kg	50	06/13/19	SC	SW8082A
PCB-1254	2.8	1.8	mg/kg	50	06/13/19	SC	SW8082A
PCB-1260	ND	1.8	mg/kg	50	06/13/19	SC	SW8082A
PCB-1262	ND	1.8	mg/kg	50	06/13/19	SC	SW8082A
PCB-1268	ND	1.8	mg/kg	50	06/13/19	SC	SW8082A

QA/QC Surrogates

% DCBP	Diluted Out		%	50	06/13/19	SC	30 - 150 %
% DCBP (Confirmation)	Diluted Out		%	50	06/13/19	SC	30 - 150 %
% TCMX	Diluted Out		%	50	06/13/19	SC	30 - 150 %
% TCMX (Confirmation)	Diluted Out		%	50	06/13/19	SC	30 - 150 %

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

Comments:

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Phyllis Shiller, Laboratory Director

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

9:00
 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32415

Project ID: DANIELS MILL
 Client ID: B-7A (1.75-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	80		%		06/12/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/12/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	2.1	mg/kg	50	06/13/19	SC	SW8082A
PCB-1221	ND	2.1	mg/kg	50	06/13/19	SC	SW8082A
PCB-1232	ND	2.1	mg/kg	50	06/13/19	SC	SW8082A
PCB-1242	ND	2.1	mg/kg	50	06/13/19	SC	SW8082A
PCB-1248	ND	2.1	mg/kg	50	06/13/19	SC	SW8082A
PCB-1254	17	2.1	mg/kg	50	06/13/19	SC	SW8082A
PCB-1260	ND	2.1	mg/kg	50	06/13/19	SC	SW8082A
PCB-1262	ND	2.1	mg/kg	50	06/13/19	SC	SW8082A
PCB-1268	ND	2.1	mg/kg	50	06/13/19	SC	SW8082A

QA/QC Surrogates

% DCBP	Diluted Out		%	50	06/13/19	SC	30 - 150 %
% DCBP (Confirmation)	Diluted Out		%	50	06/13/19	SC	30 - 150 %
% TCMX	Diluted Out		%	50	06/13/19	SC	30 - 150 %
% TCMX (Confirmation)	Diluted Out		%	50	06/13/19	SC	30 - 150 %

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

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Phyllis Shiller, Laboratory Director

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

9:15
 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32416

Project ID: DANIELS MILL
 Client ID: B-7A (2.75-3)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	85		%		06/12/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/12/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.39	mg/kg	10	06/14/19	SC	SW8082A
PCB-1221	ND	0.39	mg/kg	10	06/14/19	SC	SW8082A
PCB-1232	ND	0.39	mg/kg	10	06/14/19	SC	SW8082A
PCB-1242	ND	0.39	mg/kg	10	06/14/19	SC	SW8082A
PCB-1248	ND	0.39	mg/kg	10	06/14/19	SC	SW8082A
PCB-1254	ND	0.39	mg/kg	10	06/14/19	SC	SW8082A
PCB-1260	ND	0.39	mg/kg	10	06/14/19	SC	SW8082A
PCB-1262	ND	0.39	mg/kg	10	06/14/19	SC	SW8082A
PCB-1268	ND	0.39	mg/kg	10	06/14/19	SC	SW8082A

QA/QC Surrogates

% DCBP	99		%	10	06/14/19	SC	30 - 150 %
% DCBP (Confirmation)	96		%	10	06/14/19	SC	30 - 150 %
% TCMX	104		%	10	06/14/19	SC	30 - 150 %
% TCMX (Confirmation)	105		%	10	06/14/19	SC	30 - 150 %

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

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

Comments:

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Phyllis Shiller, Laboratory Director

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

9:25
 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32417

Project ID: DANIELS MILL
 Client ID: B-27A (0-0.25)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		06/12/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/12/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	1.9	mg/kg	50	06/14/19	SC	SW8082A
PCB-1221	ND	1.9	mg/kg	50	06/14/19	SC	SW8082A
PCB-1232	ND	1.9	mg/kg	50	06/14/19	SC	SW8082A
PCB-1242	ND	1.9	mg/kg	50	06/14/19	SC	SW8082A
PCB-1248	ND	1.9	mg/kg	50	06/14/19	SC	SW8082A
PCB-1254	8.5	1.9	mg/kg	50	06/14/19	SC	SW8082A
PCB-1260	ND	1.9	mg/kg	50	06/14/19	SC	SW8082A
PCB-1262	ND	1.9	mg/kg	50	06/14/19	SC	SW8082A
PCB-1268	ND	1.9	mg/kg	50	06/14/19	SC	SW8082A

QA/QC Surrogates

% DCBP	Diluted Out		%	50	06/14/19	SC	30 - 150 %
% DCBP (Confirmation)	Diluted Out		%	50	06/14/19	SC	30 - 150 %
% TCMX	Diluted Out		%	50	06/14/19	SC	30 - 150 %
% TCMX (Confirmation)	Diluted Out		%	50	06/14/19	SC	30 - 150 %

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

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

Comments:

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Phyllis Shiller, Laboratory Director

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

9:40
 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32418

Project ID: DANIELS MILL
 Client ID: B-27A (1.75-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		06/12/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/12/19	XX/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.38	mg/kg	10	06/14/19	SC	SW8082A
PCB-1221	ND	0.38	mg/kg	10	06/14/19	SC	SW8082A
PCB-1232	ND	0.38	mg/kg	10	06/14/19	SC	SW8082A
PCB-1242	ND	0.38	mg/kg	10	06/14/19	SC	SW8082A
PCB-1248	ND	0.38	mg/kg	10	06/14/19	SC	SW8082A
PCB-1254	ND	0.38	mg/kg	10	06/14/19	SC	SW8082A
PCB-1260	ND	0.38	mg/kg	10	06/14/19	SC	SW8082A
PCB-1262	ND	0.38	mg/kg	10	06/14/19	SC	SW8082A
PCB-1268	ND	0.38	mg/kg	10	06/14/19	SC	SW8082A

QA/QC Surrogates

% DCBP	73		%	10	06/14/19	SC	30 - 150 %
% DCBP (Confirmation)	68		%	10	06/14/19	SC	30 - 150 %
% TCMX	81		%	10	06/14/19	SC	30 - 150 %
% TCMX (Confirmation)	78		%	10	06/14/19	SC	30 - 150 %

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

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

Comments:

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Phyllis Shiller, Laboratory Director

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

10:15
 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32421

Project ID: DANIELS MILL
 Client ID: B-36A (2.75-3)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		06/19/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/19/19	X/AK/KL	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.81	mg/kg	10	06/21/19	SC	SW8082A
PCB-1221	ND	0.81	mg/kg	10	06/21/19	SC	SW8082A
PCB-1232	ND	0.81	mg/kg	10	06/21/19	SC	SW8082A
PCB-1242	ND	0.81	mg/kg	10	06/21/19	SC	SW8082A
PCB-1248	ND	0.81	mg/kg	10	06/21/19	SC	SW8082A
PCB-1254	8.4	0.81	mg/kg	10	06/21/19	SC	SW8082A
PCB-1260	ND	0.81	mg/kg	10	06/21/19	SC	SW8082A
PCB-1262	ND	0.81	mg/kg	10	06/21/19	SC	SW8082A
PCB-1268	ND	0.81	mg/kg	10	06/21/19	SC	SW8082A

QA/QC Surrogates

% DCBP	93		%	10	06/21/19	SC	30 - 150 %
% DCBP (Confirmation)	89		%	10	06/21/19	SC	30 - 150 %
% TCMX	93		%	10	06/21/19	SC	30 - 150 %
% TCMX (Confirmation)	83		%	10	06/21/19	SC	30 - 150 %

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date Time
 06/12/19 10:40
 06/12/19 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32422

Project ID: DANIELS MILL
 Client ID: B-36A (4-4.25)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		06/19/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/21/19	BB/KL/SB	SW3540C

PCB (Soxhlet SW3540C)

PCB-1016	ND	0.79	mg/kg	10	06/24/19	SC	SW8082A
PCB-1221	ND	0.79	mg/kg	10	06/24/19	SC	SW8082A
PCB-1232	ND	0.79	mg/kg	10	06/24/19	SC	SW8082A
PCB-1242	ND	0.79	mg/kg	10	06/24/19	SC	SW8082A
PCB-1248	ND	0.79	mg/kg	10	06/24/19	SC	SW8082A
PCB-1254	1.4	0.79	mg/kg	10	06/24/19	SC	SW8082A
PCB-1260	ND	0.79	mg/kg	10	06/24/19	SC	SW8082A
PCB-1262	ND	0.79	mg/kg	10	06/24/19	SC	SW8082A
PCB-1268	ND	0.79	mg/kg	10	06/24/19	SC	SW8082A

QA/QC Surrogates

% DCBP	108		%	10	06/24/19	SC	30 - 150 %
% DCBP (Confirmation)	105		%	10	06/24/19	SC	30 - 150 %
% TCMX	101		%	10	06/24/19	SC	30 - 150 %
% TCMX (Confirmation)	96		%	10	06/24/19	SC	30 - 150 %

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental Inc
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: SOIL
 Location Code: GZA-PCB
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by:
 Received by: SW
 Analyzed by: see "By" below

Date

06/12/19
 06/12/19

Time

11:00
 13:42

Laboratory Data

SDG ID: GCD32412
 Phoenix ID: CD32423

Project ID: DANIELS MILL
 Client ID: B-36A (6-6.25)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87		%		06/27/19	ML	SW846-%Solid
Extraction for PCB	Completed				06/27/19	XX/KL/ML	SW3540C

Polychlorinated Biphenyls

PCB-1016	ND	0.38	mg/kg	10	06/29/19	PS	SW8082A
PCB-1221	ND	0.38	mg/kg	10	06/29/19	PS	SW8082A
PCB-1232	ND	0.38	mg/kg	10	06/29/19	PS	SW8082A
PCB-1242	ND	0.38	mg/kg	10	06/29/19	PS	SW8082A
PCB-1248	ND	0.38	mg/kg	10	06/29/19	PS	SW8082A
PCB-1254	0.84	0.38	mg/kg	10	06/29/19	PS	SW8082A
PCB-1260	ND	0.38	mg/kg	10	06/29/19	PS	SW8082A
PCB-1262	ND	0.38	mg/kg	10	06/29/19	PS	SW8082A
PCB-1268	ND	0.38	mg/kg	10	06/29/19	PS	SW8082A

QA/QC Surrogates

% DCBP	87		%	10	06/29/19	PS	30 - 150 %
% DCBP (Confirmation)	77		%	10	06/29/19	PS	30 - 150 %
% TCMX	58		%	10	06/29/19	PS	30 - 150 %
% TCMX (Confirmation)	60		%	10	06/29/19	PS	30 - 150 %

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

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.
If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 08, 2019

Reviewed and Released by: Rashmi Makol, 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

July 08, 2019

QA/QC Data

SDG I.D.: GCD32412

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 482998 (ug/Kg), QC Sample No: CD31418 10X (CD32412, CD32413, CD32414, CD32415, CD32416, CD32417, CD32418)										
<u>Polychlorinated Biphenyls - Soil</u>										
PCB-1016	ND	170	103	95	8.1	69	102	38.6	40 - 140	30 r
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	117	99	16.7	66	96	37.0	40 - 140	30 r
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	104	%	112	91	20.7	62	90	36.8	30 - 150	30 r
% DCBP (Surrogate Rec) (Confirm)	120	%	124	91	30.7	63	95	40.5	30 - 150	30 r
% TCMX (Surrogate Rec)	98	%	106	105	0.9	66	101	41.9	30 - 150	30 r
% TCMX (Surrogate Rec) (Confirm)	106	%	113	111	1.8	72	110	41.8	30 - 150	30 r

Comment:

This Batch consists of a Blank, LCS, LCSD and MS

QA/QC Batch 485435 (ug/Kg), QC Sample No: CD32423 10X (CD32423)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	170	103	99	4.0				40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	94	99	5.2				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	72	%	102	103	1.0				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	71	%	98	99	1.0				30 - 150	30
% TCMX (Surrogate Rec)	74	%	100	95	5.1				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	68	%	96	96	0.0				30 - 150	30

Comment:

Due to PCB in the unspiked sample, MS/MSD could not be reported.

QA/QC Batch 484121 (ug/Kg), QC Sample No: CD34415 10X (CD32421)

Polychlorinated Biphenyls - Soil

PCB-1016	ND	170	101	102	1.0	83	70	17.0	40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30

QA/QC Data

SDG I.D.: GCD32412

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	106	107	0.9	90	80	11.8	40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	113	%	115	116	0.9	97	88	9.7	30 - 150	30
% DCBP (Surrogate Rec) (Confirm	106	%	106	111	4.6	90	82	9.3	30 - 150	30
% TCMX (Surrogate Rec)	94	%	108	114	5.4	77	57	29.9	30 - 150	30
% TCMX (Surrogate Rec) (Confirm	91	%	106	113	6.4	76	58	26.9	30 - 150	30

QA/QC Batch 484529 (ug/Kg), QC Sample No: CD39932 10X (CD32422)

Polychlorinated Biphenyls - Soil

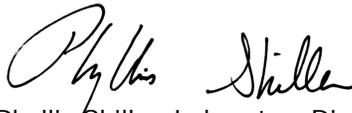
PCB-1016	ND	170	100	100	0.0	73	96	27.2	40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	110	104	5.6	85	106	22.0	40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	87	%	102	114	11.1	92	116	23.1	30 - 150	30
% DCBP (Surrogate Rec) (Confirm	90	%	114	109	4.5	88	112	24.0	30 - 150	30
% TCMX (Surrogate Rec)	<10	%	99	106	6.8	59	87	38.4	30 - 150	30
% TCMX (Surrogate Rec) (Confirm	2	%	106	103	2.9	58	85	37.8	30 - 150	30

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

s = This parameter is outside laboratory Blank Surrogate 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
 July 08, 2019

Monday, July 08, 2019

Criteria: CT: GAM, RC

State: CT

Sample Criteria Exceedances Report

GCD32412 - GZA-PCB

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CD32412	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1.7	0.38	1	1	mg/kg
CD32412	\$PCB_SOXR	PCB-1254	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	1.7	0.38	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	2.8	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1268	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1254	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	2.8	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1262	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1232	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1260	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1221	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1248	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1242	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.8	1	1	mg/kg
CD32414	\$PCB_SOXR	PCB-1016	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.8	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	17	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1232	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1260	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1016	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1248	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1268	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1242	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1262	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1254	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	17	2.1	1	1	mg/kg
CD32415	\$PCB_SOXR	PCB-1221	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	2.1	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	1.9	1	1	mg/kg

Monday, July 08, 2019

Criteria: CT: GAM, RC

State: CT

Sample Criteria Exceedances Report

GCD32412 - GZA-PCB

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CD32417	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	8.5	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1268	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1232	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1260	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1016	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1254	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	8.5	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1248	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1221	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1242	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.9	1	1	mg/kg
CD32417	\$PCB_SOXR	PCB-1262	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	ND	1.9	1	1	mg/kg
CD32421	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	8.4	0.81	1	1	mg/kg
CD32421	\$PCB_SOXR	PCB-1254	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	8.4	0.81	1	1	mg/kg
CD32422	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1.4	0.79	1	1	mg/kg
CD32422	\$PCB_SOXR	PCB-1254	CT / RSR DEC RES (mg/kg) / Pest/PCB/TPH	1.4	0.79	1	1	mg/kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance 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: GZA GeoEnvironmental Inc

Project Location: DANIELS MILL

Project Number:

Laboratory Sample ID(s): CD32412-CD32418

Sampling Date(s): 6/12/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 8082

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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1A	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1B	<u><i>VPH and EPH methods only:</i></u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Section: PCB Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Monday, July 08, 2019

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



RCP Certification Report

July 08, 2019

SDG I.D.: GCD32412

SDG Comments

Temperature above 6C:

The samples were received in a cooler with ice packs. The samples were delivered to the Laboratory within a short period of time after sample collection. Therefore no significant bias is suspected.

PCB Narration

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

QC Batch 482998 (Samples: CD32412, CD32413, CD32414, CD32415, CD32416, CD32417, CD32418): ----

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) (Confirmation))

Instrument:

AU-ECD1 06/13/19-1 Saadia Chudary, Chemist 06/13/19

CD32415

The initial calibration (PC531AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC531BI) 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-ECD1 06/14/19-1 Saadia Chudary, Chemist 06/14/19

CD32416, CD32418

The initial calibration (PC531AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC531BI) 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 06/24/19-1 Saadia Chudary, Chemist 06/24/19

CD32422

The initial calibration (PC617AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC617BI) 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-ECD29 06/20/19-1 Saadia Chudary, Chemist 06/20/19

CD32421

The initial calibration (PC611AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC611BI) 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-ECD3 06/13/19-1 Saadia Chudary, Chemist 06/13/19

CD32417

The initial calibration (PC423AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC423BI) 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-ECD5 06/13/19-1 Saadia Chudary, Chemist 06/13/19

CD32412, CD32413, CD32414

The initial calibration (PC508AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC508BI) 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-ECD5 06/29/19-1 Saadia Chudary, Chemist 06/29/19



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



RCP Certification Report

July 08, 2019

SDG I.D.: GCD32412

PCB Narration

CD32423

The initial calibration (PC627AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PC627BI) 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 482998 (CD31418)

CD32412, CD32413, CD32414, CD32415, CD32416, CD32417, CD32418

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: % DCBP (Surrogate Rec) (Confirmation)(30.7%)
This Batch consists of a Blank, LCS, LCSD and MS

Batch 484121 (CD34415)

CD32421

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 484529 (CD39932)

CD32422

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 485435 (CD32423)

CD32423

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.
Due to PCB in the unspiked sample, MS/MSD could not be reported.

Temperature Narration

The samples were received at 8.5C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



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

CHAIN OF CUSTODY RECORD

Cooler: Yes No
 Coolant: IPK ICE
 Temp 25°C Pg 1 of 2

Data Delivery/Contact Options:

Fax:
 Phone:
 Email: benjamin.fcd@phoenixlabs.com

Project P.O. #: 05-004541.06

Project: DAVE'S MALL

Report to: DEM RACH

Invoice to: ↓

QUOTE #

This section **MUST** be completed with **Bottle Quantities.**

Customer: G2A
 Address: 95 GUNTONBURY BLVD, 3rd Floor
GUNTONBURY, CT

Client Sample - Information - Identification
 Sampler's Signature: Anthony Sami Date: 6/12/19

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 X=(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request
32412	B-25B (0-0.25)	S	6/12/19	0758	X
32413	B-25B (0.25-1)			0825	X
32414	B-7A (0-0.25)			0845	X
32415	B-7A (1.75-2)			0900	X
32416	B-7A (2.75-3)			0915	X
32417	B-27A (0-0.25)			0925	X
32418	B-27A (1.75-2)			0940	X
32419	B-36A (0-0.25)			0950	X
32420	B-36A (1.75-2)			1005	X
32421	B-36A (2.75-3)			1015	X
32422	B-36A (4-4.25)			1040	X
32423	B-36A (5-6.25)			1100	X

Analysis Request
PCB (new) (2)
HOV

Relinquished by: Anthony Sami Accepted by: Kristal Kay Date: 6/12/19 Time: 13:42

Turnaround Time:
 1 Day*
 2 Days*
 3 Days*
 Standard
 Other

Comments, Special Requirements or Regulations:
1. EXTRA VOLUME FOR M/S/RD

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

GI: RCP Cert
 GW Protection
 SW Protection
 GA Mobility
 GB Mobility
 Residential DEC
 I/C DEC
 Other

RI: Direct Exposure (Residential)
 GW
 Other

Data Format:
 Excel
 PDF
 GIS/Key
 EQUIS
 Other

Data Package:
 Tier II Checklist
 Full Data Package*
 Phoenix Std Report
 Other

* SURCHARGE APPLIES

State where samples were collected: CT



567 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0923
 Client Services (860) 645-8726

CHAIN OF CUSTODY RECORD

Cooler: Yes No
 Temp: 5°C Pg. 2 of 2
 Date Delivered/Contact Options: Fax Phone Email

Customer: G2A
 Address: 95 EAST QUEBECY RIVD 3RD FLR
GREENBURY, CT

Project: PHASE 11
 Report to: NEW BRX11
 Invoice to: ↓
 QUOTE #

Project P.O. #: 01-0415411-06
 This section MUST be completed with Bottle Quantities.

Sampler's Signature: [Signature] Date: 6/12/19

Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RM=Raw Water SES=Settled Sl-Sludge S-Sol Sol-Solid W=WP=Oil-Sol
B=Bulk L=Liquid X=(Other)

PHOENIX USE ONLY	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request	Remarks
32412	B-25B (0-0.25)	S	6/12/19	07:58	X	
32413	B-25B (0.25-1)			08:35	X	
32414	B-7A (0-0.25)			08:45	X	
32415	B-7A (0.25-2)			09:00	X	
32416	B-7A (2.25-2)			09:15	X	
32417	B-27A (0-0.25)			09:25	X	
32418	B-27A (0.25-2)			09:40	X	
32419	B-36A (0-0.25)			09:50	X	
32420	B-36A (0.25-2)			10:05	X	
32421	B-36A (2.25-2)			10:15	X	
32422	B-36A (4.25-2)			10:40	X	
32423	B-36A (6.25-2)			11:00	X	

Relinquished by: [Signature] Accepted by: KUSHAL H GUR Date: 6/12/19 Time: 13:42

Comments: Special Requirements or Regulations:
1 EXTRA VOLUME FOR M/AND

Turnaround Time: 1 Day* 2 Days* 3 Days* Standard Other

State where samples were collected: CT

Direct Exposure (Residential): RCP Cart MCP Certification MA Other

SW Protection: GW-1 GW-2 GW-3

GA Mobility: S-1 GW-1 S-1 GW-2 S-1 GW-3

GB Mobility: S-2 GW-1 S-2 GW-2 S-2 GW-3

Residential DEC: S-3 GW-1 S-3 GW-2 S-3 GW-3

I/C DEC: MWR eSMART Other

Data Format: Excel PDF GIS/Key EQUIS Other

Data Package: Tier II Checklist Full Data Package* Phoenix Std Report Other

50-15-1
 120-34

Sarah Bell

From: Benjamin Rach <Benjamin.Rach@gza.com>
Sent: Thursday, June 27, 2019 4:47 PM
To: Sarah Bell
Subject: Additional analysis request
Attachments: 0183_001.pdf

Can you please add the one additional sample for PCBs as marked?

Thanks a bunch!

Sincerely,

Ben

Benjamin D. Rach

Project Manager

GZA | 95 Glastonbury Boulevard, 3rd Floor | Glastonbury, CT 06033

o: 860.858.3131 | c: 860.250.7327 | benjamin.rach@gza.com | www.gza.com | [LinkedIn](#)

GEOTECHNICAL | ENVIRONMENTAL | ECOLOGICAL | WATER | CONSTRUCTION MANAGEMENT

Known for excellence. Built on trust.

"Change the things that can be changed, accept those that cannot, and have the wisdom to know the difference"
Dr. Richard Carlson

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For information about GZA GeoEnvironmental, Inc. and its services, please visit our website at www.gza.com.



APPENDIX D
GROUNDWATER SAMPLING LOGS

GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: MW-2
 Sample Date: 8/9/2017

PROJECT INFORMATION

Project Name: Daniels Mill Location: Vernon, CT File No. 45441.06

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 8/9/17 0945 Collector Initials: BAG
 Reference Point of Measurement: PVC Riser Steel Casing Ground Reference Elevation (feet) _____
 Well Completion: Stand Pipe Road Box Ground Elevation (feet) _____
 Difference Between PVC and Casing Top (feet): 0.97 Difference in Elevation (feet): _____
 Well Screened Interval (fbg) 24.73-34.73 (Reference Elevation - Ground Elevation)
 HACH Kit Type NA Other Field Method _____

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	33.70	34.67	
Depth to Water (feet):	30.93	31.9	
Standing Water in Well (feet):	2.77	2.77	

Total Purged Sample Volume 8.0 gallons or liters
 Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
 Well head vapors: VOCs (PID/FID) _____ ppmv Methane (FID/Other) _____ ppmv Other _____ ppmv

Sample Method: Bail Grab Pump Low Flow Purge Method: Bail Pump Flow-Thru Cell Vol: (460mL) Other: _____
 Pump Type: Electric Submersible Peristaltic Bladder Pump Other: _____

CALIBRATION DATA:

Temp/time (#1) _____ Temp/time (#2) _____
 Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (#1) 1413 Reading (#2) _____
 pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: (1/2) 4.00 pH 7: (1/2) 7.02 pH 10: (1/2) 10.03
 DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (#1) 100.30% Reading (#2) _____
 Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (#1) 1000/10/0.02 Reading (#2) _____
 ORP (mvolts): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (#1) 237.5 Reading (#2) _____

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time: 0955	-	1025	1055	1105	1110	1115				1115
Depth to Water (ft) below Ref. point (drawdown <0.3)	30.93	31.25	31.25	31.25	31.25	31.25				31.25
Volume Purged (L)		3.0	6.0	7.0	7.5	8.0				8.0
Purge Rate (ml/min)		100	100	100	100	100				100
Temperature (3%) °C		12.14	13.35	13.30	13.38	13.42				13.42
Spec. Cond. (3%) (µS)		802	790	798	800	804				804
Salinity (3%) (ppt)		0.40	0.39	0.39	0.39	0.39				0.39
DO (10%) (mg/L)		4.94	4.64	4.67	4.68	4.65				4.65
pH (+/- 0.1) (s.u.)		7.71	7.73	7.76	7.79	7.82				7.82
ORP** (+/- 10) (mvolts)		82.8	85.8	96.1	99.4	100.1				100.1
Turbidity (<5) (10%) (ntu)		77.23	10.55	8.42	4.37	4.02				4.02

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 31.75 Sample Time: 1115 Sample ID: MW-2
 (below grade ___ or ref. pt. X)

Analysis Method No. Bottles Bottle Type Vol. Preservation Handling
 RCRA 8 Metals 1 Plastic 250 mL HNO₃ Ice/Cooler

NOTES/OBSERVATIONS:

Color: Light brown-clear Odor: None Product Thickness: - Well Condition: Good
 (Call PM if present)

GROUNDWATER SAMPLING DATA SHEET

Well ID: MW-1
Sample Date: 6/11/2019

PROJECT INFORMATION

Project Name: Daniels Mill Location: 98 East Main St., Vernon, CT File No. 05.0045441.06

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 6/11/2019 / 1000 Collector Initials: AJT
Reference Point of Measurement: PVC Riser Steel Casing Ground Reference Elevation (feet) _____
Well Completion: Stand Pipe Road Box Ground Elevation (feet) _____
Difference Between PVC and Casing Top (feet): 0.6 Difference in Elevation (feet): _____
Well Screened Interval (ftg) 22.25-32.25 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method _____

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	31.70	32.30	
Depth to Water (feet):	19.51	20.11	
Standing Water in Well (feet):	12.19	12.19	

Total Purged Sample Volume 6.75 gallons or liters
Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) _____ ppmv Methane (FID/Other) _____ ppmv Other _____ ppmv

Sample Method: Bail Grab Pump Low Flow Purge Method: Bail Pump Flow-Thru Cell Vol: (460mL) Other 250 ml
Pump Type: Electric Submersible Peristaltic Bladder Pump Other:

CALIBRATION DATA:

	Instrument Model:	Standard Solution:	Temp/time (#1)	Temp/time (#2)
Specific Conductance:	YSI 556	1000	995	1000
pH (s.u.):	YSI 556	Reading: pH 4: (1/2) 4.67/4	pH 7: (1/2) 7.02/7.01	pH 10: (1/2) 10.49/10.04
DO (mg/L):	YSI 556	Standard Solution: %	Reading (#1) 86.80%	(#2) 100.00%
Turbidity (NTU):	Micro TPI	Standard Solution: 1000/10/0.02	Reading (#1) Calibrated	
ORP (mvolts):	YSI 556	Standard Solution: 200	Reading (#1) 236	(#2) 203.4

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1030	1100	1105	1110	1115					1115
Depth to Water (ft) below Ref. point (drawdown <0.3)	19.51	19.88	19.9	19.93	19.95					19.95
Volume Purged (L)		4.5	5.25	6	6.75					6.75
Purge Rate (ml/min)		150	150	150	150					150
Temperature (3%) °C		11.3	11.3	11.20	11.0					11.0
Spec. Cond. (3%) (µS)		1,261	1,257	1,253	1255					1255
Salinity (3%) (ppt)		-	-	-	-					-
DO (10%) (mg/L)		0.54	0.50	0.48	0.47					0.47
pH (+/- 0.1) (s.u.)		6.53	6.43	6.40	6.40					6.40
ORP** (+/- 10) (mvolts)		140.2	139	136.4	133.6					133.6
Turbidity (<5) (10%) (ntu)		3.4	2.88	1.05	1.36					1.36

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 25 Sample Time: 1115 Sample ID: MW-1
(below grade ___ or ref. pt. X)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
VOC	8260	9	VOA	40 mL	HCL	Ice/Cooler
ETPH		3	Amber	1-L	None	Ice/Cooler
PCBs		3	Amber	1-L	None	Ice/Cooler
PAHs	8270	6	Amber	1-L	None	Ice/Cooler
Total Pb & As		3	Plastic	250-mL	HNO3	Ice/Cooler
Dissolved Pb & As*		3	Plastic	250-mL	HNO3	Ice/Cooler

NOTES/OBSERVATIONS:

*Samples were field filtered, extra volume for MS/MSD.

Color: Clear Odor: None Product Thickness: - Well Condition: Good
(Call PM if present)



APPENDIX E
GROUNDWATER LABORATORY REPORTS



Wednesday, June 19, 2019

Attn: Benjamin Rach
GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd 3rd Fl
Glastonbury, CT 06033

Project ID: DANIEL'S MILL
SDG ID: GCD32090
Sample ID#s: CD32090 - CD32092

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.

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

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

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



SDG Comments

June 19, 2019

SDG I.D.: GCD32090

Volatile 8260 analysis:

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane do not meet GWP criteria, this compound is analyzed by GC/ECD to achieve this criteria.



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

Sample Id Cross Reference

June 19, 2019

SDG I.D.: GCD32090

Project ID: DANIEL'S MILL

Client Id	Lab Id	Matrix
MW-1	CD32090	GROUND WATER
MW-2	CD32091	GROUND WATER
TB061119	CD32092	GROUND WATER



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

Analysis Report

June 19, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: GROUND WATER
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by: AT
 Received by: CP
 Analyzed by: see "By" below

Date

06/11/19
 06/12/19

Time

11:15
 9:30

Laboratory Data

SDG ID: GCD32090
 Phoenix ID: CD32090

Project ID: DANIEL'S MILL
 Client ID: MW-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	06/13/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	06/13/19	EK	SW6010D
Lead (Dissolved)	< 0.002	0.002	mg/L	1	06/13/19	EK	SW6010D
Lead	0.002	0.002	mg/L	1	06/13/19	CPP	SW6010D
Extraction of CT ETPH	Completed				06/12/19	P/AK	SW3510C/SW3520C
PCB Extraction	Completed				06/13/19		SW3510C
Semi-Volatile Extraction	Completed				06/12/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				06/12/19	AG	SW3005A
Total Metals Digestion	Completed				06/12/19	AG	

TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	0.066	mg/L	1	06/13/19	JRB	CTETPH 8015D
Identification	ND		mg/L	1	06/13/19	JRB	CTETPH 8015D

QA/QC Surrogates

% n-Pentacosane	76		%	1	06/13/19	JRB	50 - 150 %
-----------------	----	--	---	---	----------	-----	------------

Polychlorinated Biphenyls

PCB-1016	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1221	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1232	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1242	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1248	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1254	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1260	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1262	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1268	ND	0.47	ug/L	1	06/14/19	SC	SW8082A

QA/QC Surrogates

% DCBP	106		%	1	06/14/19	SC	30 - 150 %
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Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP (Confirmation)	129		%	1	06/14/19	SC	30 - 150 %
% TCMX	103		%	1	06/14/19	SC	30 - 150 %
% TCMX (Confirmation)	110		%	1	06/14/19	SC	30 - 150 %
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	06/14/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	06/14/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	06/14/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	06/14/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	06/14/19	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	06/14/19	MH	SW8260C
Acetone	ND	25	ug/L	1	06/14/19	MH	SW8260C
Acrylonitrile	ND	0.50	ug/L	1	06/14/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	06/14/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	06/14/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	06/14/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	06/14/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	06/14/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ethylbenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	06/14/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	06/14/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	06/14/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	06/14/19	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	06/14/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	06/14/19	MH	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	100		%	1	06/14/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	06/14/19	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	06/14/19	MH	70 - 130 %
% Toluene-d8	100		%	1	06/14/19	MH	70 - 130 %
Client MS/MSD	Completed				06/14/19		

Semivolatiles by SIM, PAH

2-Methylnaphthalene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.28	ug/L	1	06/14/19	WB	SW8270D (SIM)
Anthracene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.07	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.45	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.28	ug/L	1	06/14/19	WB	SW8270D (SIM)
Chrysene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.09	ug/L	1	06/14/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Fluorene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	06/14/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.06	ug/L	1	06/14/19	WB	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Pyrene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	53		%	1	06/14/19	WB	30 - 130 %
% Nitrobenzene-d5	74		%	1	06/14/19	WB	30 - 130 %
% Terphenyl-d14	68		%	1	06/14/19	WB	30 - 130 %

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

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 19, 2019

Reviewed and Released by: Rashmi Makol, 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

June 19, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: GROUND WATER
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by: AT
 Received by: CP
 Analyzed by: see "By" below

Date

06/11/19
 06/12/19

Time

14:30
 9:30

Laboratory Data

SDG ID: GCD32090
 Phoenix ID: CD32091

Project ID: DANIEL'S MILL
 Client ID: MW-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	06/13/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	06/13/19	EK	SW6010D
Lead (Dissolved)	< 0.002	0.002	mg/L	1	06/13/19	EK	SW6010D
Lead	0.004	0.002	mg/L	1	06/13/19	CPP	SW6010D
Extraction of CT ETPH	Completed				06/12/19	P/AK	SW3510C/SW3520C
PCB Extraction	Completed				06/13/19		SW3510C
Semi-Volatile Extraction	Completed				06/12/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				06/12/19	AG	SW3005A
Total Metals Digestion	Completed				06/12/19	AG	

TPH by GC (Extractable Products)

Ext. Petroleum H.C. (C9-C36)	ND	0.066	mg/L	1	06/13/19	JRB	CTETPH 8015D
Identification	ND		mg/L	1	06/13/19	JRB	CTETPH 8015D

QA/QC Surrogates

% n-Pentacosane	61		%	1	06/13/19	JRB	50 - 150 %
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Polychlorinated Biphenyls

PCB-1016	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1221	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1232	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1242	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1248	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1254	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1260	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1262	ND	0.47	ug/L	1	06/14/19	SC	SW8082A
PCB-1268	ND	0.47	ug/L	1	06/14/19	SC	SW8082A

QA/QC Surrogates

% DCBP	85		%	1	06/14/19	SC	30 - 150 %
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Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% DCBP (Confirmation)	106		%	1	06/14/19	SC	30 - 150 %
% TCMX	99		%	1	06/14/19	SC	30 - 150 %
% TCMX (Confirmation)	105		%	1	06/14/19	SC	30 - 150 %
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	06/13/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	06/13/19	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	06/13/19	MH	SW8260C
Acetone	ND	25	ug/L	1	06/13/19	MH	SW8260C
Acrylonitrile	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	06/13/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	06/13/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
cis-1,2-Dichloroethene	2.0	1.0	ug/L	1	06/13/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	06/13/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C

Client ID: MW-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ethylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	06/13/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	06/13/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	06/13/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	06/13/19	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	06/13/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	101		%	1	06/13/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	06/13/19	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	06/13/19	MH	70 - 130 %
% Toluene-d8	102		%	1	06/13/19	MH	70 - 130 %
<u>Semivolatiles by SIM, PAH</u>							
2-Methylnaphthalene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.28	ug/L	1	06/14/19	WB	SW8270D (SIM)
Anthracene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.05	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.07	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.45	ug/L	1	06/14/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.28	ug/L	1	06/14/19	WB	SW8270D (SIM)
Chrysene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.09	ug/L	1	06/14/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Fluorene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	06/14/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.06	ug/L	1	06/14/19	WB	SW8270D (SIM)
Pyrene	ND	0.47	ug/L	1	06/14/19	WB	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
<u>QA/QC Surrogates</u>							
% 2-Fluorobiphenyl	53		%	1	06/14/19	WB	30 - 130 %
% Nitrobenzene-d5	74		%	1	06/14/19	WB	30 - 130 %
% Terphenyl-d14	64		%	1	06/14/19	WB	30 - 130 %

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

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 19, 2019

Reviewed and Released by: Rashmi Makol, 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

June 19, 2019

FOR: Attn: Benjamin Rach
 GZA GeoEnvironmental, Inc.
 95 Glastonbury Blvd 3rd Fl
 Glastonbury, CT 06033

Sample Information

Matrix: GROUND WATER
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#: 05.0045441.06

Custody Information

Collected by: AT
 Received by: CP
 Analyzed by: see "By" below

Date

06/11/19
 06/12/19

Time

10:20
 9:30

Laboratory Data

SDG ID: GCD32090
 Phoenix ID: CD32092

Project ID: DANIEL'S MILL
 Client ID: TB061119

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	06/13/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	06/13/19	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	06/13/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	25	ug/L	1	06/13/19	MH	SW8260C
Acrylonitrile	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	06/13/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	06/13/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	06/13/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	06/13/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	06/13/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	06/13/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	06/13/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	06/13/19	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	06/13/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	06/13/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	06/13/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	06/13/19	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	06/13/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	101		%	1	06/13/19	MH	70 - 130 %

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

Comments:

TRIP BLANK INCLUDED.

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Phyllis Shiller, Laboratory Director

June 19, 2019

Reviewed and Released by: Rashmi Makol, 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

June 19, 2019

QA/QC Data

SDG I.D.: GCD32090

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 483025 (mg/L), QC Sample No: CD32090 (CD32090, CD32091)													
<u>ICP Metals - Aqueous</u>													
Arsenic	BRL	0.004	<0.004	<0.004	NC	95.4	98.9	3.6	103	97.4	5.6	75 - 125	20
Lead	BRL	0.002	0.002	<0.002	NC	96.6	101	4.5	99.4	93.9	5.7	75 - 125	20
QA/QC Batch 483018 (mg/L), QC Sample No: CD32090 (CD32090, CD32091)													
<u>ICP Metals - Dissolved</u>													
Arsenic	BRL	0.004	<0.004	<0.004	NC	88.0	89.1	1.2	91.7	88.6	3.4	75 - 125	20
Lead	BRL	0.002	<0.002	<0.002	NC	90.1	91.0	1.0	89.2	86.7	2.8	75 - 125	20



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QA/QC Report

June 19, 2019

QA/QC Data

SDG I.D.: GCD32090

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 483030 (mg/L), QC Sample No: CD32090 (CD32090, CD32091)

TPH by GC (Extractable Products) - Ground Water

Ext. Petroleum H.C. (C9-C36)	ND	0.10	95	93	2.1	89	83	7.0	60 - 120	30
% n-Pentacosane	63	%	61	63	3.2	76	78	2.6	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 483313 (ug/L), QC Sample No: CD32090 (CD32090, CD32091)

Polychlorinated Biphenyls - Ground Water

PCB-1016	ND	0.050	104	91	13.3	104	109	4.7	40 - 140	20
PCB-1221	ND	0.050							40 - 140	20
PCB-1232	ND	0.050							40 - 140	20
PCB-1242	ND	0.050							40 - 140	20
PCB-1248	ND	0.050							40 - 140	20
PCB-1254	ND	0.050							40 - 140	20
PCB-1260	ND	0.050	113	91	21.6	112	116	3.5	40 - 140	20
PCB-1262	ND	0.050							40 - 140	20
PCB-1268	ND	0.050							40 - 140	20
% DCBP (Surrogate Rec)	77	%	103	89	14.6	103	106	2.9	30 - 150	20
% DCBP (Surrogate Rec) (Confirm	85	%	119	86	32.2	121	121	0.0	30 - 150	20
% TCMX (Surrogate Rec)	67	%	101	99	2.0	98	102	4.0	30 - 150	20
% TCMX (Surrogate Rec) (Confirm	70	%	109	101	7.6	107	109	1.9	30 - 150	20

Comment:

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

QA/QC Batch 483029 (ug/L), QC Sample No: CD32090 (CD32090, CD32091)

Semivolatiles by SIM, PAH - Ground Water

2-Methylnaphthalene	ND	0.50	59	60	1.7	60	63	4.9	30 - 130	20
Acenaphthene	ND	0.50	66	70	5.9	68	63	7.6	30 - 130	20
Acenaphthylene	ND	0.10	67	71	5.8	69	58	17.3	30 - 130	20
Anthracene	ND	0.10	76	79	3.9	75	69	8.3	30 - 130	20
Benz(a)anthracene	ND	0.02	87	90	3.4	83	75	10.1	30 - 130	20
Benzo(a)pyrene	ND	0.02	71	72	1.4	60	52	14.3	30 - 130	20
Benzo(b)fluoranthene	ND	0.02	85	89	4.6	75	67	11.3	30 - 130	20
Benzo(ghi)perylene	ND	0.02	77	77	0.0	62	56	10.2	30 - 130	20
Benzo(k)fluoranthene	ND	0.02	82	87	5.9	71	64	10.4	30 - 130	20
Chrysene	ND	0.02	73	76	4.0	68	63	7.6	30 - 130	20
Dibenz(a,h)anthracene	ND	0.02	98	99	1.0	78	72	8.0	30 - 130	20
Fluoranthene	ND	0.50	79	83	4.9	80	74	7.8	30 - 130	20
Fluorene	ND	0.10	71	76	6.8	73	69	5.6	30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	0.02	103	103	0.0	84	76	10.0	30 - 130	20
Naphthalene	ND	0.50	54	54	0.0	56	59	5.2	30 - 130	20
Phenanthrene	ND	0.06	65	68	4.5	67	62	7.8	30 - 130	20

QA/QC Data

SDG I.D.: GCD32090

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Pyrene	ND	0.07	80	85	6.1	81	71	13.2	30 - 130	20
% 2-Fluorobiphenyl	59	%	58	56	3.5	57	55	3.6	30 - 130	20
% Nitrobenzene-d5	80	%	79	81	2.5	81	81	0.0	30 - 130	20
% Terphenyl-d14	74	%	72	71	1.4	68	64	6.1	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 483451 (ug/L), QC Sample No: CD32090 (CD32090)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	92	95	3.2	98	92	6.3	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	86	90	4.5	99	91	8.4	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	93	98	5.2	101	95	6.1	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	93	98	5.2	103	94	9.1	70 - 130	30
1,1-Dichloroethane	ND	1.0	86	91	5.6	97	89	8.6	70 - 130	30
1,1-Dichloroethene	ND	1.0	88	93	5.5	105	96	9.0	70 - 130	30
1,1-Dichloropropene	ND	1.0	87	92	5.6	101	93	8.2	70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	86	94	8.9	94	89	5.5	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	88	95	7.7	96	92	4.3	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	87	94	7.7	96	89	7.6	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	87	90	3.4	94	88	6.6	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	99	100	1.0	104	93	11.2	70 - 130	30
1,2-Dibromoethane	ND	1.0	93	95	2.1	100	93	7.3	70 - 130	30
1,2-Dichlorobenzene	ND	1.0	89	92	3.3	96	89	7.6	70 - 130	30
1,2-Dichloroethane	ND	1.0	90	97	7.5	99	93	6.3	70 - 130	30
1,2-Dichloropropane	ND	1.0	91	97	6.4	102	94	8.2	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	87	90	3.4	95	89	6.5	70 - 130	30
1,3-Dichlorobenzene	ND	1.0	89	92	3.3	95	89	6.5	70 - 130	30
1,3-Dichloropropane	ND	1.0	90	94	4.3	98	90	8.5	70 - 130	30
1,4-Dichlorobenzene	ND	1.0	87	91	4.5	95	88	7.7	70 - 130	30
2,2-Dichloropropane	ND	1.0	91	95	4.3	105	96	9.0	70 - 130	30
2-Chlorotoluene	ND	1.0	85	90	5.7	95	89	6.5	70 - 130	30
2-Hexanone	ND	5.0	91	100	9.4	98	93	5.2	70 - 130	30
2-Isopropyltoluene	ND	1.0	88	89	1.1	93	86	7.8	70 - 130	30
4-Chlorotoluene	ND	1.0	87	91	4.5	96	90	6.5	70 - 130	30
4-Methyl-2-pentanone	ND	5.0	94	103	9.1	104	97	7.0	70 - 130	30
Acetone	ND	5.0	81	84	3.6	91	87	4.5	70 - 130	30
Acrylonitrile	ND	5.0	91	100	9.4	100	95	5.1	70 - 130	30
Benzene	ND	0.70	87	92	5.6	98	90	8.5	70 - 130	30
Bromobenzene	ND	1.0	87	92	5.6	95	90	5.4	70 - 130	30
Bromochloromethane	ND	1.0	89	95	6.5	99	92	7.3	70 - 130	30
Bromodichloromethane	ND	0.50	93	95	2.1	101	93	8.2	70 - 130	30
Bromoform	ND	1.0	110	119	7.9	119	111	7.0	70 - 130	30
Bromomethane	ND	1.0	122	127	4.0	128	133	3.8	70 - 130	30
Carbon Disulfide	ND	1.0	93	96	3.2	106	98	7.8	70 - 130	30
Carbon tetrachloride	ND	1.0	92	97	5.3	105	98	6.9	70 - 130	30
Chlorobenzene	ND	1.0	89	92	3.3	97	91	6.4	70 - 130	30
Chloroethane	ND	1.0	88	91	3.4	98	94	4.2	70 - 130	30
Chloroform	ND	1.0	83	87	4.7	95	88	7.7	70 - 130	30
Chloromethane	ND	1.0	92	93	1.1	99	91	8.4	70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	88	92	4.4	99	90	9.5	70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	96	101	5.1	104	98	5.9	70 - 130	30
Dibromochloromethane	ND	0.50	99	104	4.9	107	98	8.8	70 - 130	30

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QA/QC Data

SDG I.D.: GCD32090

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Dibromomethane	ND	1.0	94	96	2.1	100	94	6.2	70 - 130	30
Dichlorodifluoromethane	ND	1.0	98	103	5.0	109	101	7.6	70 - 130	30
Ethylbenzene	ND	1.0	87	90	3.4	97	90	7.5	70 - 130	30
Hexachlorobutadiene	ND	0.40	94	96	2.1	98	92	6.3	70 - 130	30
Isopropylbenzene	ND	1.0	86	90	4.5	96	92	4.3	70 - 130	30
m&p-Xylene	ND	1.0	88	91	3.4	98	92	6.3	70 - 130	30
Methyl ethyl ketone	ND	5.0	94	93	1.1	101	95	6.1	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	85	90	5.7	94	86	8.9	70 - 130	30
Methylene chloride	ND	1.0	87	92	5.6	98	89	9.6	70 - 130	30
Naphthalene	ND	1.0	90	100	10.5	100	93	7.3	70 - 130	30
n-Butylbenzene	ND	1.0	91	91	0.0	96	91	5.3	70 - 130	30
n-Propylbenzene	ND	1.0	88	92	4.4	97	92	5.3	70 - 130	30
o-Xylene	ND	1.0	90	92	2.2	98	91	7.4	70 - 130	30
p-Isopropyltoluene	ND	1.0	89	90	1.1	96	90	6.5	70 - 130	30
sec-Butylbenzene	ND	1.0	94	96	2.1	103	96	7.0	70 - 130	30
Styrene	ND	1.0	91	93	2.2	99	91	8.4	70 - 130	30
tert-Butylbenzene	ND	1.0	88	90	2.2	95	90	5.4	70 - 130	30
Tetrachloroethene	ND	1.0	90	94	4.3	104	96	8.0	70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	87	95	8.8	99	92	7.3	70 - 130	30
Toluene	ND	1.0	90	94	4.3	101	94	7.2	70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	88	91	3.4	102	93	9.2	70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	95	100	5.1	105	99	5.9	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	89	94	5.5	103	105	1.9	70 - 130	30
Trichloroethene	ND	1.0	87	92	5.6	101	92	9.3	70 - 130	30
Trichlorofluoromethane	ND	1.0	81	85	4.8	95	87	8.8	70 - 130	30
Trichlorotrifluoroethane	ND	1.0	91	94	3.2	104	97	7.0	70 - 130	30
Vinyl chloride	ND	1.0	95	98	3.1	109	102	6.6	70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	102	102	0.0	101	101	0.0	70 - 130	30
% Bromofluorobenzene	101	%	105	103	1.9	104	103	1.0	70 - 130	30
% Dibromofluoromethane	99	%	101	99	2.0	101	100	1.0	70 - 130	30
% Toluene-d8	101	%	102	102	0.0	102	103	1.0	70 - 130	30

Comment:

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

QA/QC Batch 483414 (ug/L), QC Sample No: CD32092 (CD32091, CD32092)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	95	92	3.2				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	85	83	2.4				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	100	96	4.1				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	103	97	6.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	88	86	2.3				70 - 130	30
1,1-Dichloroethene	ND	1.0	90	88	2.2				70 - 130	30
1,1-Dichloropropene	ND	1.0	84	84	0.0				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	91	91	0.0				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	97	91	6.4				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	90	91	1.1				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	85	84	1.2				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	104	102	1.9				70 - 130	30
1,2-Dibromoethane	ND	1.0	100	95	5.1				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	90	90	0.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	98	95	3.1				70 - 130	30
1,2-Dichloropropane	ND	1.0	96	94	2.1				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	84	83	1.2				70 - 130	30

QA/QC Data

SDG I.D.: GCD32090

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
1,3-Dichlorobenzene	ND	1.0	89	87	2.3				70 - 130	30
1,3-Dichloropropane	ND	1.0	95	94	1.1				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	89	87	2.3				70 - 130	30
2,2-Dichloropropane	ND	1.0	89	90	1.1				70 - 130	30
2-Chlorotoluene	ND	1.0	85	82	3.6				70 - 130	30
2-Hexanone	ND	5.0	104	99	4.9				70 - 130	30
2-Isopropyltoluene	ND	1.0	83	83	0.0				70 - 130	30
4-Chlorotoluene	ND	1.0	87	84	3.5				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	109	104	4.7				70 - 130	30
Acetone	ND	5.0	97	88	9.7				70 - 130	30
Acrylonitrile	ND	5.0	106	97	8.9				70 - 130	30
Benzene	ND	0.70	87	86	1.2				70 - 130	30
Bromobenzene	ND	1.0	88	86	2.3				70 - 130	30
Bromochloromethane	ND	1.0	96	91	5.3				70 - 130	30
Bromodichloromethane	ND	0.50	97	96	1.0				70 - 130	30
Bromoform	ND	1.0	121	120	0.8				70 - 130	30
Bromomethane	ND	1.0	123	125	1.6				70 - 130	30
Carbon Disulfide	ND	1.0	92	90	2.2				70 - 130	30
Carbon tetrachloride	ND	1.0	89	86	3.4				70 - 130	30
Chlorobenzene	ND	1.0	90	88	2.2				70 - 130	30
Chloroethane	ND	1.0	89	86	3.4				70 - 130	30
Chloroform	ND	1.0	88	84	4.7				70 - 130	30
Chloromethane	ND	1.0	96	90	6.5				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	90	88	2.2				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	104	99	4.9				70 - 130	30
Dibromochloromethane	ND	0.50	104	101	2.9				70 - 130	30
Dibromomethane	ND	1.0	102	96	6.1				70 - 130	30
Dichlorodifluoromethane	ND	1.0	89	84	5.8				70 - 130	30
Ethylbenzene	ND	1.0	86	86	0.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	84	89	5.8				70 - 130	30
Isopropylbenzene	ND	1.0	81	82	1.2				70 - 130	30
m&p-Xylene	ND	1.0	88	87	1.1				70 - 130	30
Methyl ethyl ketone	ND	5.0	108	99	8.7				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	97	89	8.6				70 - 130	30
Methylene chloride	ND	1.0	96	90	6.5				70 - 130	30
Naphthalene	ND	1.0	98	98	0.0				70 - 130	30
n-Butylbenzene	ND	1.0	84	86	2.4				70 - 130	30
n-Propylbenzene	ND	1.0	84	83	1.2				70 - 130	30
o-Xylene	ND	1.0	91	90	1.1				70 - 130	30
p-Isopropyltoluene	ND	1.0	84	84	0.0				70 - 130	30
sec-Butylbenzene	ND	1.0	89	88	1.1				70 - 130	30
Styrene	ND	1.0	94	91	3.2				70 - 130	30
tert-Butylbenzene	ND	1.0	83	82	1.2				70 - 130	30
Tetrachloroethene	ND	1.0	89	87	2.3				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	106	98	7.8				70 - 130	30
Toluene	ND	1.0	90	88	2.2				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	91	88	3.4				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	106	101	4.8				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	142	137	3.6				70 - 130	30
Trichloroethene	ND	1.0	87	86	1.2				70 - 130	30
Trichlorofluoromethane	ND	1.0	79	78	1.3				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	87	88	1.1				70 - 130	30
Vinyl chloride	ND	1.0	94	91	3.2				70 - 130	30

QA/QC Data

SDG I.D.: GCD32090

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
% 1,2-dichlorobenzene-d4	103	%	100	102	2.0				70 - 130	30
% Bromofluorobenzene	99	%	106	105	0.9				70 - 130	30
% Dibromofluoromethane	99	%	106	101	4.8				70 - 130	30
% Toluene-d8	102	%	103	101	2.0				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%.

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

June 19, 2019

Wednesday, June 19, 2019

Criteria: CT: GWP, SWP

State: CT

Sample Criteria Exceedances Report

GCD32090 - GZACTENG

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CD32090	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	0.50	0.2	0.2	ug/L
CD32090	\$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	0.50	0.05	0.05	ug/L
CD32091	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	0.50	0.2	0.2	ug/L
CD32091	\$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	0.50	0.05	0.05	ug/L
CD32092	\$8260GWR	1,2-Dibromo-3-chloropropane	CT / RSR GWPC (ug/l) / APS Organics	ND	0.50	0.2	0.2	ug/L
CD32092	\$8260GWR	1,2-Dibromoethane	CT / RSR GWPC (ug/l) / Volatiles	ND	0.50	0.05	0.05	ug/L

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedances. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedance 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: GZA GeoEnvironmental, Inc.

Project Location: DANIEL'S MILL

Project Number:

Laboratory Sample ID(s): CD32090-CD32092

Sampling Date(s): 6/11/2019

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1A	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1B	<u><i>YPH and EPH methods only:</i></u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Sections: PCB Narration, VOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Wednesday, June 19, 2019

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



RCP Certification Report

June 19, 2019

SDG I.D.: GCD32090

SDG Comments

Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list. Only Arsenic and Lead are reported as requested on the chain of custody.

8270 Semi-volatile Organics:

The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

Volatile 8260 analysis:

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.

ETPH Narration

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

Instrument:

AU-XL1 06/13/19-1

Jeff Bucko, Chemist 06/13/19

CD32090, CD32091

The initial calibration (ETPH426I) RSD for the compound list was less than 30% except for the following compounds: None. As per section 7.2.3, a discrimination check standard was run (613A003_1) and contained the following outliers: None. The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Site Specific):

Batch 483030 (CD32090)

CD32090, CD32091

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

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

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

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

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

All MS/MSD 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.

ICP Metals Narration

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

Instrument:

BLUE 06/13/19 08:36

Cindy Pearce, Emily Kolominskaya, Chemist 06/13/19

CD32090, CD32091

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.



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Certification Report

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SDG I.D.: GCD32090

ICP Metals Narration

The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.

The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

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

QC (Site Specific):

Batch 483018 (CD32090)

CD32090, CD32091

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

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

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

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

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

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

Batch 483025 (CD32090)

CD32090, CD32091

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

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

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

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

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

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

PCB Narration

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

QC Batch 483313 (Samples: CD32090, CD32091): ----

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. (PCB-1260)

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) (Confirmation))

Instrument:

AU-ECD8 06/14/19-1

Saadia Chudary, Chemist 06/14/19

CD32090, CD32091

The initial calibration (PC513AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC513BI) 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 (Site Specific):

Batch 483313 (CD32090)

CD32090, CD32091

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



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RCP Certification Report

June 19, 2019

SDG I.D.: GCD32090

PCB Narration

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) (Confirmation)(32.2%), PCB-1260(21.6%)
All MS recoveries were within 40 - 140 with the following exceptions: None.
All MSD recoveries were within 40 - 140 with the following exceptions: None.
All MS/MSD RPDs were less than 20% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

SVOASIM Narration

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

Instrument:

CHEM25 06/13/19-2 Wes Bryon, Chemist 06/13/19

CD32090, CD32091

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM25/25_BNSIM18_0514):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

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

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

Continuing Calibration Verification (CHEM25/0613_19-25_BNSIM18_0514):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

90% of target compounds met criteria.

The following compounds did not meet % deviation criteria: % Nitrobenzene-d5 35%H (30%), Indeno(1,2,3-cd)pyrene 39%H (30%)

The following compounds did not meet maximum % deviations: None.

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

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

QC (Site Specific):

Batch 483029 (CD32090)

CD32090, CD32091

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

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

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

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

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

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

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

VOA Narration



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RCP Certification Report

June 19, 2019

SDG I.D.: GCD32090

VOA Narration

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

QC Batch 483414 (Samples: CD32091, CD32092): -----

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)

QC Batch 483451 (Samples: CD32090): -----

The MS and/or the MSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (Bromomethane)

Instrument:

CHEM02 06/13/19-1

Michael Hahn, Chemist 06/13/19

CD32091, CD32092

Initial Calibration Evaluation (CHEM02/VT-P061119):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Bromoform 21% (20%)

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.038 (0.05), 2-Hexanone 0.075 (0.1), 4-Methyl-2-pentanone 0.092 (0.1), Acetone 0.048 (0.1), Bromoform 0.067 (0.1), Methyl ethyl ketone 0.066 (0.1), Tetrahydrofuran (THF) 0.048 (0.05)

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

Continuing Calibration Verification (CHEM02/0613_02-VT-P061119):

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: 1,2-Dibromo-3-chloropropane 0.041 (0.05), Acetone 0.047 (0.05), Tetrahydrofuran (THF) 0.049 (0.05)

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

CHEM02 06/14/19-1

Michael Hahn, Chemist 06/14/19

CD32090

Initial Calibration Evaluation (CHEM02/VT-P061119):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Bromoform 21% (20%)

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.038 (0.05), 2-Hexanone 0.075 (0.1), 4-Methyl-2-pentanone 0.092 (0.1), Acetone 0.048 (0.1), Bromoform 0.067 (0.1), Methyl ethyl ketone 0.066 (0.1), Tetrahydrofuran (THF) 0.048 (0.05)

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

Continuing Calibration Verification (CHEM02/0614_04-VT-P061119):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

99% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone



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RCP Certification Report

June 19, 2019

SDG I.D.: GCD32090

VOA Narration

0.040 (0.05), Tetrahydrofuran (THF) 0.044 (0.05)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 483414 (CD32092)

CD32091, CD32092

All LCS recoveries were within 70 - 130 with the following exceptions: trans-1,4-dichloro-2-butene(142%)
All LCSD recoveries were within 70 - 130 with the following exceptions: trans-1,4-dichloro-2-butene(137%)
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%.

QC (Site Specific):

Batch 483451 (CD32090)

CD32090

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 70 - 130 with the following exceptions: None.
All MSD recoveries were within 70 - 130 with the following exceptions: Bromomethane(133%)
All MS/MSD RPDs were less than 30% with the following exceptions: None.
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
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 1.2C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



CERTIFICATE OF ANALYSIS

Benjamin Rach
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1708274

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 4:57 pm, Aug 18, 2017

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708274

SAMPLE RECEIPT

The following samples were received on August 10, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question 6: All samples for Metals were analyzed for a subset of the required RCP list per the client's request.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1708274-01	MW-2	Ground Water	6010C, 7010, 7470A
1708274-02	MW-1	Ground Water	6010C, 7010, 7470A



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708274

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708274

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708274

**Laboratory Analysis
QA/QC Certification Form**

Project Number: 05.0045441.06

Sampling Date(s): 8/9/2017

Laboratory Sample ID(s): 1708274-01 through 1708274-02

List RCP Methods Used 8260B 8151A ETPH 6010B 7470A/1A
 Other: _____ 8270C 8081A VPH 6020 9014M
 _____ 8082 8021B EPH 7000 S 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes (X) No ()
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes (X) 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 (X)
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes (X) 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: Laboratory Director

Printed Name: Laurel Stoddard

Date: August 18, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: MW-2
Date Sampled: 08/09/17 11:15
Percent Solids: N/A

ESS Laboratory Work Order: 1708274
ESS Laboratory Sample ID: 1708274-01
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 3005A

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.5)		7010		1	KJK	08/16/17 23:18	50	25	CH71123
Barium	55.6 (25.0)		6010C		1	KJK	08/12/17 1:54	50	25	CH71123
Cadmium	ND (2.5)		6010C		1	KJK	08/12/17 1:54	50	25	CH71123
Chromium	ND (10.0)		6010C		1	KJK	08/12/17 1:54	50	25	CH71123
Lead	ND (10.0)		6010C		1	KJK	08/12/17 1:54	50	25	CH71123
Mercury	ND (0.20)		7470A		1	BJV	08/14/17 12:22	20	40	CH71124
Selenium	ND (5.0)		7010		1	KJK	08/16/17 19:23	50	25	CH71123
Silver	ND (5.0)		6010C		1	KJK	08/12/17 1:54	50	25	CH71123



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: MW-1
Date Sampled: 08/09/17 13:20
Percent Solids: N/A

ESS Laboratory Work Order: 1708274
ESS Laboratory Sample ID: 1708274-02
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 3005A

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.5)		7010		1	KJK	08/16/17 23:24	50	25	CH71123
Barium	212 (25.0)		6010C		1	KJK	08/12/17 1:58	50	25	CH71123
Cadmium	ND (2.5)		6010C		1	KJK	08/12/17 1:58	50	25	CH71123
Chromium	ND (10.0)		6010C		1	KJK	08/12/17 1:58	50	25	CH71123
Lead	ND (2.5)		7010		1	KJK	08/16/17 15:29	50	25	CH71123
Mercury	ND (0.20)		7470A		1	BJV	08/14/17 12:25	20	40	CH71124
Selenium	ND (5.0)		7010		1	KJK	08/16/17 19:35	50	25	CH71123
Silver	ND (5.0)		6010C		1	KJK	08/12/17 1:58	50	25	CH71123



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708274

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CH71123 - 3005A

Blank

Arsenic	ND	2.5	ug/L
Barium	ND	25.0	ug/L
Cadmium	ND	2.5	ug/L
Chromium	ND	10.0	ug/L
Lead	ND	10.0	ug/L
Lead	ND	2.5	ug/L
Selenium	ND	5.0	ug/L
Silver	ND	5.0	ug/L

LCS

Arsenic	252	62.5	ug/L	250.0	101	80-120
Barium	247	25.0	ug/L	250.0	99	80-120
Cadmium	113	2.5	ug/L	125.0	90	80-120
Chromium	243	10.0	ug/L	250.0	97	80-120
Lead	239	10.0	ug/L	250.0	96	80-120
Lead	247	62.5	ug/L	250.0	99	80-120
Selenium	490	125	ug/L	500.0	98	80-120
Silver	118	5.0	ug/L	125.0	94	80-120

LCS Dup

Arsenic	257	62.5	ug/L	250.0	103	80-120	2	20
Barium	243	25.0	ug/L	250.0	97	80-120	1	20
Cadmium	118	2.5	ug/L	125.0	94	80-120	4	20
Chromium	239	10.0	ug/L	250.0	96	80-120	2	20
Lead	252	62.5	ug/L	250.0	101	80-120	2	20
Lead	246	10.0	ug/L	250.0	98	80-120	3	20
Selenium	498	125	ug/L	500.0	100	80-120	2	20
Silver	118	5.0	ug/L	125.0	94	80-120	0.1	20

Duplicate Source: 1708274-02

Arsenic	ND	2.5	ug/L	ND	20	
Barium	228	25.0	ug/L	212	7	20
Cadmium	ND	2.5	ug/L	ND	20	
Chromium	ND	10.0	ug/L	ND	20	
Lead	ND	10.0	ug/L	ND	20	
Lead	ND	2.5	ug/L	ND	20	
Selenium	1.0	5.0	ug/L	0.9	9	20
Silver	ND	5.0	ug/L	ND	20	

Matrix Spike Source: 1708274-02

Arsenic	276	50.0	ug/L	250.0	ND	110	75-125
Barium	454	25.0	ug/L	250.0	212	97	75-125
Cadmium	112	2.5	ug/L	125.0	ND	90	75-125
Chromium	235	10.0	ug/L	250.0	ND	94	75-125
Lead	220	10.0	ug/L	250.0	ND	88	75-125
Lead	254	50.0	ug/L	250.0	ND	102	75-125
Selenium	592	100	ug/L	500.0	ND	118	75-125



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708274

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CH71123 - 3005A										
Silver	119	5.0	ug/L	125.0	ND	95	75-125			
Batch CH71124 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	5.84	0.20	ug/L	6.000		97	80-120			
LCS Dup										
Mercury	5.91	0.20	ug/L	6.000		98	80-120	1	20	
Duplicate Source: 1708274-02										
Mercury	ND	0.20	ug/L		ND				20	
Matrix Spike Source: 1708274-02										
Mercury	5.86	0.20	ug/L	6.000	ND	98	75-125			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708274

Notes and Definitions

- U Analyte included in the analysis, but not detected
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708274

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1708274

Date Received: 8/10/2017

Shipped/Delivered Via: ESS Courier

Project Due Date: 8/18/2017

Days for Project: 5 Day

- 1. Air bill manifest present? No
Air No.: NA
- 2. Were custody seals present? No
- 3. Is radiation count <100 CPM? Yes
- 4. Is a Cooler Present? Yes
Temp: 1.3 Iced with: Ice
- 5. Was COC signed and dated by client? Yes

- 6. Does COC match bottles? Yes
- 7. Is COC complete and correct? Yes
- 8. Were samples received intact? Yes
- 9. Were labs informed about short holds & rushes? Yes / No / NA
- 10. Were any analyses received outside of hold time? Yes / No

- 11. Any Subcontracting needed? Yes / No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

- 12. Were VOAs received? Yes / No
 - a. Air bubbles in aqueous VOAs? Yes / No
 - b. Does methanol cover soil completely? Yes / No / NA

- 13. Are the samples properly preserved? Yes / No
 - a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
 - b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

- 14. Was there a need to contact Project Manager? Yes / No
 - a. Was there a need to contact the client? Yes / No
- Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	153951	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
02	153952	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
02	153953	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
02	153954	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	

2nd Review
Are barcode labels on correct containers? Yes / No

Completed By: [Signature] Date & Time: 8/10/17 1841

Reviewed By: [Signature] Date & Time: 8/10/17 1852

Delivered By: [Signature] Date & Time: 8/10/17 1852



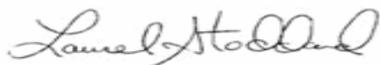
APPENDIX F
HAZARDOUS BUILDING MATERIAL ASSESSMENT LABORATORY REPORTS

CERTIFICATE OF ANALYSIS

Benjamin Rach
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1708212

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED**By ESS Laboratory at 3:54 pm, Aug 17, 2017****Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708212

SAMPLE RECEIPT

The following samples were received on August 09, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
1708212-01	PCB-1-5-Paint-1	Solid	8082A
1708212-02	PCB-1-5-Paint-2	Solid	8082A
1708212-03	PCB-2-4-Glaze-1	Solid	8082A
1708212-04	PCB-2-4-Paint-3	Solid	8082A
1708212-05	PCB-1-4-Paint-4	Solid	8082A
1708212-06	PCB-1-3-Glaze-2	Solid	8082A
1708212-07	PCB-2-2-Paint-5	Solid	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708212

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1708212-01 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1708212-02 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1708212-04 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1708212-05 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1708212-07 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708212

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708212

Laboratory Analysis
QA/QC Certification Form

Project Number: 05.0045441.06

Sampling Date(s): 8/7/2017

Laboratory Sample ID(s): 1708212-01 through 1708212-07

List RCP Methods Used () 8260B () 8151A () ETPH () 6010B () 7470A/1A
Other: () 8270C () 8081A () VPH () 6020 () 9014M
(X) 8082 () 8021B () EPH () 7000 S () 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes () No (X)
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes () No (X)
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 (X) No ()
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes () No (X)

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: Laurel Stoddard Position: Laboratory Director

Printed Name: Laurel Stoddard Date: August 17, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-5-Paint-1
 Date Sampled: 08/07/17 09:35
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708212
 ESS Laboratory Sample ID: 1708212-01
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/11/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.0)		8082A		50	08/17/17 2:57		CH71103
Aroclor 1221	ND (5.0)		8082A		50	08/17/17 2:57		CH71103
Aroclor 1232	ND (5.0)		8082A		50	08/17/17 2:57		CH71103
Aroclor 1242	ND (5.0)		8082A		50	08/17/17 2:57		CH71103
Aroclor 1248	ND (5.0)		8082A		50	08/17/17 2:57		CH71103
Aroclor 1254	61.5 (5.0)		8082A		50	08/17/17 2:57		CH71103
Aroclor 1260	ND (5.0)		8082A		50	08/17/17 2:57		CH71103
Aroclor 1262	ND (5.0)		8082A		50	08/17/17 2:57		CH71103
Aroclor 1268	ND (5.0)		8082A		50	08/17/17 2:57		CH71103

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-5-Paint-2
 Date Sampled: 08/07/17 09:40
 Percent Solids: N/A
 Initial Volume: 9.8
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708212
 ESS Laboratory Sample ID: 1708212-02
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/11/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (10.2)		8082A		100	08/17/17 5:09		CH71103
Aroclor 1221	ND (10.2)		8082A		100	08/17/17 5:09		CH71103
Aroclor 1232	ND (10.2)		8082A		100	08/17/17 5:09		CH71103
Aroclor 1242	ND (10.2)		8082A		100	08/17/17 5:09		CH71103
Aroclor 1248	ND (10.2)		8082A		100	08/17/17 5:09		CH71103
Aroclor 1254	163 (10.2)		8082A		100	08/17/17 5:09		CH71103
Aroclor 1260	ND (10.2)		8082A		100	08/17/17 5:09		CH71103
Aroclor 1262	ND (10.2)		8082A		100	08/17/17 5:09		CH71103
Aroclor 1268	ND (10.2)		8082A		100	08/17/17 5:09		CH71103

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-4-Glaze-1
Date Sampled: 08/07/17 10:40
Percent Solids: N/A
Initial Volume: 2.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1708212
ESS Laboratory Sample ID: 1708212-03
Sample Matrix: Solid
Units: mg/kg wet
Analyst: CAD
Prepared: 8/11/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.5)		8082A		1	08/17/17 5:28		CH71103
Aroclor 1221	ND (0.5)		8082A		1	08/17/17 5:28		CH71103
Aroclor 1232	ND (0.5)		8082A		1	08/17/17 5:28		CH71103
Aroclor 1242	ND (0.5)		8082A		1	08/17/17 5:28		CH71103
Aroclor 1248	ND (0.5)		8082A		1	08/17/17 5:28		CH71103
Aroclor 1254	17.1 (2.3)		8082A		5	08/16/17 17:30		CH71103
Aroclor 1260	ND (0.5)		8082A		1	08/17/17 5:28		CH71103
Aroclor 1262	ND (0.5)		8082A		1	08/17/17 5:28		CH71103
Aroclor 1268	ND (0.5)		8082A		1	08/17/17 5:28		CH71103

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Surrogate: Decachlorobiphenyl</i>	90 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	89 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	78 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	87 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-4-Paint-3
 Date Sampled: 08/07/17 10:45
 Percent Solids: N/A
 Initial Volume: 9
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708212
 ESS Laboratory Sample ID: 1708212-04
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/11/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.6)		8082A		50	08/17/17 5:47		CH71103
Aroclor 1221	ND (5.6)		8082A		50	08/17/17 5:47		CH71103
Aroclor 1232	ND (5.6)		8082A		50	08/17/17 5:47		CH71103
Aroclor 1242	ND (5.6)		8082A		50	08/17/17 5:47		CH71103
Aroclor 1248	ND (5.6)		8082A		50	08/17/17 5:47		CH71103
Aroclor 1254	61.4 (5.6)		8082A		50	08/17/17 5:47		CH71103
Aroclor 1260	ND (5.6)		8082A		50	08/17/17 5:47		CH71103
Aroclor 1262	ND (5.6)		8082A		50	08/17/17 5:47		CH71103
Aroclor 1268	ND (5.6)		8082A		50	08/17/17 5:47		CH71103

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-Paint-4
Date Sampled: 08/07/17 10:50
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1708212
ESS Laboratory Sample ID: 1708212-05
Sample Matrix: Solid
Units: mg/kg wet
Analyst: CAD
Prepared: 8/11/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.0)		8082A		50	08/17/17 6:06		CH71103
Aroclor 1221	ND (5.0)		8082A		50	08/17/17 6:06		CH71103
Aroclor 1232	ND (5.0)		8082A		50	08/17/17 6:06		CH71103
Aroclor 1242	ND (5.0)		8082A		50	08/17/17 6:06		CH71103
Aroclor 1248	ND (5.0)		8082A		50	08/17/17 6:06		CH71103
Aroclor 1254	69.3 (5.0)		8082A		50	08/17/17 6:06		CH71103
Aroclor 1260	ND (5.0)		8082A		50	08/17/17 6:06		CH71103
Aroclor 1262	ND (5.0)		8082A		50	08/17/17 6:06		CH71103
Aroclor 1268	ND (5.0)		8082A		50	08/17/17 6:06		CH71103

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-3-Glaze-2
 Date Sampled: 08/07/17 11:40
 Percent Solids: N/A
 Initial Volume: 2.1
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708212
 ESS Laboratory Sample ID: 1708212-06
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/11/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.5)		8082A		1	08/17/17 6:25		CH71103
Aroclor 1221	ND (0.5)		8082A		1	08/17/17 6:25		CH71103
Aroclor 1232	ND (0.5)		8082A		1	08/17/17 6:25		CH71103
Aroclor 1242	ND (0.5)		8082A		1	08/17/17 6:25		CH71103
Aroclor 1248	ND (0.5)		8082A		1	08/17/17 6:25		CH71103
Aroclor 1254 [2C]	5.5 (0.5)		8082A		1	08/17/17 6:25		CH71103
Aroclor 1260	ND (0.5)		8082A		1	08/17/17 6:25		CH71103
Aroclor 1262	ND (0.5)		8082A		1	08/17/17 6:25		CH71103
Aroclor 1268	ND (0.5)		8082A		1	08/17/17 6:25		CH71103

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	87 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	92 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	83 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	89 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-2-Paint-5
 Date Sampled: 08/07/17 12:10
 Percent Solids: N/A
 Initial Volume: 9.9
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708212
 ESS Laboratory Sample ID: 1708212-07
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/11/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.1)		8082A		50	08/17/17 10:25		CH71103
Aroclor 1221	ND (5.1)		8082A		50	08/17/17 10:25		CH71103
Aroclor 1232	ND (5.1)		8082A		50	08/17/17 10:25		CH71103
Aroclor 1242	ND (5.1)		8082A		50	08/17/17 10:25		CH71103
Aroclor 1248	ND (5.1)		8082A		50	08/17/17 10:25		CH71103
Aroclor 1254	37.4 (5.1)		8082A		50	08/17/17 10:25		CH71103
Aroclor 1260	ND (5.1)		8082A		50	08/17/17 10:25		CH71103
Aroclor 1262	ND (5.1)		8082A		50	08/17/17 10:25		CH71103
Aroclor 1268	ND (5.1)		8082A		50	08/17/17 10:25		CH71103

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708212

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CH71103 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0251		mg/kg wet	0.02500		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0244		mg/kg wet	0.02500		98	30-150			
Surrogate: Tetrachloro-m-xylene	0.0263		mg/kg wet	0.02500		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0300		mg/kg wet	0.02500		120	30-150			

LCS

Aroclor 1016	0.6	0.05	mg/kg wet	0.5000		119	40-140			
Aroclor 1016 [2C]	0.6	0.05	mg/kg wet	0.5000		117	40-140			
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		116	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		108	40-140			

Surrogate: Decachlorobiphenyl	0.0260		mg/kg wet	0.02500		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0255		mg/kg wet	0.02500		102	30-150			
Surrogate: Tetrachloro-m-xylene	0.0276		mg/kg wet	0.02500		111	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0303		mg/kg wet	0.02500		121	30-150			

LCS Dup

Aroclor 1016	0.6	0.05	mg/kg wet	0.5000		124	40-140	4	30	
Aroclor 1016 [2C]	0.6	0.05	mg/kg wet	0.5000		117	40-140	0.02	30	
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		118	40-140	2	30	
Aroclor 1260 [2C]	0.6	0.05	mg/kg wet	0.5000		111	40-140	3	30	

Surrogate: Decachlorobiphenyl	0.0257		mg/kg wet	0.02500		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0249		mg/kg wet	0.02500		100	30-150			
Surrogate: Tetrachloro-m-xylene	0.0275		mg/kg wet	0.02500		110	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0299		mg/kg wet	0.02500		120	30-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708212

Notes and Definitions

- U Analyte included in the analysis, but not detected
- SD Surrogate recovery(ies) diluted below the MRL (SD).
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708212

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM
 Shipped/Delivered Via: ESS Courier

ESS Project ID: 1708212
 Date Received: 8/9/2017
 Project Due Date: 8/17/2017
 Days for Project: 5 Day

1. Air bill manifest present? No
 Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
 Temp: 4.4 Iced with: Ice
5. Was COC signed and dated by client? Yes

6. Does COC match bottles? No
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. Were labs informed about short holds & rushes? Yes / No NA
10. Were any analyses received outside of hold time? Yes No

11. Any Subcontracting needed? Yes No
 ESS Sample IDs: _____
 Analysis: _____
 TAT: _____

12. Were VOAs received? Yes / No No
 a. Air bubbles in aqueous VOAs? Yes / No No
 b. Does methanol cover soil completely? Yes / No NA

13. Are the samples properly preserved? Yes / No
 a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
 b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

Did not receive sample PCB-2-3-Calk JA 8/17

14. Was there a need to contact Project Manager? Yes / No
 a. Was there a need to contact the client? Yes / No
 Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	153573	Yes	NA	Yes	Plastic Baggie	NP	
02	153572	Yes	NA	Yes	Plastic Baggie	NP	
03	153571	Yes	NA	Yes	Plastic Baggie	NP	
04	153570	Yes	NA	Yes	Plastic Baggie	NP	
05	153569	Yes	NA	Yes	Plastic Baggie	NP	
06	153568	Yes	NA	Yes	Plastic Baggie	NP	
07	153567	Yes	NA	Yes	Plastic Baggie	NP	

2nd Review
 Are barcode labels on correct containers? Yes / No

Completed By: [Signature] Date & Time: 8/9/17 1643
 Reviewed By: [Signature] Date & Time: 8/9/17 1714
 Delivered By: [Signature] Date & Time: 8/9/17 1714

CERTIFICATE OF ANALYSIS

Benjamin Rach
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1708210

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED**By ESS Laboratory at 3:47 pm, Aug 17, 2017****Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708210

SAMPLE RECEIPT

The following samples were received on August 09, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
1708210-01	PCB-2-5-01	Solid	8082A
1708210-02	PCB-1-5-02	Solid	8082A
1708210-03	PCB-1-5-03	Solid	8082A
1708210-04	PCB-2-4-04	Solid	8082A
1708210-05	PCB-2-4-05	Solid	8082A
1708210-06	PCB-1-4-06	Solid	8082A
1708210-07	PCB-1-4-07	Solid	8082A
1708210-08	PCB-1-4-08	Solid	8082A
1708210-09	PCB-2-3-09	Solid	8082A
1708210-10	PCB-2-3-10	Solid	8082A
1708210-11	PCB-1-3-11	Solid	8082A
1708210-12	PCB-1-3-12	Solid	8082A
1708210-13	PCB-1-3-13	Solid	8082A
1708210-14	PCB-2-2-Mastic	Solid	8082A
1708210-15	PCB-2-2-14	Solid	8082A
1708210-16	PCB-2-2-15	Solid	8082A
1708210-17	PCB-1-2-16	Solid	8082A
1708210-18	PCB-1-2-17	Solid	8082A
1708210-19	PCB-1-2-18	Solid	8082A
1708210-20	PCB-2-1-19	Solid	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708210

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1708210-03	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-04	<u>Surrogate recovery(ies) below lower control limit (S-).</u> Decachlorobiphenyl [2C] (22% @ 30-150%)
1708210-05	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-06	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-07	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-08	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-09	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-11	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-12	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-13	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-14	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-16	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-17	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708210-18	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708210

1708210-20

[Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)

Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

CH71014-BSD1

[Relative percent difference for duplicate is outside of criteria \(D+\).](#)

Aroclor 1016 (70% @ 30%), Aroclor 1016 [2C] (73% @ 30%)

CH71014-BSD1

[Surrogate recovery\(ies\) below lower control limit \(S-\).](#)

Tetrachloro-m-xylene (22% @ 30-150%), Tetrachloro-m-xylene [2C] (26% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)[Semivolatile Organics Internal Standard Information](#)[Semivolatile Organics Surrogate Information](#)[Volatile Organics Internal Standard Information](#)[Volatile Organics Surrogate Information](#)[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708210

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708210

Laboratory Analysis
QA/QC Certification Form

Project Number: **05.0045441.06**

Sampling Date(s): **8/7/2017**

Laboratory Sample ID(s): **1708210-01 through 1708210-20**

List RCP Methods Used () 8260B () 8151A () ETPH () 6010B () 7470A/1A
Other: () 8270C () 8081A () VPH () 6020 () 9014M
(X) 8082 () 8021B () EPH () 7000 S () 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes () No (X)
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes () No (X)
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 (X) No ()
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes () No (X)

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: Laurel Stoddard Position: Laboratory Director

Printed Name: Laurel Stoddard Date: August 17, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-5-01
 Date Sampled: 08/07/17 09:20
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-01
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	08/11/17 22:59		CH71014
Aroclor 1221	ND (0.1)		8082A		1	08/11/17 22:59		CH71014
Aroclor 1232	ND (0.1)		8082A		1	08/11/17 22:59		CH71014
Aroclor 1242	ND (0.1)		8082A		1	08/11/17 22:59		CH71014
Aroclor 1248	ND (0.1)		8082A		1	08/11/17 22:59		CH71014
Aroclor 1254	1.9 (0.1)		8082A		1	08/11/17 22:59		CH71014
Aroclor 1260 [2C]	1.0 (0.1)		8082A		1	08/11/17 22:59		CH71014
Aroclor 1262	ND (0.1)		8082A		1	08/11/17 22:59		CH71014
Aroclor 1268	ND (0.1)		8082A		1	08/11/17 22:59		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	78 %		30-150
Surrogate: Decachlorobiphenyl [2C]	71 %		30-150
Surrogate: Tetrachloro-m-xylene	79 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	77 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-5-02
Date Sampled: 08/07/17 09:25
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
ESS Laboratory Sample ID: 1708210-02
Sample Matrix: Solid
Units: mg/kg wet
Analyst: CAD
Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	08/11/17 23:19		CH71014
Aroclor 1221	ND (0.1)		8082A		1	08/11/17 23:19		CH71014
Aroclor 1232	ND (0.1)		8082A		1	08/11/17 23:19		CH71014
Aroclor 1242	ND (0.1)		8082A		1	08/11/17 23:19		CH71014
Aroclor 1248	ND (0.1)		8082A		1	08/11/17 23:19		CH71014
Aroclor 1254	2.8 (0.5)		8082A		5	08/14/17 16:53		CH71014
Aroclor 1260	ND (0.1)		8082A		1	08/11/17 23:19		CH71014
Aroclor 1262	ND (0.1)		8082A		1	08/11/17 23:19		CH71014
Aroclor 1268	ND (0.1)		8082A		1	08/11/17 23:19		CH71014

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	63 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	40 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	82 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	65 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-5-03
 Date Sampled: 08/07/17 09:30
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-03
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (2.0)		8082A		20	08/14/17 13:25		CH71014
Aroclor 1221	ND (2.0)		8082A		20	08/14/17 13:25		CH71014
Aroclor 1232	ND (2.0)		8082A		20	08/14/17 13:25		CH71014
Aroclor 1242	ND (2.0)		8082A		20	08/14/17 13:25		CH71014
Aroclor 1248	ND (2.0)		8082A		20	08/14/17 13:25		CH71014
Aroclor 1254	29.1 (2.0)		8082A		20	08/14/17 13:25		CH71014
Aroclor 1260	ND (2.0)		8082A		20	08/14/17 13:25		CH71014
Aroclor 1262	ND (2.0)		8082A		20	08/14/17 13:25		CH71014
Aroclor 1268	ND (2.0)		8082A		20	08/14/17 13:25		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-4-04
 Date Sampled: 08/07/17 10:04
 Percent Solids: N/A
 Initial Volume: 10.1
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-04
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	08/11/17 23:57		CH71014
Aroclor 1221	ND (0.1)		8082A		1	08/11/17 23:57		CH71014
Aroclor 1232	ND (0.1)		8082A		1	08/11/17 23:57		CH71014
Aroclor 1242	ND (0.1)		8082A		1	08/11/17 23:57		CH71014
Aroclor 1248	ND (0.1)		8082A		1	08/11/17 23:57		CH71014
Aroclor 1254	6.4 (1.0)		8082A		10	08/14/17 17:10		CH71014
Aroclor 1260	ND (0.1)		8082A		1	08/11/17 23:57		CH71014
Aroclor 1262	ND (0.1)		8082A		1	08/11/17 23:57		CH71014
Aroclor 1268	ND (0.1)		8082A		1	08/11/17 23:57		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	35 %		30-150
Surrogate: Decachlorobiphenyl [2C]	22 %	S-	30-150
Surrogate: Tetrachloro-m-xylene	74 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	57 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-4-05
 Date Sampled: 08/07/17 10:15
 Percent Solids: N/A
 Initial Volume: 10.1
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-05
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (2.0)		8082A		20	08/14/17 17:29		CH71014
Aroclor 1221	ND (2.0)		8082A		20	08/14/17 17:29		CH71014
Aroclor 1232	ND (2.0)		8082A		20	08/14/17 17:29		CH71014
Aroclor 1242	ND (2.0)		8082A		20	08/14/17 17:29		CH71014
Aroclor 1248	ND (2.0)		8082A		20	08/14/17 17:29		CH71014
Aroclor 1254	19.7 (2.0)		8082A		20	08/14/17 17:29		CH71014
Aroclor 1260	ND (2.0)		8082A		20	08/14/17 17:29		CH71014
Aroclor 1262	ND (2.0)		8082A		20	08/14/17 17:29		CH71014
Aroclor 1268	ND (2.0)		8082A		20	08/14/17 17:29		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-4-06
 Date Sampled: 08/07/17 10:20
 Percent Solids: N/A
 Initial Volume: 10.2
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-06
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (9.8)		8082A		100	08/14/17 17:48		CH71014
Aroclor 1221	ND (9.8)		8082A		100	08/14/17 17:48		CH71014
Aroclor 1232	ND (9.8)		8082A		100	08/14/17 17:48		CH71014
Aroclor 1242	ND (9.8)		8082A		100	08/14/17 17:48		CH71014
Aroclor 1248	ND (9.8)		8082A		100	08/14/17 17:48		CH71014
Aroclor 1254	56.3 (9.8)		8082A		100	08/14/17 17:48		CH71014
Aroclor 1260	ND (9.8)		8082A		100	08/14/17 17:48		CH71014
Aroclor 1262	ND (9.8)		8082A		100	08/14/17 17:48		CH71014
Aroclor 1268	ND (9.8)		8082A		100	08/14/17 17:48		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-07
Date Sampled: 08/07/17 10:25
Percent Solids: N/A
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
ESS Laboratory Sample ID: 1708210-07
Sample Matrix: Solid
Units: mg/kg wet
Analyst: CAD
Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (20.0)		8082A		200	08/14/17 18:07		CH71014
Aroclor 1221	ND (20.0)		8082A		200	08/14/17 18:07		CH71014
Aroclor 1232	ND (20.0)		8082A		200	08/14/17 18:07		CH71014
Aroclor 1242	ND (20.0)		8082A		200	08/14/17 18:07		CH71014
Aroclor 1248	ND (20.0)		8082A		200	08/14/17 18:07		CH71014
Aroclor 1254	147 (20.0)		8082A		200	08/14/17 18:07		CH71014
Aroclor 1260	ND (20.0)		8082A		200	08/14/17 18:07		CH71014
Aroclor 1262	ND (20.0)		8082A		200	08/14/17 18:07		CH71014
Aroclor 1268	ND (20.0)		8082A		200	08/14/17 18:07		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-4-08
 Date Sampled: 08/07/17 10:35
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-08
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (2.0)		8082A		20	08/14/17 18:25		CH71014
Aroclor 1221	ND (2.0)		8082A		20	08/14/17 18:25		CH71014
Aroclor 1232	ND (2.0)		8082A		20	08/14/17 18:25		CH71014
Aroclor 1242	ND (2.0)		8082A		20	08/14/17 18:25		CH71014
Aroclor 1248	ND (2.0)		8082A		20	08/14/17 18:25		CH71014
Aroclor 1254	13.9 (2.0)		8082A		20	08/14/17 18:25		CH71014
Aroclor 1260	ND (2.0)		8082A		20	08/14/17 18:25		CH71014
Aroclor 1262	ND (2.0)		8082A		20	08/14/17 18:25		CH71014
Aroclor 1268	ND (2.0)		8082A		20	08/14/17 18:25		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-3-09
 Date Sampled: 08/07/17 11:15
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-09
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.0)		8082A		50	08/14/17 18:44		CH71014
Aroclor 1221	ND (5.0)		8082A		50	08/14/17 18:44		CH71014
Aroclor 1232	ND (5.0)		8082A		50	08/14/17 18:44		CH71014
Aroclor 1242	ND (5.0)		8082A		50	08/14/17 18:44		CH71014
Aroclor 1248	ND (5.0)		8082A		50	08/14/17 18:44		CH71014
Aroclor 1254	88.5 (5.0)		8082A		50	08/14/17 18:44		CH71014
Aroclor 1260	ND (5.0)		8082A		50	08/14/17 18:44		CH71014
Aroclor 1262	ND (5.0)		8082A		50	08/14/17 18:44		CH71014
Aroclor 1268	ND (5.0)		8082A		50	08/14/17 18:44		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-3-10
 Date Sampled: 08/07/17 11:20
 Percent Solids: N/A
 Initial Volume: 10.2
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-10
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	08/12/17 1:52		CH71014
Aroclor 1221	ND (0.1)		8082A		1	08/12/17 1:52		CH71014
Aroclor 1232	ND (0.1)		8082A		1	08/12/17 1:52		CH71014
Aroclor 1242	ND (0.1)		8082A		1	08/12/17 1:52		CH71014
Aroclor 1248	ND (0.1)		8082A		1	08/12/17 1:52		CH71014
Aroclor 1254	8.5 (1.0)		8082A		10	08/14/17 19:03		CH71014
Aroclor 1260	ND (0.1)		8082A		1	08/12/17 1:52		CH71014
Aroclor 1262	ND (0.1)		8082A		1	08/12/17 1:52		CH71014
Aroclor 1268	ND (0.1)		8082A		1	08/12/17 1:52		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	55 %		30-150
Surrogate: Decachlorobiphenyl [2C]	52 %		30-150
Surrogate: Tetrachloro-m-xylene	92 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	89 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-3-11
 Date Sampled: 08/07/17 11:25
 Percent Solids: N/A
 Initial Volume: 10.3
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-11
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (1.9)		8082A		20	08/14/17 19:22		CH71014
Aroclor 1221	ND (1.9)		8082A		20	08/14/17 19:22		CH71014
Aroclor 1232	ND (1.9)		8082A		20	08/14/17 19:22		CH71014
Aroclor 1242	ND (1.9)		8082A		20	08/14/17 19:22		CH71014
Aroclor 1248	ND (1.9)		8082A		20	08/14/17 19:22		CH71014
Aroclor 1254	21.4 (1.9)		8082A		20	08/14/17 19:22		CH71014
Aroclor 1260	ND (1.9)		8082A		20	08/14/17 19:22		CH71014
Aroclor 1262	ND (1.9)		8082A		20	08/14/17 19:22		CH71014
Aroclor 1268	ND (1.9)		8082A		20	08/14/17 19:22		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-3-12
 Date Sampled: 08/07/17 11:30
 Percent Solids: N/A
 Initial Volume: 10.1
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-12
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (9.9)		8082A		100	08/14/17 19:41		CH71014
Aroclor 1221	ND (9.9)		8082A		100	08/14/17 19:41		CH71014
Aroclor 1232	ND (9.9)		8082A		100	08/14/17 19:41		CH71014
Aroclor 1242	ND (9.9)		8082A		100	08/14/17 19:41		CH71014
Aroclor 1248	ND (9.9)		8082A		100	08/14/17 19:41		CH71014
Aroclor 1254	74.9 (9.9)		8082A		100	08/14/17 19:41		CH71014
Aroclor 1260	ND (9.9)		8082A		100	08/14/17 19:41		CH71014
Aroclor 1262	ND (9.9)		8082A		100	08/14/17 19:41		CH71014
Aroclor 1268	ND (9.9)		8082A		100	08/14/17 19:41		CH71014

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-3-13
 Date Sampled: 08/07/17 11:35
 Percent Solids: 98
 Initial Volume: 5.01
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-13
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (10.1)		8082A		50	08/14/17 21:54		CH71015
Aroclor 1221	ND (10.1)		8082A		50	08/14/17 21:54		CH71015
Aroclor 1232	ND (10.1)		8082A		50	08/14/17 21:54		CH71015
Aroclor 1242	ND (10.1)		8082A		50	08/14/17 21:54		CH71015
Aroclor 1248	ND (10.1)		8082A		50	08/14/17 21:54		CH71015
Aroclor 1254	79.3 (10.1)		8082A		50	08/14/17 21:54		CH71015
Aroclor 1260	ND (10.1)		8082A		50	08/14/17 21:54		CH71015
Aroclor 1262	ND (10.1)		8082A		50	08/14/17 21:54		CH71015
Aroclor 1268	ND (10.1)		8082A		50	08/14/17 21:54		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-2-Mastic
 Date Sampled: 08/07/17 11:55
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-14
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.0)		8082A		50	08/14/17 22:13		CH71015
Aroclor 1221	ND (5.0)		8082A		50	08/14/17 22:13		CH71015
Aroclor 1232	ND (5.0)		8082A		50	08/14/17 22:13		CH71015
Aroclor 1242	ND (5.0)		8082A		50	08/14/17 22:13		CH71015
Aroclor 1248	ND (5.0)		8082A		50	08/14/17 22:13		CH71015
Aroclor 1254	46.2 (5.0)		8082A		50	08/14/17 22:13		CH71015
Aroclor 1260	ND (5.0)		8082A		50	08/14/17 22:13		CH71015
Aroclor 1262	ND (5.0)		8082A		50	08/14/17 22:13		CH71015
Aroclor 1268	ND (5.0)		8082A		50	08/14/17 22:13		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-2-14
 Date Sampled: 08/07/17 12:00
 Percent Solids: 99
 Initial Volume: 5.03
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-15
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/11/17 15:34		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/11/17 15:34		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/11/17 15:34		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/11/17 15:34		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/11/17 15:34		CH71015
Aroclor 1254	5.1 (1.0)		8082A		5	08/14/17 22:31		CH71015
Aroclor 1260	ND (0.2)		8082A		1	08/11/17 15:34		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/11/17 15:34		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/11/17 15:34		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	68 %		30-150
Surrogate: Decachlorobiphenyl [2C]	100 %		30-150
Surrogate: Tetrachloro-m-xylene	77 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	81 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-2-15
 Date Sampled: 08/07/17 12:05
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-16
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.0)		8082A		50	08/14/17 22:50		CH71015
Aroclor 1221	ND (5.0)		8082A		50	08/14/17 22:50		CH71015
Aroclor 1232	ND (5.0)		8082A		50	08/14/17 22:50		CH71015
Aroclor 1242	ND (5.0)		8082A		50	08/14/17 22:50		CH71015
Aroclor 1248	ND (5.0)		8082A		50	08/14/17 22:50		CH71015
Aroclor 1254	26.9 (5.0)		8082A		50	08/14/17 22:50		CH71015
Aroclor 1260	ND (5.0)		8082A		50	08/14/17 22:50		CH71015
Aroclor 1262	ND (5.0)		8082A		50	08/14/17 22:50		CH71015
Aroclor 1268	ND (5.0)		8082A		50	08/14/17 22:50		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-2-16
 Date Sampled: 08/07/17 12:30
 Percent Solids: 98
 Initial Volume: 5
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-17
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (10.2)		8082A		50	08/14/17 23:10		CH71015
Aroclor 1221	ND (10.2)		8082A		50	08/14/17 23:10		CH71015
Aroclor 1232	ND (10.2)		8082A		50	08/14/17 23:10		CH71015
Aroclor 1242	ND (10.2)		8082A		50	08/14/17 23:10		CH71015
Aroclor 1248	ND (10.2)		8082A		50	08/14/17 23:10		CH71015
Aroclor 1254	133 (10.2)		8082A		50	08/14/17 23:10		CH71015
Aroclor 1260	ND (10.2)		8082A		50	08/14/17 23:10		CH71015
Aroclor 1262	ND (10.2)		8082A		50	08/14/17 23:10		CH71015
Aroclor 1268	ND (10.2)		8082A		50	08/14/17 23:10		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-2-17
 Date Sampled: 08/07/17 12:45
 Percent Solids: N/A
 Initial Volume: 10.2
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
 ESS Laboratory Sample ID: 1708210-18
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (4.9)		8082A		50	08/14/17 23:29		CH71015
Aroclor 1221	ND (4.9)		8082A		50	08/14/17 23:29		CH71015
Aroclor 1232	ND (4.9)		8082A		50	08/14/17 23:29		CH71015
Aroclor 1242	ND (4.9)		8082A		50	08/14/17 23:29		CH71015
Aroclor 1248	ND (4.9)		8082A		50	08/14/17 23:29		CH71015
Aroclor 1254	23.4 (4.9)		8082A		50	08/14/17 23:29		CH71015
Aroclor 1260	ND (4.9)		8082A		50	08/14/17 23:29		CH71015
Aroclor 1262	ND (4.9)		8082A		50	08/14/17 23:29		CH71015
Aroclor 1268	ND (4.9)		8082A		50	08/14/17 23:29		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-2-18
Date Sampled: 08/07/17 12:55
Percent Solids: 99
Initial Volume: 5.02
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
ESS Laboratory Sample ID: 1708210-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/11/17 16:50		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/11/17 16:50		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/11/17 16:50		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/11/17 16:50		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/11/17 16:50		CH71015
Aroclor 1254	19.4 (2.0)		8082A		10	08/14/17 23:48		CH71015
Aroclor 1260	ND (0.2)		8082A		1	08/11/17 16:50		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/11/17 16:50		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/11/17 16:50		CH71015

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	68 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	60 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	60 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	62 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-1-19
Date Sampled: 08/07/17 13:35
Percent Solids: N/A
Initial Volume: 10.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1708210
ESS Laboratory Sample ID: 1708210-20
Sample Matrix: Solid
Units: mg/kg wet
Analyst: CAD
Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (9.8)		8082A		100	08/15/17 0:07		CH71015
Aroclor 1221	ND (9.8)		8082A		100	08/15/17 0:07		CH71015
Aroclor 1232	ND (9.8)		8082A		100	08/15/17 0:07		CH71015
Aroclor 1242	ND (9.8)		8082A		100	08/15/17 0:07		CH71015
Aroclor 1248	ND (9.8)		8082A		100	08/15/17 0:07		CH71015
Aroclor 1254	93.2 (9.8)		8082A		100	08/15/17 0:07		CH71015
Aroclor 1260	ND (9.8)		8082A		100	08/15/17 0:07		CH71015
Aroclor 1262	ND (9.8)		8082A		100	08/15/17 0:07		CH71015
Aroclor 1268	ND (9.8)		8082A		100	08/15/17 0:07		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708210

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CH71014 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0221		mg/kg wet	0.02500		88	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0227		mg/kg wet	0.02500		91	30-150			
Surrogate: Tetrachloro-m-xylene	0.0227		mg/kg wet	0.02500		91	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0256		mg/kg wet	0.02500		102	30-150			

LCS

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		107	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		80	40-140			

Surrogate: Decachlorobiphenyl	0.0201		mg/kg wet	0.02500		80	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0204		mg/kg wet	0.02500		81	30-150			
Surrogate: Tetrachloro-m-xylene	0.0223		mg/kg wet	0.02500		89	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0240		mg/kg wet	0.02500		96	30-150			

LCS Dup

Aroclor 1016	0.3	0.05	mg/kg wet	0.5000		51	40-140	70	30	D+
Aroclor 1016 [2C]	0.2	0.05	mg/kg wet	0.5000		45	40-140	73	30	D+
Aroclor 1260	0.3	0.05	mg/kg wet	0.5000		69	40-140	29	30	
Aroclor 1260 [2C]	0.3	0.05	mg/kg wet	0.5000		63	40-140	25	30	

Surrogate: Decachlorobiphenyl	0.0159		mg/kg wet	0.02500		64	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0162		mg/kg wet	0.02500		65	30-150			
Surrogate: Tetrachloro-m-xylene	0.00556		mg/kg wet	0.02500		22	30-150			S-
Surrogate: Tetrachloro-m-xylene [2C]	0.00652		mg/kg wet	0.02500		26	30-150			S-

Batch CH71015 - 3540C



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708210

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CH71015 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0196		mg/kg wet	0.02500		78	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0194		mg/kg wet	0.02500		78	30-150			
Surrogate: Tetrachloro-m-xylene	0.0183		mg/kg wet	0.02500		73	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0200		mg/kg wet	0.02500		80	30-150			

LCS

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		95	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			

Surrogate: Decachlorobiphenyl	0.0227		mg/kg wet	0.02500		91	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0224		mg/kg wet	0.02500		90	30-150			
Surrogate: Tetrachloro-m-xylene	0.0218		mg/kg wet	0.02500		87	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0218		mg/kg wet	0.02500		87	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		98	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140	3	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		96	40-140	3	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140	3	30	

Surrogate: Decachlorobiphenyl	0.0232		mg/kg wet	0.02500		93	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0232		mg/kg wet	0.02500		93	30-150			
Surrogate: Tetrachloro-m-xylene	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0224		mg/kg wet	0.02500		90	30-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708210

Notes and Definitions

- U Analyte included in the analysis, but not detected
- SD Surrogate recovery(ies) diluted below the MRL (SD).
- S- Surrogate recovery(ies) below lower control limit (S-).
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708210

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM
 Shipped/Delivered Via: ESS Courier

ESS Project ID: 1708210
 Date Received: 8/9/2017
 Project Due Date: 8/17/2017
 Days for Project: 5 Day

- | | |
|--|--|
| 1. Air bill manifest present? <input type="checkbox"/> No
Air No.: <u>NA</u>
2. Were custody seals present? <input type="checkbox"/> No
3. Is radiation count <100 CPM? <input type="checkbox"/> Yes
4. Is a Cooler Present? <input type="checkbox"/> Yes
Temp: <u>4.4</u> Iced with: <u>Ice</u>
5. Was COC signed and dated by client? <input type="checkbox"/> Yes | 6. Does COC match bottles? <input type="checkbox"/> Yes
7. Is COC complete and correct? <input type="checkbox"/> Yes
8. Were samples received intact? <input type="checkbox"/> Yes
9. Were labs informed about short holds & rushes? Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No |
|--|--|

- | | |
|---|---|
| 11. Any Subcontracting needed? Yes <input checked="" type="checkbox"/> No
ESS Sample IDs: _____
Analysis: _____
TAT: _____
13. Are the samples properly preserved? <input checked="" type="checkbox"/> Yes / No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____ | 12. Were VOAs received? Yes / <input checked="" type="checkbox"/> No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA |
|---|---|

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
 a. Was there a need to contact the client? Yes / No
 Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	153334	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	153333	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	153332	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	153331	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	153330	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
06	153329	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
07	153328	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
08	153327	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
09	153326	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
10	153325	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
11	153324	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
12	153323	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
13	153322	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
14	153321	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
15	153320	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
16	153319	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
17	153318	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
18	153317	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
19	153316	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
20	153315	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review
 Are barcode labels on correct containers? Yes / No

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Gastonbury CT - GZA/MM

ESS Project ID: 1708210
Date Received: 8/9/2017

Completed By: [Signature]

Date & Time: 8/9/17 1630

Reviewed By: [Signature]

Date & Time: 8/9/17 1725

Delivered By: [Signature]

Date & Time: 8/9/17 1725

ESS Laboratory

Division of Thielsch Engineering, Inc.

185 Frances Avenue, Cranston, RI 02910-2211

Tel. (401) 461-7181 Fax (401) 461-4486

www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID

1768210

Turn Time 5 Standard Rush _____ Approved By: _____

Reporting Limits -

0.09 mg/l/s

State where samples were collected: MA RI CT NH NJ NY ME Other _____

Is this project for any of the following: (please circle)

MA-MCP CT-RCP RGP Other _____

Electronic Deliverable Yes X No _____

Format: Excel X Access _____ PDF X Other _____

GZA Project Manager: BEN RACH

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive, Suite 402

Glastonbury, CT 06033

(860) 286-8900

REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # DANIELS MILL 45441.06

Project Name: DANIELS MILL

Contract Pricing _____

Special Pricing: _____

Analysis

PCB (soxlet)

Comment #

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers													
1	8/7/2017	0920	G	wood floor	PCB-2-5-01	1													
2		0925			PCB-1-5-02														
3		0930			PCB-1-5-03														
4		1004			PCB-2-4-04														
5		1015			PCB-2-4-05														
6		1020			PCB-1-4-06														
7		1025			PCB-1-4-07														
8		1035			PCB-1-4-08														
9		1115			PCB-2-3-09														
10		1120			PCB-2-3-10														

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-Zn/Ace 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No _____

Sampled by: Anthony Trani / Sean Conolly

Seals Intact Yes No NA: _____

Comments: Building materials

Cooler Temperature: 3.7-4.4 ice m-

Relinquished by (Signature)

Date/Time

Received by (Signature)

Please E-mail all changes to Chain of Custody in writing.

Page 1 of 242

8/9/17
Page 33 of 34

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-2211
 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
 1708210

Turn Time 5 Standard Rush Approved By: _____

Reporting Limits -
0.09 mg/kg

State where samples were collected: MA RI CT NH NJ NY ME Other _____

Is this project for any of the following: (please circle)
 MA-MCP CT-RCP RGP Other _____

Electronic Deliverable Yes No _____
 Format: Excel Access _____ PDF Other _____

GZA Project Manager: BEN RACH
GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900
 REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # 45441.06
 Project Name:
DANIELS MILL
 Contract Pricing _____
 Special Pricing: _____

Analysis	# of Containers	Comment #
<u>PCB (SOXLET)</u>		

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis	Comment #
11	8/7/17	1125	G	WOOD FLOOR	PCB-1-3-11	1	X	
12		1130		WOOD FLOOR	PCB-1-3-12			
13		1135		CONCRETE FLOOR	PCB-1-3-13			
14		1155		MASTIC	PCB-2-2-14			
15		1200		CONCRETE FLOOR	PCB-2-2-15			
16		1205		WOOD FLOOR	PCB-2-2-16			
17		1230		CONCRETE FLOOR	PCB-1-2-17			
18		1245		WOOD FLOOR	PCB-1-2-18			
19		1255		CONCRETE FLOOR	PCB-1-2-19			
20		1335		WOOD FLOOR	PCB-2-1-19			

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAce 9-_____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
 Seals Intact Yes No NA: _____
 Cooler Temperature: 3-7-4.2 per min

Sampled by: Anthony Trani, Sean Connolly
 Comments: Building materials

Relinquished by (Signature) <u>Anthony Trani</u>	Date/Time 8/7/17 1600	Received by (Signature) GZA FREDGE	Relinquished by (Signature) <u>Tr. Trani</u>	Date/Time 8/9/17 092	Received by (Signature) <u>[Signature]</u>
Relinquished by (Signature) <u>[Signature]</u>	Date/Time 8/9/17 1547	Received by (Signature) <u>[Signature]</u>	Relinquished by (Signature) <u>[Signature]</u>	Date/Time 8/9/17 1547	Received by (Signature) <u>[Signature]</u>

Please E-mail all changes to Chain of Custody in writing.

CERTIFICATE OF ANALYSIS

Benjamin Rach
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1708211

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED**By ESS Laboratory at 3:52 pm, Aug 17, 2017****Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708211

SAMPLE RECEIPT

The following samples were received on August 09, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
1708211-01	PCB-1-1-20	Solid	8082A
1708211-02	PCB-1-1-21	Solid	8082A
1708211-03	PCB-1-1-22	Solid	8082A
1708211-04	PCB-1-1-23	Solid	8082A
1708211-05	PCB-1-B-24	Solid	8082A
1708211-06	PCB-1-B-25	Solid	8082A
1708211-07	PCB-1-B-26	Solid	8082A
1708211-08	PCB-1-B-27	Solid	8082A
1708211-09	PCB-1-B-28	Solid	8082A
1708211-10	PCB-1-B-29	Solid	8082A
1708211-11	PCB-1-B-30	Solid	8082A
1708211-12	PCB-1-B-31	Solid	8082A
1708211-13	PCB-1-B11-32	Solid	8082A
1708211-14	PCB-1-B15-33	Solid	8082A

CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708211

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1708211-01	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708211-02	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708211-03	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708211-05	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708211-13	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
1708211-14	<u>Surrogate recovery(ies) diluted below the MRL (SD).</u> Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
CH71016-BSD1	<u>Relative percent difference for duplicate is outside of criteria (D+).</u> Aroclor 1016 (44% @ 30%), Aroclor 1016 [2C] (44% @ 30%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)[Semivolatile Organics Internal Standard Information](#)[Semivolatile Organics Surrogate Information](#)[Volatile Organics Internal Standard Information](#)[Volatile Organics Surrogate Information](#)[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708211

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708211

Laboratory Analysis
QA/QC Certification Form

Project Number: 05.0045441.06

Sampling Date(s): 8/7/2017

Laboratory Sample ID(s): 1708211-01 through 1708211-14

List RCP Methods Used () 8260B () 8151A () ETPH () 6010B () 7470A/1A
Other: () 8270C () 8081A () VPH () 6020 () 9014M
(X) 8082 () 8021B () EPH () 7000 S () 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes () No (X)
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes () No (X)
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 (X) No ()
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes () No (X)

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: Laurel Stoddard Position: Laboratory Director

Printed Name: Laurel Stoddard Date: August 17, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-1-20
 Date Sampled: 08/07/17 13:40
 Percent Solids: N/A
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-01
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.0)		8082A		50	08/15/17 0:26		CH71015
Aroclor 1221	ND (5.0)		8082A		50	08/15/17 0:26		CH71015
Aroclor 1232	ND (5.0)		8082A		50	08/15/17 0:26		CH71015
Aroclor 1242	ND (5.0)		8082A		50	08/15/17 0:26		CH71015
Aroclor 1248	ND (5.0)		8082A		50	08/15/17 0:26		CH71015
Aroclor 1254	26.9 (5.0)		8082A		50	08/15/17 0:26		CH71015
Aroclor 1260	ND (5.0)		8082A		50	08/15/17 0:26		CH71015
Aroclor 1262	ND (5.0)		8082A		50	08/15/17 0:26		CH71015
Aroclor 1268	ND (5.0)		8082A		50	08/15/17 0:26		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-1-21
 Date Sampled: 08/07/17 14:00
 Percent Solids: N/A
 Initial Volume: 10.1
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-02
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.0)		8082A		50	08/15/17 0:45		CH71015
Aroclor 1221	ND (5.0)		8082A		50	08/15/17 0:45		CH71015
Aroclor 1232	ND (5.0)		8082A		50	08/15/17 0:45		CH71015
Aroclor 1242	ND (5.0)		8082A		50	08/15/17 0:45		CH71015
Aroclor 1248	ND (5.0)		8082A		50	08/15/17 0:45		CH71015
Aroclor 1254	58.6 (5.0)		8082A		50	08/15/17 0:45		CH71015
Aroclor 1260	ND (5.0)		8082A		50	08/15/17 0:45		CH71015
Aroclor 1262	ND (5.0)		8082A		50	08/15/17 0:45		CH71015
Aroclor 1268	ND (5.0)		8082A		50	08/15/17 0:45		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-1-22
 Date Sampled: 08/07/17 14:05
 Percent Solids: N/A
 Initial Volume: 10.2
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-03
 Sample Matrix: Solid
 Units: mg/kg wet
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (9.8)		8082A		100	08/15/17 1:04		CH71015
Aroclor 1221	ND (9.8)		8082A		100	08/15/17 1:04		CH71015
Aroclor 1232	ND (9.8)		8082A		100	08/15/17 1:04		CH71015
Aroclor 1242	ND (9.8)		8082A		100	08/15/17 1:04		CH71015
Aroclor 1248	ND (9.8)		8082A		100	08/15/17 1:04		CH71015
Aroclor 1254	67.6 (9.8)		8082A		100	08/15/17 1:04		CH71015
Aroclor 1260	ND (9.8)		8082A		100	08/15/17 1:04		CH71015
Aroclor 1262	ND (9.8)		8082A		100	08/15/17 1:04		CH71015
Aroclor 1268	ND (9.8)		8082A		100	08/15/17 1:04		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-1-23
 Date Sampled: 08/07/17 14:10
 Percent Solids: 99
 Initial Volume: 5.13
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-04
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/11/17 20:20		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/11/17 20:20		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/11/17 20:20		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/11/17 20:20		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/11/17 20:20		CH71015
Aroclor 1254	18.6 (2.0)		8082A		10	08/15/17 1:23		CH71015
Aroclor 1260	ND (0.2)		8082A		1	08/11/17 20:20		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/11/17 20:20		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/11/17 20:20		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	109 %		30-150
Surrogate: Decachlorobiphenyl [2C]	79 %		30-150
Surrogate: Tetrachloro-m-xylene	87 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	93 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B-24
 Date Sampled: 08/07/17 14:23
 Percent Solids: 92
 Initial Volume: 5.08
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-05
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (4.3)		8082A		20	08/15/17 1:42		CH71015
Aroclor 1221	ND (4.3)		8082A		20	08/15/17 1:42		CH71015
Aroclor 1232	ND (4.3)		8082A		20	08/15/17 1:42		CH71015
Aroclor 1242	ND (4.3)		8082A		20	08/15/17 1:42		CH71015
Aroclor 1248	ND (4.3)		8082A		20	08/15/17 1:42		CH71015
Aroclor 1254	39.3 (4.3)		8082A		20	08/15/17 1:42		CH71015
Aroclor 1260	ND (4.3)		8082A		20	08/15/17 1:42		CH71015
Aroclor 1262	ND (4.3)		8082A		20	08/15/17 1:42		CH71015
Aroclor 1268	ND (4.3)		8082A		20	08/15/17 1:42		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B-25
 Date Sampled: 08/07/17 14:26
 Percent Solids: 97
 Initial Volume: 5.01
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-06
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/16/17 20:59		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/16/17 20:59		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/16/17 20:59		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/16/17 20:59		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/16/17 20:59		CH71015
Aroclor 1254 [2C]	5.9 (1.0)		8082A		5	08/17/17 9:48		CH71015
Aroclor 1260	1.8 (1.0)		8082A		5	08/17/17 9:48		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/16/17 20:59		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/16/17 20:59		CH71015

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	65 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	65 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	48 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	51 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B-26
 Date Sampled: 08/07/17 14:30
 Percent Solids: 96
 Initial Volume: 5.08
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-07
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/16/17 21:18		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/16/17 21:18		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/16/17 21:18		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/16/17 21:18		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/16/17 21:18		CH71015
Aroclor 1254 [2C]	9.4 (1.0)		8082A		5	08/17/17 10:06		CH71015
Aroclor 1260	3.1 (1.0)		8082A		5	08/17/17 10:05		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/16/17 21:18		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/16/17 21:18		CH71015

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	111 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	124 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	73 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	77 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B-27
 Date Sampled: 08/07/17 14:32
 Percent Solids: 97
 Initial Volume: 5.04
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-08
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/11/17 21:36		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/11/17 21:36		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/11/17 21:36		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/11/17 21:36		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/11/17 21:36		CH71015
Aroclor 1254	0.8 (0.2)		8082A		1	08/11/17 21:36		CH71015
Aroclor 1260	ND (0.2)		8082A		1	08/11/17 21:36		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/11/17 21:36		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/11/17 21:36		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	55 %		30-150
Surrogate: Decachlorobiphenyl [2C]	50 %		30-150
Surrogate: Tetrachloro-m-xylene	51 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	55 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B-28
 Date Sampled: 08/07/17 14:35
 Percent Solids: 95
 Initial Volume: 5.04
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-09
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/11/17 21:55		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/11/17 21:55		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/11/17 21:55		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/11/17 21:55		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/11/17 21:55		CH71015
Aroclor 1254	9.2 (1.0)		8082A		5	08/15/17 2:01		CH71015
Aroclor 1260	ND (0.2)		8082A		1	08/11/17 21:55		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/11/17 21:55		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/11/17 21:55		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	68 %		30-150
Surrogate: Decachlorobiphenyl [2C]	68 %		30-150
Surrogate: Tetrachloro-m-xylene	70 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	75 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B-29
 Date Sampled: 08/07/17 14:37
 Percent Solids: 96
 Initial Volume: 5.03
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-10
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/11/17 22:14		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/11/17 22:14		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/11/17 22:14		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/11/17 22:14		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/11/17 22:14		CH71015
Aroclor 1254	1.9 (0.2)		8082A		1	08/11/17 22:14		CH71015
Aroclor 1260	ND (0.2)		8082A		1	08/11/17 22:14		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/11/17 22:14		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/11/17 22:14		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	36 %		30-150
Surrogate: Decachlorobiphenyl [2C]	41 %		30-150
Surrogate: Tetrachloro-m-xylene	32 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	35 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B-30
 Date Sampled: 08/07/17 14:39
 Percent Solids: 95
 Initial Volume: 5.03
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-11
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/11/17 22:33		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/11/17 22:33		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/11/17 22:33		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/11/17 22:33		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/11/17 22:33		CH71015
Aroclor 1254	7.8 (1.0)		8082A		5	08/15/17 2:20		CH71015
Aroclor 1260 [2C]	3.3 (1.0)		8082A		5	08/15/17 2:20		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/11/17 22:33		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/11/17 22:33		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	92 %		30-150
Surrogate: Decachlorobiphenyl [2C]	89 %		30-150
Surrogate: Tetrachloro-m-xylene	80 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	87 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B-31
 Date Sampled: 08/07/17 14:41
 Percent Solids: 98
 Initial Volume: 5.04
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-12
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	08/15/17 2:39		CH71015
Aroclor 1221	ND (0.2)		8082A		1	08/15/17 2:39		CH71015
Aroclor 1232	ND (0.2)		8082A		1	08/15/17 2:39		CH71015
Aroclor 1242	ND (0.2)		8082A		1	08/15/17 2:39		CH71015
Aroclor 1248	ND (0.2)		8082A		1	08/15/17 2:39		CH71015
Aroclor 1254	0.8 (0.2)		8082A		1	08/15/17 2:39		CH71015
Aroclor 1260	ND (0.2)		8082A		1	08/15/17 2:39		CH71015
Aroclor 1262	ND (0.2)		8082A		1	08/15/17 2:39		CH71015
Aroclor 1268	ND (0.2)		8082A		1	08/15/17 2:39		CH71015

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	58 %		30-150
Surrogate: Decachlorobiphenyl [2C]	49 %		30-150
Surrogate: Tetrachloro-m-xylene	53 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	57 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B11-32
 Date Sampled: 08/07/17 14:45
 Percent Solids: 95
 Initial Volume: 5.11
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-13
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (4.1)		8082A		20	08/15/17 2:58		CH71016
Aroclor 1221	ND (4.1)		8082A		20	08/15/17 2:58		CH71016
Aroclor 1232	ND (4.1)		8082A		20	08/15/17 2:58		CH71016
Aroclor 1242	ND (4.1)		8082A		20	08/15/17 2:58		CH71016
Aroclor 1248	ND (4.1)		8082A		20	08/15/17 2:58		CH71016
Aroclor 1254	50.9 (4.1)		8082A		20	08/15/17 2:58		CH71016
Aroclor 1260	ND (4.1)		8082A		20	08/15/17 2:58		CH71016
Aroclor 1262	ND (4.1)		8082A		20	08/15/17 2:58		CH71016
Aroclor 1268	ND (4.1)		8082A		20	08/15/17 2:58		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B15-33
 Date Sampled: 08/07/17 14:48
 Percent Solids: 94
 Initial Volume: 5.05
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1708211
 ESS Laboratory Sample ID: 1708211-14
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 8/10/17 16:45

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (4.2)		8082A		20	08/15/17 3:17		CH71016
Aroclor 1221	ND (4.2)		8082A		20	08/15/17 3:17		CH71016
Aroclor 1232	ND (4.2)		8082A		20	08/15/17 3:17		CH71016
Aroclor 1242	ND (4.2)		8082A		20	08/15/17 3:17		CH71016
Aroclor 1248	ND (4.2)		8082A		20	08/15/17 3:17		CH71016
Aroclor 1254	38.3 (4.2)		8082A		20	08/15/17 3:17		CH71016
Aroclor 1260	ND (4.2)		8082A		20	08/15/17 3:17		CH71016
Aroclor 1262	ND (4.2)		8082A		20	08/15/17 3:17		CH71016
Aroclor 1268	ND (4.2)		8082A		20	08/15/17 3:17		CH71016

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708211

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CH71015 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0196		mg/kg wet	0.02500		78	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0194		mg/kg wet	0.02500		78	30-150			
Surrogate: Tetrachloro-m-xylene	0.0183		mg/kg wet	0.02500		73	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0200		mg/kg wet	0.02500		80	30-150			

LCS

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		95	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			

Surrogate: Decachlorobiphenyl	0.0227		mg/kg wet	0.02500		91	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0224		mg/kg wet	0.02500		90	30-150			
Surrogate: Tetrachloro-m-xylene	0.0218		mg/kg wet	0.02500		87	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0218		mg/kg wet	0.02500		87	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		98	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140	3	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		96	40-140	3	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140	3	30	

Surrogate: Decachlorobiphenyl	0.0232		mg/kg wet	0.02500		93	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0232		mg/kg wet	0.02500		93	30-150			
Surrogate: Tetrachloro-m-xylene	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0224		mg/kg wet	0.02500		90	30-150			

Batch CH71016 - 3540C



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708211

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CH71016 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0213		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene	0.0117		mg/kg wet	0.02500		47	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0128		mg/kg wet	0.02500		51	30-150			

LCS

Aroclor 1016	0.3	0.05	mg/kg wet	0.5000		60	40-140			
Aroclor 1016 [2C]	0.3	0.05	mg/kg wet	0.5000		60	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140			

Surrogate: Decachlorobiphenyl	0.0224		mg/kg wet	0.02500		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0216		mg/kg wet	0.02500		86	30-150			
Surrogate: Tetrachloro-m-xylene	0.00961		mg/kg wet	0.02500		38	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.00979		mg/kg wet	0.02500		39	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		93	40-140	44	30	D+
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	44	30	D+
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	4	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		81	40-140	2	30	

Surrogate: Decachlorobiphenyl	0.0205		mg/kg wet	0.02500		82	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0202		mg/kg wet	0.02500		81	30-150			
Surrogate: Tetrachloro-m-xylene	0.0213		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0214		mg/kg wet	0.02500		86	30-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708211

Notes and Definitions

- U Analyte included in the analysis, but not detected
- SD Surrogate recovery(ies) diluted below the MRL (SD).
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1708211

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM
 Shipped/Delivered Via: ESS Courier

ESS Project ID: 1708211
 Date Received: 8/9/2017
 Project Due Date: 8/17/2017
 Days for Project: 5 Day

- | | |
|--|--|
| 1. Air bill manifest present? <input type="checkbox"/> No
Air No.: <u>NA</u>
2. Were custody seals present? <input type="checkbox"/> No
3. Is radiation count <100 CPM? <input type="checkbox"/> Yes
4. Is a Cooler Present? <input type="checkbox"/> Yes
Temp: <u>4.4</u> Iced with: <u>Ice</u>
5. Was COC signed and dated by client? <input type="checkbox"/> Yes | 6. Does COC match bottles? <input type="checkbox"/> Yes
7. Is COC complete and correct? <input type="checkbox"/> Yes
8. Were samples received intact? <input type="checkbox"/> Yes
9. Were labs informed about <u>short holds & rushes</u> ? Yes / No / <u>NA</u>
10. Were any analyses received outside of hold time? Yes / <u>No</u> |
|--|--|

- | | |
|--|---|
| 11. Any Subcontracting needed? Yes / <u>No</u>
ESS Sample IDs: _____
Analysis: _____
TAT: _____ | 12. Were VOAs received? Yes / <u>No</u>
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / <u>NA</u> |
|--|---|

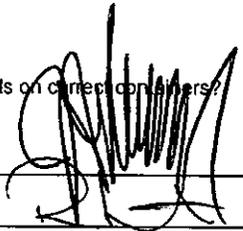
13. Are the samples properly preserved? Yes No
 a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
 b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
 a. Was there a need to contact the client? Yes / No
 Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	153348	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	153347	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	153346	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	153345	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	153542	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
06	153541	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
07	153540	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
08	153539	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
09	153538	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
10	153537	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
11	153536	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
12	153535	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
13	153534	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
14	153533	Yes	NA	Yes	2 oz. Jar - Unpres	NP	

2nd Review
 Are barcode labels on correct containers? Yes No

Completed By:  Date & Time: 8/9/17 1619

Reviewed By:  Date & Time: 8/9/17 1718

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1708211

Delivered
By:

RLA

8/9/17

1718

Date Received: 8/9/2017

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-2211
 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
 1708211

Turn Time 5 Standard Rush _____ Approved By: _____

Reporting Limits -
 0.09 mg/lcs

State where samples were collected: MA RI CT NH NJ NY ME Other _____

Is this project for any of the following: (please circle)
 MA-MCP CT-RCP RGP Other _____

Electronic Deliverable Yes No _____
 Format: Excel Access _____ PDF Other _____

GZA Project Manager: Ben Rach
GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900
 REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # 45441.06
 Project Name: DANZELS MILL
 Contract Pricing _____
 Special Pricing: _____

Analysis	# of Containers	Comment #
PCB (Soxhlet)	1	
	↓	
	↓	
	↓	

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis	Comment #
11	8/7/17	1439	G	Composite	PCB-1-B-30	1	X	
12	↓	1441	↓	↓	PCB-1-B-31	↓	↓	
13	↓	1445	↓	↓	PCB-1-B11-32	↓	↓	
14	↓	1448	↓	↓	PCB-1-B15-33	↓	↓	

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAc 9- _____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
 Seals Intact Yes No NA: P
 Cooler Temperature: 3.7-4.4.com

Sampled by: Anthony Trani ; Ben Connolly

Comments: Bldg. materials

Relinquished by (Signature) <u>Anthony Trani</u>	Date/Time 8/7/17 1600	Received by (Signature) <u>GZA FRIDGE</u>	Relinquished by (Signature) <u>Ben Connolly</u>	Date/Time 8/7/17	Received by (Signature) <u>[Signature]</u>
Relinquished by (Signature) <u>[Signature]</u>	Date/Time 8/17 1547	Received by (Signature) <u>[Signature]</u>	Relinquished by (Signature) <u>[Signature]</u>	Date/Time	Received by (Signature)

Please E-mail all changes to Chain of Custody in writing.



CERTIFICATE OF ANALYSIS

David Rusczyk
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1711115

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 4:44 pm, Nov 10, 2017

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711115

SAMPLE RECEIPT

The following samples were received on November 03, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1711115-01	PCB-1-4-PAINT-5	Solid	8082A
1711115-02	PCB-1-4-PAINT-6	Solid	8082A
1711115-03	PCB-1-3-PAINT-1	Solid	8082A
1711115-04	PCB-1-3-PAINT-2	Solid	8082A
1711115-05	PCB-1-3-PAINT-3	Solid	8082A
1711115-06	PCB-2-1-PAINT-1	Solid	8082A
1711115-07	PCB-1-B-PAINT-1	Solid	8082A
1711115-08	PCB-1-B-PAINT-2	Solid	8082A
1711115-09	PCB-2-B-PAINT-3	Solid	8082A
1711115-10	PCB-1-4-PAINT-7	Solid	8082A
1711115-11	PCB-1-5-04	Solid	8082A
1711115-12	PCB-1-5-04A	Solid	8082A
1711115-13	PCB-1-5-04B	Solid	8082A
1711115-14	PCB-1-5-05	Solid	8082A
1711115-15	PCB-1-5-06	Solid	8082A
1711115-16	PCB-2-5-07	Solid	8082A
1711115-17	PCB-2-5-08	Solid	8082A
1711115-18	PCB-1-5-09	Solid	8082A
1711115-19	PCB-1-5-10	Solid	8082A



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711115

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

- 1711115-01 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1260 [2C]
- 1711115-01 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711115-02 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711115-03 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1260 [2C]
- 1711115-03 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711115-04 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711115-05 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711115-06 Lower value is used due to matrix interferences (LC).
Aroclor 1260
- 1711115-06 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1260
- 1711115-06 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711115-08 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711115-09 Lower value is used due to matrix interferences (LC).
Aroclor 1260
- 1711115-09 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1260
- 1711115-09 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711115-10 Lower value is used due to matrix interferences (LC).
Aroclor 1260
- 1711115-10 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1260
- 1711115-10 Surrogate recovery(ies) diluted below the MRL (SD).



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711115

Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1711115-13 [Surrogate recovery\(ies\) outside of criteria. Reextraction/Reanalysis confirms results \(SC\).](#)

Decachlorobiphenyl (10% @ 30-150%), Decachlorobiphenyl [2C] (12% @ 30-150%)

1711115-19 [Lower value is used due to matrix interferences \(LC\).](#)

Aroclor 1260

1711115-19 [Percent difference between primary and confirmation results exceeds 40% \(P\).](#)

Aroclor 1260

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711115

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711115

**Laboratory Analysis
QA/QC Certification Form**

Project Number: 05.0045441.06

Sampling Date(s): 11/1/2017 through 11/3/2017

Laboratory Sample ID(s): 1711115-01 through 1711115-19

List RCP Methods Used () 8260B () 8151A () ETPH () 6010B () 7470A/1A
Other: _____ () 8270C () 8081A () VPH () 6020 () 9014M
_____ (X) 8082 () 8021B () EPH () 7000 S () 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes () No (X)
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes (X) 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 (X) No ()
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes () No (X)

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: Laboratory Director

Printed Name: Laurel Stoddard

Date: November 10, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-PAINT-5
Date Sampled: 11/01/17 10:10
Percent Solids: 98
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.1)		8082A		50	11/08/17 19:14		CK70610
Aroclor 1221	ND (5.1)		8082A		50	11/08/17 19:14		CK70610
Aroclor 1232	ND (5.1)		8082A		50	11/08/17 19:14		CK70610
Aroclor 1242	ND (5.1)		8082A		50	11/08/17 19:14		CK70610
Aroclor 1248	ND (5.1)		8082A		50	11/08/17 19:14		CK70610
Aroclor 1254	33.2 (5.1)		8082A		50	11/08/17 19:14		CK70610
Aroclor 1260 [2C]	P 19.1 (5.1)		8082A		50	11/08/17 19:14		CK70610
Aroclor 1262	ND (5.1)		8082A		50	11/08/17 19:14		CK70610
Aroclor 1268	ND (5.1)		8082A		50	11/08/17 19:14		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-PAINT-6
Date Sampled: 11/01/17 10:20
Percent Solids: 96
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (10.4)		8082A		100	11/08/17 19:33		CK70610
Aroclor 1221	ND (10.4)		8082A		100	11/08/17 19:33		CK70610
Aroclor 1232	ND (10.4)		8082A		100	11/08/17 19:33		CK70610
Aroclor 1242	ND (10.4)		8082A		100	11/08/17 19:33		CK70610
Aroclor 1248	ND (10.4)		8082A		100	11/08/17 19:33		CK70610
Aroclor 1254	68.1 (10.4)		8082A		100	11/08/17 19:33		CK70610
Aroclor 1260	66.5 (10.4)		8082A		100	11/08/17 19:33		CK70610
Aroclor 1262	ND (10.4)		8082A		100	11/08/17 19:33		CK70610
Aroclor 1268	ND (10.4)		8082A		100	11/08/17 19:33		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-3-PAINT-1
 Date Sampled: 11/02/17 11:00
 Percent Solids: 95
 Initial Volume: 10.1
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
 ESS Laboratory Sample ID: 1711115-03
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.2)		8082A		50	11/08/17 19:52		CK70610
Aroclor 1221	ND (5.2)		8082A		50	11/08/17 19:52		CK70610
Aroclor 1232	ND (5.2)		8082A		50	11/08/17 19:52		CK70610
Aroclor 1242	ND (5.2)		8082A		50	11/08/17 19:52		CK70610
Aroclor 1248	ND (5.2)		8082A		50	11/08/17 19:52		CK70610
Aroclor 1254 [2C]	66.5 (5.2)		8082A		50	11/08/17 19:52		CK70610
Aroclor 1260 [2C]	P 13.4 (5.2)		8082A		50	11/08/17 19:52		CK70610
Aroclor 1262	ND (5.2)		8082A		50	11/08/17 19:52		CK70610
Aroclor 1268	ND (5.2)		8082A		50	11/08/17 19:52		CK70610

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-3-PAINT-2
 Date Sampled: 11/02/17 11:10
 Percent Solids: 90
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
 ESS Laboratory Sample ID: 1711115-04
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (11.1)		8082A		100	11/08/17 20:11		CK70610
Aroclor 1221	ND (11.1)		8082A		100	11/08/17 20:11		CK70610
Aroclor 1232	ND (11.1)		8082A		100	11/08/17 20:11		CK70610
Aroclor 1242	ND (11.1)		8082A		100	11/08/17 20:11		CK70610
Aroclor 1248	ND (11.1)		8082A		100	11/08/17 20:11		CK70610
Aroclor 1254	102 (11.1)		8082A		100	11/08/17 20:11		CK70610
Aroclor 1260	ND (11.1)		8082A		100	11/08/17 20:11		CK70610
Aroclor 1262	ND (11.1)		8082A		100	11/08/17 20:11		CK70610
Aroclor 1268	ND (11.1)		8082A		100	11/08/17 20:11		CK70610

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-3-PAINT-3
Date Sampled: 11/02/17 11:20
Percent Solids: 97
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.2)		8082A		50	11/08/17 20:31		CK70610
Aroclor 1221	ND (5.2)		8082A		50	11/08/17 20:31		CK70610
Aroclor 1232	ND (5.2)		8082A		50	11/08/17 20:31		CK70610
Aroclor 1242	ND (5.2)		8082A		50	11/08/17 20:31		CK70610
Aroclor 1248	ND (5.2)		8082A		50	11/08/17 20:31		CK70610
Aroclor 1254 [2C]	32.1 (5.2)		8082A		50	11/08/17 20:31		CK70610
Aroclor 1260	ND (5.2)		8082A		50	11/08/17 20:31		CK70610
Aroclor 1262	ND (5.2)		8082A		50	11/08/17 20:31		CK70610
Aroclor 1268	ND (5.2)		8082A		50	11/08/17 20:31		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-1-PAINT-1
 Date Sampled: 11/02/17 11:30
 Percent Solids: 94
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
 ESS Laboratory Sample ID: 1711115-06
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.3)		8082A		50	11/08/17 20:50		CK70610
Aroclor 1221	ND (5.3)		8082A		50	11/08/17 20:50		CK70610
Aroclor 1232	ND (5.3)		8082A		50	11/08/17 20:50		CK70610
Aroclor 1242	ND (5.3)		8082A		50	11/08/17 20:50		CK70610
Aroclor 1248	ND (5.3)		8082A		50	11/08/17 20:50		CK70610
Aroclor 1254 [2C]	50.6 (5.3)		8082A		50	11/08/17 20:50		CK70610
Aroclor 1260	LC, P 13.2 (5.3)		8082A		50	11/08/17 20:50		CK70610
Aroclor 1262	ND (5.3)		8082A		50	11/08/17 20:50		CK70610
Aroclor 1268	ND (5.3)		8082A		50	11/08/17 20:50		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-B-PAINT-1
Date Sampled: 11/03/17 11:50
Percent Solids: 89
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/07/17 21:22		CK70610
Aroclor 1221	ND (0.1)		8082A		1	11/07/17 21:22		CK70610
Aroclor 1232	ND (0.1)		8082A		1	11/07/17 21:22		CK70610
Aroclor 1242	ND (0.1)		8082A		1	11/07/17 21:22		CK70610
Aroclor 1248	ND (0.1)		8082A		1	11/07/17 21:22		CK70610
Aroclor 1254 [2C]	11.8 (1.1)		8082A		10	11/08/17 21:09		CK70610
Aroclor 1260	ND (0.1)		8082A		1	11/07/17 21:22		CK70610
Aroclor 1262	ND (0.1)		8082A		1	11/07/17 21:22		CK70610
Aroclor 1268	ND (0.1)		8082A		1	11/07/17 21:22		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>115 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>116 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>69 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>67 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-B-PAINT-2
 Date Sampled: 11/03/17 11:40
 Percent Solids: 96
 Initial Volume: 10.1
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
 ESS Laboratory Sample ID: 1711115-08
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.1)		8082A		50	11/08/17 21:28		CK70610
Aroclor 1221	ND (5.1)		8082A		50	11/08/17 21:28		CK70610
Aroclor 1232	ND (5.1)		8082A		50	11/08/17 21:28		CK70610
Aroclor 1242	ND (5.1)		8082A		50	11/08/17 21:28		CK70610
Aroclor 1248	ND (5.1)		8082A		50	11/08/17 21:28		CK70610
Aroclor 1254 [2C]	58.5 (5.1)		8082A		50	11/08/17 21:28		CK70610
Aroclor 1260	ND (5.1)		8082A		50	11/08/17 21:28		CK70610
Aroclor 1262	ND (5.1)		8082A		50	11/08/17 21:28		CK70610
Aroclor 1268	ND (5.1)		8082A		50	11/08/17 21:28		CK70610

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-B-PAINT-3
 Date Sampled: 11/03/17 11:30
 Percent Solids: 96
 Initial Volume: 10.1
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
 ESS Laboratory Sample ID: 1711115-09
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.1)		8082A		50	11/08/17 21:47		CK70610
Aroclor 1221	ND (5.1)		8082A		50	11/08/17 21:47		CK70610
Aroclor 1232	ND (5.1)		8082A		50	11/08/17 21:47		CK70610
Aroclor 1242	ND (5.1)		8082A		50	11/08/17 21:47		CK70610
Aroclor 1248	ND (5.1)		8082A		50	11/08/17 21:47		CK70610
Aroclor 1254 [2C]	50.9 (5.1)		8082A		50	11/08/17 21:47		CK70610
Aroclor 1260	LC, P 16.5 (5.1)		8082A		50	11/08/17 21:47		CK70610
Aroclor 1262	ND (5.1)		8082A		50	11/08/17 21:47		CK70610
Aroclor 1268	ND (5.1)		8082A		50	11/08/17 21:47		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-4-PAINT-7
 Date Sampled: 11/03/17 11:20
 Percent Solids: 95
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
 ESS Laboratory Sample ID: 1711115-10
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (10.6)		8082A		100	11/08/17 22:06		CK70610
Aroclor 1221	ND (10.6)		8082A		100	11/08/17 22:06		CK70610
Aroclor 1232	ND (10.6)		8082A		100	11/08/17 22:06		CK70610
Aroclor 1242	ND (10.6)		8082A		100	11/08/17 22:06		CK70610
Aroclor 1248	ND (10.6)		8082A		100	11/08/17 22:06		CK70610
Aroclor 1254 [2C]	112 (10.6)		8082A		100	11/08/17 22:06		CK70610
Aroclor 1260	LC, P 28.3 (10.6)		8082A		100	11/08/17 22:06		CK70610
Aroclor 1262	ND (10.6)		8082A		100	11/08/17 22:06		CK70610
Aroclor 1268	ND (10.6)		8082A		100	11/08/17 22:06		CK70610

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-5-04
Date Sampled: 11/01/17 09:59
Percent Solids: 92
Initial Volume: 6.59
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-11
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/9/17 15:35

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	11/10/17 9:40		CK70821
Aroclor 1221	ND (0.2)		8082A		1	11/10/17 9:40		CK70821
Aroclor 1232	ND (0.2)		8082A		1	11/10/17 9:40		CK70821
Aroclor 1242	ND (0.2)		8082A		1	11/10/17 9:40		CK70821
Aroclor 1248	ND (0.2)		8082A		1	11/10/17 9:40		CK70821
Aroclor 1254	2.3 (0.2)		8082A		1	11/10/17 9:40		CK70821
Aroclor 1260	ND (0.2)		8082A		1	11/10/17 9:40		CK70821
Aroclor 1262	ND (0.2)		8082A		1	11/10/17 9:40		CK70821
Aroclor 1268	ND (0.2)		8082A		1	11/10/17 9:40		CK70821

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	37 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	36 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	73 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	74 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-5-04A
Date Sampled: 11/01/17 10:10
Percent Solids: 93
Initial Volume: 5.66
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-12
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/9/17 15:35

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.2)		8082A		1	11/10/17 10:04		CK70821
Aroclor 1221	ND (0.2)		8082A		1	11/10/17 10:04		CK70821
Aroclor 1232	ND (0.2)		8082A		1	11/10/17 10:04		CK70821
Aroclor 1242	ND (0.2)		8082A		1	11/10/17 10:04		CK70821
Aroclor 1248	ND (0.2)		8082A		1	11/10/17 10:04		CK70821
Aroclor 1254	1.4 (0.2)		8082A		1	11/10/17 10:04		CK70821
Aroclor 1260	ND (0.2)		8082A		1	11/10/17 10:04		CK70821
Aroclor 1262	ND (0.2)		8082A		1	11/10/17 10:04		CK70821
Aroclor 1268	ND (0.2)		8082A		1	11/10/17 10:04		CK70821

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	60 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	58 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	80 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	78 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-5-04B
Date Sampled: 11/01/17 10:20
Percent Solids: 93
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/07/17 23:16		CK70610
Aroclor 1221	ND (0.1)		8082A		1	11/07/17 23:16		CK70610
Aroclor 1232	ND (0.1)		8082A		1	11/07/17 23:16		CK70610
Aroclor 1242	0.5 (0.1)		8082A		1	11/07/17 23:16		CK70610
Aroclor 1248	ND (0.1)		8082A		1	11/07/17 23:16		CK70610
Aroclor 1254	1.8 (0.1)		8082A		1	11/07/17 23:16		CK70610
Aroclor 1260 [2C]	0.6 (0.1)		8082A		1	11/07/17 23:16		CK70610
Aroclor 1262	ND (0.1)		8082A		1	11/07/17 23:16		CK70610
Aroclor 1268	ND (0.1)		8082A		1	11/07/17 23:16		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	10 %	SC	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	12 %	SC	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	75 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	67 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-5-05
Date Sampled: 11/01/17 10:50
Percent Solids: 92
Initial Volume: 7.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/8/17 16:25

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/09/17 13:06		CK70821
Aroclor 1221	ND (0.1)		8082A		1	11/09/17 13:06		CK70821
Aroclor 1232	ND (0.1)		8082A		1	11/09/17 13:06		CK70821
Aroclor 1242	ND (0.1)		8082A		1	11/09/17 13:06		CK70821
Aroclor 1248	ND (0.1)		8082A		1	11/09/17 13:06		CK70821
Aroclor 1254 [2C]	0.5 (0.1)		8082A		1	11/09/17 13:06		CK70821
Aroclor 1260	ND (0.1)		8082A		1	11/09/17 13:06		CK70821
Aroclor 1262	ND (0.1)		8082A		1	11/09/17 13:06		CK70821
Aroclor 1268	ND (0.1)		8082A		1	11/09/17 13:06		CK70821

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	57 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	68 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	60 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	63 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-5-06
Date Sampled: 11/01/17 11:00
Percent Solids: 92
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-15
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/07/17 23:54		CK70610
Aroclor 1221	ND (0.1)		8082A		1	11/07/17 23:54		CK70610
Aroclor 1232	ND (0.1)		8082A		1	11/07/17 23:54		CK70610
Aroclor 1242	ND (0.1)		8082A		1	11/07/17 23:54		CK70610
Aroclor 1248	ND (0.1)		8082A		1	11/07/17 23:54		CK70610
Aroclor 1254	0.3 (0.1)		8082A		1	11/07/17 23:54		CK70610
Aroclor 1260	ND (0.1)		8082A		1	11/07/17 23:54		CK70610
Aroclor 1262	ND (0.1)		8082A		1	11/07/17 23:54		CK70610
Aroclor 1268	ND (0.1)		8082A		1	11/07/17 23:54		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	45 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	52 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	51 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	53 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-5-07
Date Sampled: 11/01/17 11:10
Percent Solids: 92
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-16
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 0:13		CK70610
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 0:13		CK70610
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 0:13		CK70610
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 0:13		CK70610
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 0:13		CK70610
Aroclor 1254 [2C]	0.4 (0.1)		8082A		1	11/08/17 0:13		CK70610
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 0:13		CK70610
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 0:13		CK70610
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 0:13		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	47 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	52 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	59 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	59 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-5-08
Date Sampled: 11/01/17 11:20
Percent Solids: 93
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 0:32		CK70610
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 0:32		CK70610
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 0:32		CK70610
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 0:32		CK70610
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 0:32		CK70610
Aroclor 1254 [2C]	0.3 (0.1)		8082A		1	11/08/17 0:32		CK70610
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 0:32		CK70610
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 0:32		CK70610
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 0:32		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	53 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	57 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	57 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	57 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-5-09
Date Sampled: 11/01/17 11:40
Percent Solids: 100
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 0:51		CK70610
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 0:51		CK70610
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 0:51		CK70610
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 0:51		CK70610
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 0:51		CK70610
Aroclor 1254 [2C]	0.6 (0.1)		8082A		1	11/08/17 0:51		CK70610
Aroclor 1260 [2C]	0.2 (0.1)		8082A		1	11/08/17 0:51		CK70610
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 0:51		CK70610
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 0:51		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	72 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	77 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	86 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	85 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-5-10
Date Sampled: 11/01/17 12:00
Percent Solids: 100
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711115
ESS Laboratory Sample ID: 1711115-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:00

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 1:10		CK70610
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 1:10		CK70610
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 1:10		CK70610
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 1:10		CK70610
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 1:10		CK70610
Aroclor 1254 [2C]	0.4 (0.1)		8082A		1	11/08/17 1:10		CK70610
Aroclor 1260	LC, P 0.1 (0.1)		8082A		1	11/08/17 1:10		CK70610
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 1:10		CK70610
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 1:10		CK70610

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	73 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	72 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	81 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	81 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711115

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CK70610 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0159		mg/kg wet	0.02500		64	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0193		mg/kg wet	0.02500		77	30-150			
Surrogate: Tetrachloro-m-xylene	0.0191		mg/kg wet	0.02500		76	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0204		mg/kg wet	0.02500		82	30-150			

LCS

Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		70	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		75	40-140			

Surrogate: Decachlorobiphenyl	0.0176		mg/kg wet	0.02500		71	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0211		mg/kg wet	0.02500		84	30-150			
Surrogate: Tetrachloro-m-xylene	0.0237		mg/kg wet	0.02500		95	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0229		mg/kg wet	0.02500		92	30-150			

LCS Dup

Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		90	40-140	0.2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140	1	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		74	40-140	5	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		78	40-140	3	30	

Surrogate: Decachlorobiphenyl	0.0180		mg/kg wet	0.02500		72	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0206		mg/kg wet	0.02500		83	30-150			
Surrogate: Tetrachloro-m-xylene	0.0228		mg/kg wet	0.02500		91	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0218		mg/kg wet	0.02500		87	30-150			

Batch CK70821 - 3540C



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711115

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CK70821 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0228		mg/kg wet	0.02500		91	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0266		mg/kg wet	0.02500		107	30-150			
Surrogate: Tetrachloro-m-xylene	0.0191		mg/kg wet	0.02500		76	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0209		mg/kg wet	0.02500		83	30-150			

LCS

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		98	40-140			

Surrogate: Decachlorobiphenyl	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0255		mg/kg wet	0.02500		102	30-150			
Surrogate: Tetrachloro-m-xylene	0.0212		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0207		mg/kg wet	0.02500		83	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140	0.2	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	0.7	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		86	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140	2	30	

Surrogate: Decachlorobiphenyl	0.0216		mg/kg wet	0.02500		86	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0248		mg/kg wet	0.02500		99	30-150			
Surrogate: Tetrachloro-m-xylene	0.0214		mg/kg wet	0.02500		86	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0205		mg/kg wet	0.02500		82	30-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711115

Notes and Definitions

- U Analyte included in the analysis, but not detected
- SD Surrogate recovery(ies) diluted below the MRL (SD).
- SC Surrogate recovery(ies) outside of criteria. Reextraction/Reanalysis confirms results (SC).
- P Percent difference between primary and confirmation results exceeds 40% (P).
- LC Lower value is used due to matrix interferences (LC).
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711115

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1711115

Shipped/Delivered Via: ESS Courier

Date Received: 11/3/2017

Project Due Date: 11/10/2017

Days for Project: 5 Day

- | | |
|--|--|
| <p>1. Air bill manifest present? <input type="checkbox"/> No
Air No.: <u>NA</u></p> <p>2. Were custody seals present? <input type="checkbox"/> No</p> <p>3. Is radiation count <100 CPM? <input type="checkbox"/> Yes</p> <p>4. Is a Cooler Present? <input type="checkbox"/> Yes
Temp: <u>1.3</u> Iced with: <u>Ice</u></p> <p>5. Was COC signed and dated by client? <input type="checkbox"/> Yes</p> | <p>6. Does COC match bottles? <input type="checkbox"/> Yes</p> <p>7. Is COC complete and correct? <input type="checkbox"/> Yes</p> <p>8. Were samples received intact? <input type="checkbox"/> Yes</p> <p>9. Were labs informed about <u>short holds & rushes</u>? Yes / No / <u>NA</u></p> <p>10. Were any analyses received outside of hold time? Yes / <u>No</u></p> |
|--|--|

- | | |
|--|---|
| <p>11. Any Subcontracting needed? Yes / <u>No</u>
ESS Sample IDs: _____
Analysis: _____
TAT: _____</p> | <p>12. Were VOAs received? Yes / <u>No</u>
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA</p> |
|--|---|

13. Are the samples properly preserved? Yes / No
- a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
- b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
- a. Was there a need to contact the client? Yes / No
- Who was contacted? _____ Date: _____ Time: _____ By: _____
-
-

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	178972	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	178971	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	178970	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	178969	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	178968	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
06	178967	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
07	178966	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
08	178965	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
09	178964	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
10	178963	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
11	178962	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
12	178961	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
13	178960	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
14	178959	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
15	178958	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
16	178957	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
17	178956	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
18	178955	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
19	178954	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review
Are barcode labels on correct containers? Yes / No

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM ESS Project ID: 1711115
Date Received: 11/3/2017

Completed By: [Signature] Date & Time: 11/3/17 2140

Reviewed By: [Signature] Date & Time: 11/3/17 2253

Delivered By: [Signature] Date & Time: 11/3/17 2253



CERTIFICATE OF ANALYSIS

David Rusczyk
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1711116

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:45 pm, Nov 10, 2017

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711116

SAMPLE RECEIPT

The following samples were received on November 03, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1711116-01	PCB-1-4-09	Solid	8082A
1711116-02	PCB-1-4-09B	Solid	8082A
1711116-03	PCB-1-4-10	Solid	8082A
1711116-04	PCB-1-4-10B	Solid	8082A
1711116-05	PCB-1-4-11	Solid	8082A
1711116-06	PCB-1-4-12	Solid	8082A
1711116-07	PCB-1-4-13	Solid	8082A
1711116-08	PCB-1-4-14	Solid	8082A
1711116-09	PCB-1-4-15	Solid	8082A
1711116-10	PCB-2-4-16	Solid	8082A
1711116-11	PCB-2-4-17	Solid	8082A
1711116-12	PCB-2-4-18	Solid	8082A
1711116-13	PCB-2-4-19	Solid	8082A
1711116-14	PCB-1-3-14	Solid	8082A
1711116-15	PCB-1-3-14B	Solid	8082A
1711116-16	PCB-1-3-15	Solid	8082A
1711116-17	PCB-1-3-16	Solid	8082A
1711116-18	PCB-1-3-17	Solid	8082A
1711116-19	PCB-1-3-18	Solid	8082A
1711116-20	PCB-1-3-19	Solid	8082A



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711116

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

1711116-07 [Percent difference between primary and confirmation results exceeds 40% \(P\).](#)
Aroclor 1260 [2C]

1711116-18 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711116

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711116

**Laboratory Analysis
QA/QC Certification Form**

Project Number: 05.0045441.06

Sampling Date(s): 11/1/2017 through 11/2/2017

Laboratory Sample ID(s): 1711116-01 through 1711116-20

List RCP Methods Used 8260B 8151A ETPH 6010B 7470A/1A
 Other: _____ 8270C 8081A VPH 6020 9014M
 _____ 8082 8021B EPH 7000 S 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1A	Were the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C°)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

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: *Laurel Stoddard*

Position: Laboratory Director

Printed Name: Laurel Stoddard

Date: November 10, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-09
Date Sampled: 11/01/17 12:14
Percent Solids: 86
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 2:41		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 2:41		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 2:41		CK70611
Aroclor 1242	0.9 (0.1)		8082A		1	11/08/17 2:41		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 2:41		CK70611
Aroclor 1254	1.5 (0.1)		8082A		1	11/08/17 2:41		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 2:41		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 2:41		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 2:41		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	74 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	70 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	76 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	77 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-09B
Date Sampled: 11/01/17 12:30
Percent Solids: 93
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 2:59		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 2:59		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 2:59		CK70611
Aroclor 1242	0.6 (0.1)		8082A		1	11/08/17 2:59		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 2:59		CK70611
Aroclor 1254	2.6 (0.5)		8082A		5	11/08/17 23:03		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 2:59		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 2:59		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 2:59		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	62 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	57 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	68 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	74 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-10
Date Sampled: 11/01/17 12:45
Percent Solids: 94
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-03
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 3:18		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 3:18		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 3:18		CK70611
Aroclor 1242	0.9 (0.1)		8082A		1	11/08/17 3:18		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 3:18		CK70611
Aroclor 1254 [2C]	5.4 (1.1)		8082A		10	11/08/17 23:22		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 3:18		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 3:18		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 3:18		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	61 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	55 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	84 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	77 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-4-10B
 Date Sampled: 11/01/17 13:00
 Percent Solids: 93
 Initial Volume: 10
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
 ESS Laboratory Sample ID: 1711116-04
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 3:36		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 3:36		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 3:36		CK70611
Aroclor 1242	0.3 (0.1)		8082A		1	11/08/17 3:36		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 3:36		CK70611
Aroclor 1254	0.5 (0.1)		8082A		1	11/08/17 3:36		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 3:36		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 3:36		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 3:36		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	52 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	46 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	76 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	72 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-11
Date Sampled: 11/01/17 13:15
Percent Solids: 100
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 3:55		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 3:55		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 3:55		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 3:55		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 3:55		CK70611
Aroclor 1254	0.9 (0.1)		8082A		1	11/08/17 3:55		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 3:55		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 3:55		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 3:55		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	80 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	85 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	80 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	87 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-12
Date Sampled: 11/01/17 13:30
Percent Solids: 100
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-06
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 4:14		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 4:14		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 4:14		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 4:14		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 4:14		CK70611
Aroclor 1254	ND (0.1)		8082A		1	11/08/17 4:14		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 4:14		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 4:14		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 4:14		CK70611

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Surrogate: Decachlorobiphenyl</i>	81 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	87 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	81 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	90 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-13
Date Sampled: 11/01/17 13:45
Percent Solids: 95
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 4:32		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 4:32		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 4:32		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 4:32		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 4:32		CK70611
Aroclor 1254	1.3 (0.1)		8082A		1	11/08/17 4:32		CK70611
Aroclor 1260	0.3 (0.1)		8082A		1	11/08/17 4:32		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 4:32		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 4:32		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	58 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	61 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	54 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	57 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-14
Date Sampled: 11/01/17 14:00
Percent Solids: 93
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-08
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 4:51		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 4:51		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 4:51		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 4:51		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 4:51		CK70611
Aroclor 1254 [2C]	1.5 (0.1)		8082A		1	11/08/17 4:51		CK70611
Aroclor 1260 [2C]	1.1 (0.1)		8082A		1	11/08/17 4:51		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 4:51		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 4:51		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	77 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	83 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	71 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	76 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-4-15
Date Sampled: 11/01/17 14:15
Percent Solids: 93
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 5:10		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 5:10		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 5:10		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 5:10		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 5:10		CK70611
Aroclor 1254	2.6 (0.5)		8082A		5	11/08/17 23:41		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 5:10		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 5:10		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 5:10		CK70611

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Surrogate: Decachlorobiphenyl</i>	63 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	63 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	55 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	52 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-4-16
 Date Sampled: 11/01/17 14:30
 Percent Solids: 100
 Initial Volume: 10.2
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
 ESS Laboratory Sample ID: 1711116-10
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 5:28		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 5:28		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 5:28		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 5:28		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 5:28		CK70611
Aroclor 1254	0.6 (0.1)		8082A		1	11/08/17 5:28		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 5:28		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 5:28		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 5:28		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	82 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	81 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	71 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	76 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-4-17
Date Sampled: 11/01/17 14:45
Percent Solids: 87
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-11
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 5:47		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 5:47		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 5:47		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 5:47		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 5:47		CK70611
Aroclor 1254	0.2 (0.1)		8082A		1	11/08/17 5:47		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 5:47		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 5:47		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 5:47		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>95 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>96 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>87 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>94 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-4-18
Date Sampled: 11/01/17 14:59
Percent Solids: 91
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-12
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 6:05		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 6:05		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 6:05		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 6:05		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 6:05		CK70611
Aroclor 1254	0.7 (0.1)		8082A		1	11/08/17 6:05		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 6:05		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 6:05		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 6:05		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	61 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	62 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	50 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	52 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-4-19
Date Sampled: 11/01/17 15:30
Percent Solids: 93
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 6:24		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 6:24		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 6:24		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 6:24		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 6:24		CK70611
Aroclor 1254 [2C]	0.4 (0.1)		8082A		1	11/08/17 6:24		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 6:24		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 6:24		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 6:24		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	37 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	39 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	34 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	36 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-3-14
Date Sampled: 11/02/17 09:00
Percent Solids: 93
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 6:43		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 6:43		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 6:43		CK70611
Aroclor 1242	1.0 (0.1)		8082A		1	11/09/17 0:00		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 6:43		CK70611
Aroclor 1254	2.8 (0.5)		8082A		5	11/09/17 0:00		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 6:43		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 6:43		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 6:43		CK70611

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Surrogate: Decachlorobiphenyl</i>	64 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	63 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	63 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	72 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-3-14B
Date Sampled: 11/02/17 09:15
Percent Solids: 94
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-15
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 7:01		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 7:01		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 7:01		CK70611
Aroclor 1242	0.6 (0.1)		8082A		1	11/08/17 7:01		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 7:01		CK70611
Aroclor 1254	1.4 (0.1)		8082A		1	11/08/17 7:01		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 7:01		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 7:01		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 7:01		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	61 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	57 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	64 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	74 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-3-15
Date Sampled: 11/02/17 09:30
Percent Solids: 100
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-16
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 7:20		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 7:20		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 7:20		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 7:20		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 7:20		CK70611
Aroclor 1254 [2C]	0.6 (0.1)		8082A		1	11/08/17 7:20		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 7:20		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 7:20		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 7:20		CK70611

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Surrogate: Decachlorobiphenyl</i>	58 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	59 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	55 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	57 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-3-16
Date Sampled: 11/02/17 09:40
Percent Solids: 98
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 7:39		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 7:39		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 7:39		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 7:39		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 7:39		CK70611
Aroclor 1254	0.2 (0.1)		8082A		1	11/08/17 7:39		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 7:39		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 7:39		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 7:39		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>92 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>99 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>85 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>90 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-3-17
Date Sampled: 11/02/17 09:50
Percent Solids: 93
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (2.2)		8082A		20	11/09/17 0:19		CK70611
Aroclor 1221	ND (2.2)		8082A		20	11/09/17 0:19		CK70611
Aroclor 1232	ND (2.2)		8082A		20	11/09/17 0:19		CK70611
Aroclor 1242	ND (2.2)		8082A		20	11/09/17 0:19		CK70611
Aroclor 1248	ND (2.2)		8082A		20	11/09/17 0:19		CK70611
Aroclor 1254 [2C]	18.4 (2.2)		8082A		20	11/09/17 0:19		CK70611
Aroclor 1260	ND (2.2)		8082A		20	11/09/17 0:19		CK70611
Aroclor 1262	ND (2.2)		8082A		20	11/09/17 0:19		CK70611
Aroclor 1268	ND (2.2)		8082A		20	11/09/17 0:19		CK70611

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-3-18
Date Sampled: 11/02/17 10:00
Percent Solids: 95
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/09/17 0:38		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/09/17 0:38		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/09/17 0:38		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/09/17 0:38		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/09/17 0:38		CK70611
Aroclor 1254 [2C]	0.6 (0.1)		8082A		1	11/09/17 0:38		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/09/17 0:38		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/09/17 0:38		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/09/17 0:38		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	34 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	41 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	34 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	37 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-3-19
Date Sampled: 11/02/17 10:10
Percent Solids: 93
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711116
ESS Laboratory Sample ID: 1711116-20
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/6/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 8:35		CK70611
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 8:35		CK70611
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 8:35		CK70611
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 8:35		CK70611
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 8:35		CK70611
Aroclor 1254	0.5 (0.1)		8082A		1	11/08/17 8:35		CK70611
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 8:35		CK70611
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 8:35		CK70611
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 8:35		CK70611

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	82 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	72 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	67 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	68 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711116

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CK70611 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0217		mg/kg wet	0.02500		87	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0226		mg/kg wet	0.02500		90	30-150			
Surrogate: Tetrachloro-m-xylene	0.0193		mg/kg wet	0.02500		77	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0201		mg/kg wet	0.02500		80	30-150			

LCS

Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		82	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		78	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		77	40-140			

Surrogate: Decachlorobiphenyl	0.0225		mg/kg wet	0.02500		90	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0230		mg/kg wet	0.02500		92	30-150			
Surrogate: Tetrachloro-m-xylene	0.0206		mg/kg wet	0.02500		82	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0210		mg/kg wet	0.02500		84	30-150			

LCS Dup

Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		87	40-140	6	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		84	40-140	2	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		86	40-140	10	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		82	40-140	7	30	

Surrogate: Decachlorobiphenyl	0.0231		mg/kg wet	0.02500		92	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0239		mg/kg wet	0.02500		96	30-150			
Surrogate: Tetrachloro-m-xylene	0.0212		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0206		mg/kg wet	0.02500		82	30-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711116

Notes and Definitions

- U Analyte included in the analysis, but not detected
- SD Surrogate recovery(ies) diluted below the MRL (SD).
- P Percent difference between primary and confirmation results exceeds 40% (P).
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711116

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1711116

Date Received: 11/3/2017

Shipped/Delivered Via: ESS Courier

Project Due Date: 11/10/2017

Days for Project: 5 Day

- | | |
|--|--|
| <p>1. Air bill manifest present? <input type="checkbox"/> No
Air No.: <u>NA</u></p> <p>2. Were custody seals present? <input type="checkbox"/> No</p> <p>3. Is radiation count <100 CPM? <input type="checkbox"/> Yes</p> <p>4. Is a Cooler Present? <input type="checkbox"/> Yes
Temp: <u>1.3</u> Iced with: <u>Ice</u></p> <p>5. Was COC signed and dated by client? <input type="checkbox"/> Yes</p> | <p>6. Does COC match bottles? <input type="checkbox"/> Yes</p> <p>7. Is COC complete and correct? <input type="checkbox"/> Yes</p> <p>8. Were samples received intact? <input type="checkbox"/> Yes</p> <p>9. Were labs informed about <u>short holds & rushes</u>? Yes / No / NA</p> <p>10. Were any analyses received outside of hold time? Yes / No</p> |
|--|--|

- | | |
|---|---|
| <p>11. Any Subcontracting needed? Yes / No
ESS Sample IDs: _____
Analysis: _____
TAT: _____</p> <p>13. Are the samples properly preserved? Yes / No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____</p> | <p>12. Were VOAs received? Yes / No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA</p> |
|---|---|

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / **No**
a. Was there a need to contact the client? Yes / **No**
Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	178991	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	178990	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	178989	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	178988	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	178987	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
06	178986	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
07	178985	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
08	178984	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
09	178983	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
10	178982	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
11	178981	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
12	178980	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
13	178979	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
14	178978	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
15	178977	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
16	178976	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
17	178975	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
18	178974	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
19	178973	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
20	178992	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review
Are barcode labels on correct containers? **Yes** / No

ESS Laboratory Sample and Cooler Receipt Checklist

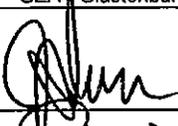
Client: GZA Glastonbury CT - GZA/MM

ESS Project ID: 1711116

Date Received: 11/3/2017

Completed

By:



Date & Time:

11/3/17 2:53

Reviewed

By:



Date & Time:

11/3/17 2:27

Delivered

By:



11/3/17 2:27

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-
 2211 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
171116

Turn Time 5 day Standard Rush _____ Approved By: _____
 State where samples were collected: MA RI (CT) NH NJ NY ME Other _____

Is this project for any of the following: (please circle)
 MA-MCP (CT-RCP) RGP Other _____
 Electronic Deliverable Yes _____ No _____
 Format: Excel Access _____ PDF Other _____

GZA Project Manager: DAVID RUSZYK
 GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900

Project # 05 004541.06
 Project Name: DANIELS MILL
 Contract Pricing _____
 Special Pricing: _____

REASONABLE CONFIDENCE PROTOCOLS REQUIRED

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis	Comment #
11	11/1/2017	1445	G	Brick	PCB-2-4-17	1	PCB (method 802)	
12	↓	1459	↓	ceiling wood	PCB-2-4-18	↓	↓	
13	↓	1530	↓	wood beam	PCB-2-4-19	↓	↓	
14	11/2/17	0900	↓	wood floor	PCB-1-3-14	↓	↓	
15	↓	0915	↓	↓	PCB-1-3-14B	↓	↓	
16	↓	0930	↓	Plaster	PCB-1-3-15	↓	↓	
17	↓	0940	↓	masonry well	PCB-1-3-16	↓	↓	
18	↓	0950	↓	wood post	PCB-1-3-17	↓	↓	
19	↓	1000	↓	wood beam	PCB-1-3-18	↓	↓	
20	↓	1010	↓	wood ceiling	PCB-1-3-19	↓	↓	

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAce 9- _____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes _____ No _____
 Seals Intact _____ Yes _____ No _____ NA: _____
 Cooler Temperature: 0.9 ± 0.5 °C

Sampled by: Anthony Trani, Joseph Kief
 Comments: all per Reporting Limits

Relinquished by: (Signature) <u>Anthony Trani</u>	Date/Time <u>11/1/17</u>	Received by: (Signature) <u>Joseph Kief</u>	Date/Time <u>11/3/17 15:34</u>	Relinquished by: (Signature) <u>Anthony Trani</u>	Date/Time <u>11/3/17 07:56</u>	Received by: (Signature) <u>Anthony Trani</u>	Date/Time <u>11/3/17 20:55</u>
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Please E-mail all changes to Chain of Custody in writing.



CERTIFICATE OF ANALYSIS

David Rusczyk
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1711117

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:52 pm, Nov 10, 2017

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711117

SAMPLE RECEIPT

The following samples were received on November 03, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1711117-01	PCB-2-2-23	Solid	8082A
1711117-02	PCB-1-2-24	Solid	8082A
1711117-03	PCB-1-2-25	Solid	8082A
1711117-04	PCB-1-2-26	Solid	8082A
1711117-05	PCB-1-2-27	Solid	8082A
1711117-06	PCB-1-2-28	Solid	8082A
1711117-07	PCB-1-2-29	Solid	8082A
1711117-08	PCB-2-1-24	Solid	8082A
1711117-09	PCB-2-1-25	Solid	8082A
1711117-10	PCB-2-1-26	Solid	8082A
1711117-11	PCB-2-1-27	Solid	8082A
1711117-12	PCB-1-1-28	Solid	8082A
1711117-13	PCB-1-1-28B	Solid	8082A
1711117-14	PCB-1-1-29	Solid	8082A
1711117-15	PCB-1-1-30	Solid	8082A
1711117-16	PCB-1-1-31	Solid	8082A
1711117-17	PCB-1-1-32	Solid	8082A
1711117-18	PCB-1-1-33	Solid	8082A
1711117-19	PCB-1-B-34	Solid	8082A
1711117-20	PCB-1-B-35	Solid	8082A



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711117

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

- 1711117-04 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711117-06 [Surrogate recovery\(ies\) above upper control limit \(S+\).](#)
Decachlorobiphenyl (152% @ 30-150%)
- 1711117-07 [Surrogate recovery\(ies\) below lower control limit \(S-\).](#)
Decachlorobiphenyl [2C] (26% @ 30-150%)
- 1711117-08 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711117-10 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1711117-13 [Surrogate recovery\(ies\) below lower control limit \(S-\).](#)
Decachlorobiphenyl [2C] (24% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711117

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711117

**Laboratory Analysis
QA/QC Certification Form**

Project Number: 05.0045441.06

Sampling Date(s): 11/2/2017 through 11/3/2017

Laboratory Sample ID(s): 1711117-01 through 1711117-20

List RCP Methods Used () 8260B () 8151A () ETPH () 6010B () 7470A/1A
Other: _____ () 8270C () 8081A () VPH () 6020 () 9014M
_____ (X) 8082 () 8021B () EPH () 7000 S () 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes () No (X)
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes (X) 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 (X) No ()
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes () No (X)

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: Laboratory Director

Printed Name: Laurel Stoddard

Date: November 10, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-2-23
Date Sampled: 11/02/17 12:00
Percent Solids: 91
Initial Volume: 10.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 16:13		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 16:13		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 16:13		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 16:13		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 16:13		CK70708
Aroclor 1254	0.5 (0.1)		8082A		1	11/08/17 16:13		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 16:13		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 16:13		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 16:13		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	48 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	38 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	52 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	51 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-2-24
Date Sampled: 11/02/17 12:30
Percent Solids: 90
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 16:32		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 16:32		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 16:32		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 16:32		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 16:32		CK70708
Aroclor 1254 [2C]	4.7 (0.6)		8082A		5	11/09/17 18:08		CK70708
Aroclor 1260 [2C]	1.5 (0.1)		8082A		1	11/08/17 16:32		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 16:32		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 16:32		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>111 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>90 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>33 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>39 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-2-25
Date Sampled: 11/02/17 12:45
Percent Solids: 93
Initial Volume: 10.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-03
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/10/17 11:09		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/10/17 11:09		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/10/17 11:09		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/10/17 11:09		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/10/17 11:09		CK70708
Aroclor 1254 [2C]	8.1 (1.1)		8082A		10	11/10/17 9:22		CK70708
Aroclor 1260 [2C]	3.6 (1.1)		8082A		10	11/10/17 9:22		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/10/17 11:09		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/10/17 11:09		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>291 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>190 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>69 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>68 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-1-2-26
 Date Sampled: 11/02/17 13:00
 Percent Solids: 93
 Initial Volume: 10.6
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
 ESS Laboratory Sample ID: 1711117-04
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (2.0)		8082A		20	11/10/17 10:05		CK70708
Aroclor 1221	ND (2.0)		8082A		20	11/10/17 10:05		CK70708
Aroclor 1232	ND (2.0)		8082A		20	11/10/17 10:05		CK70708
Aroclor 1242	ND (2.0)		8082A		20	11/10/17 10:05		CK70708
Aroclor 1248	ND (2.0)		8082A		20	11/10/17 10:05		CK70708
Aroclor 1254	13.8 (2.0)		8082A		20	11/10/17 10:05		CK70708
Aroclor 1260	3.2 (2.0)		8082A		20	11/10/17 10:05		CK70708
Aroclor 1262	ND (2.0)		8082A		20	11/10/17 10:05		CK70708
Aroclor 1268	ND (2.0)		8082A		20	11/10/17 10:05		CK70708

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-2-27
Date Sampled: 11/02/17 13:15
Percent Solids: 92
Initial Volume: 10.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-05
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 19:42		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 19:42		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 19:42		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 19:42		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 19:42		CK70708
Aroclor 1254	4.4 (0.5)		8082A		5	11/09/17 19:25		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 19:42		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 19:42		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 19:42		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	93 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	56 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	74 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	55 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-2-28
Date Sampled: 11/02/17 13:25
Percent Solids: 99
Initial Volume: 10.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-06
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 20:01		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 20:01		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 20:01		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 20:01		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 20:01		CK70708
Aroclor 1254 [2C]	2.6 (0.5)		8082A		5	11/09/17 21:38		CK70708
Aroclor 1260 [2C]	1.5 (0.1)		8082A		1	11/08/17 20:01		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 20:01		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 20:01		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	152 %	S+	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	115 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	78 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	78 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-2-29
Date Sampled: 11/02/17 13:35
Percent Solids: 93
Initial Volume: 10.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/10/17 10:45		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/10/17 10:45		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/10/17 10:45		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/10/17 10:45		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/10/17 10:45		CK70708
Aroclor 1254	0.7 (0.1)		8082A		1	11/10/17 10:45		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/10/17 10:45		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/10/17 10:45		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/10/17 10:45		CK70708

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Surrogate: Decachlorobiphenyl</i>	39 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	26 %	S-	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	88 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	60 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-1-24
Date Sampled: 11/02/17 13:45
Percent Solids: 90
Initial Volume: 10.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-08
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (5.4)		8082A		50	11/09/17 22:16		CK70708
Aroclor 1221	ND (5.4)		8082A		50	11/09/17 22:16		CK70708
Aroclor 1232	ND (5.4)		8082A		50	11/09/17 22:16		CK70708
Aroclor 1242	ND (5.4)		8082A		50	11/09/17 22:16		CK70708
Aroclor 1248	ND (5.4)		8082A		50	11/09/17 22:16		CK70708
Aroclor 1254 [2C]	48.1 (5.4)		8082A		50	11/09/17 22:16		CK70708
Aroclor 1260	ND (5.4)		8082A		50	11/09/17 22:16		CK70708
Aroclor 1262	ND (5.4)		8082A		50	11/09/17 22:16		CK70708
Aroclor 1268	ND (5.4)		8082A		50	11/09/17 22:16		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-1-25
Date Sampled: 11/02/17 13:55
Percent Solids: 91
Initial Volume: 10.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 20:57		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 20:57		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 20:57		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 20:57		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 20:57		CK70708
Aroclor 1254 [2C]	1.4 (0.1)		8082A		1	11/08/17 20:57		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 20:57		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 20:57		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 20:57		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	55 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	47 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	58 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	58 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-1-26
 Date Sampled: 11/02/17 14:05
 Percent Solids: 92
 Initial Volume: 10.1
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
 ESS Laboratory Sample ID: 1711117-10
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (53.8)		8082A		500	11/09/17 22:36		CK70708
Aroclor 1221	ND (53.8)		8082A		500	11/09/17 22:36		CK70708
Aroclor 1232	ND (53.8)		8082A		500	11/09/17 22:36		CK70708
Aroclor 1242	ND (53.8)		8082A		500	11/09/17 22:36		CK70708
Aroclor 1248	ND (53.8)		8082A		500	11/09/17 22:36		CK70708
Aroclor 1254 [2C]	254 (53.8)		8082A		500	11/09/17 22:36		CK70708
Aroclor 1260	ND (53.8)		8082A		500	11/09/17 22:36		CK70708
Aroclor 1262	ND (53.8)		8082A		500	11/09/17 22:36		CK70708
Aroclor 1268	ND (53.8)		8082A		500	11/09/17 22:36		CK70708

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-1-27
Date Sampled: 11/02/17 14:15
Percent Solids: 100
Initial Volume: 10.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-11
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/09/17 22:55		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/09/17 22:55		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/09/17 22:55		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/09/17 22:55		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/09/17 22:55		CK70708
Aroclor 1254	0.2 (0.1)		8082A		1	11/09/17 22:55		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/09/17 22:55		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/09/17 22:55		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/09/17 22:55		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>88 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>100 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>92 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>94 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-1-28
Date Sampled: 11/02/17 14:30
Percent Solids: 91
Initial Volume: 10.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-12
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 21:54		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 21:54		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 21:54		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 21:54		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 21:54		CK70708
Aroclor 1254 [2C]	8.6 (1.0)		8082A		10	11/09/17 23:14		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 21:54		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 21:54		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 21:54		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	48 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	35 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	62 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	44 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-1-28B
Date Sampled: 11/02/17 14:45
Percent Solids: 92
Initial Volume: 10.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-13
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 22:13		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 22:13		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 22:13		CK70708
Aroclor 1242 [2C]	ND (0.1)		8082A		1	11/08/17 22:13		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 22:13		CK70708
Aroclor 1254	0.6 (0.1)		8082A		1	11/08/17 22:13		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 22:13		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 22:13		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 22:13		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	36 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	24 %	S-	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	68 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	51 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-1-29
Date Sampled: 11/02/17 15:00
Percent Solids: 94
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-14
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 22:31		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 22:31		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 22:31		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 22:31		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 22:31		CK70708
Aroclor 1254 [2C]	3.0 (0.5)		8082A		5	11/09/17 23:33		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 22:31		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 22:31		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 22:31		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	60 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	49 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	66 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	65 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-1-30
Date Sampled: 11/02/17 15:15
Percent Solids: 94
Initial Volume: 10.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-15
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 22:50		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 22:50		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 22:50		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 22:50		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 22:50		CK70708
Aroclor 1254 [2C]	0.8 (0.1)		8082A		1	11/08/17 22:50		CK70708
Aroclor 1260	0.1 (0.1)		8082A		1	11/08/17 22:50		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 22:50		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 22:50		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	65 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	55 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	68 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	68 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-1-31
Date Sampled: 11/02/17 15:30
Percent Solids: 92
Initial Volume: 10.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-16
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 23:09		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 23:09		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 23:09		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 23:09		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 23:09		CK70708
Aroclor 1254 [2C]	4.6 (0.5)		8082A		5	11/09/17 23:52		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 23:09		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 23:09		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 23:09		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	72 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	60 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	66 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	65 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-1-32
Date Sampled: 11/03/17 08:00
Percent Solids: 99
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-17
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 23:28		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 23:28		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 23:28		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 23:28		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 23:28		CK70708
Aroclor 1254	0.5 (0.1)		8082A		1	11/08/17 23:28		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 23:28		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 23:28		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 23:28		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>81 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>74 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>84 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>92 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-1-33
Date Sampled: 11/03/17 08:20
Percent Solids: 100
Initial Volume: 10.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-18
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 23:47		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 23:47		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 23:47		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 23:47		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 23:47		CK70708
Aroclor 1254 [2C]	0.1 (0.1)		8082A		1	11/08/17 23:47		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 23:47		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 23:47		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 23:47		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>93 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>90 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>92 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>98 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-B-34
Date Sampled: 11/03/17 09:00
Percent Solids: 99
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-19
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/09/17 0:06		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/09/17 0:06		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/09/17 0:06		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/09/17 0:06		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/09/17 0:06		CK70708
Aroclor 1254 [2C]	0.1 (0.1)		8082A		1	11/09/17 0:06		CK70708
Aroclor 1260	ND (0.1)		8082A		1	11/09/17 0:06		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/09/17 0:06		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/09/17 0:06		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>92 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>86 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>90 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>96 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-1-B-35
Date Sampled: 11/03/17 09:20
Percent Solids: 98
Initial Volume: 10.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711117
ESS Laboratory Sample ID: 1711117-20
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 16:30

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/09/17 0:25		CK70708
Aroclor 1221	ND (0.1)		8082A		1	11/09/17 0:25		CK70708
Aroclor 1232	ND (0.1)		8082A		1	11/09/17 0:25		CK70708
Aroclor 1242	ND (0.1)		8082A		1	11/09/17 0:25		CK70708
Aroclor 1248	ND (0.1)		8082A		1	11/09/17 0:25		CK70708
Aroclor 1254 [2C]	9.3 (1.0)		8082A		10	11/10/17 0:11		CK70708
Aroclor 1260 [2C]	3.3 (1.0)		8082A		10	11/10/17 0:11		CK70708
Aroclor 1262	ND (0.1)		8082A		1	11/09/17 0:25		CK70708
Aroclor 1268	ND (0.1)		8082A		1	11/09/17 0:25		CK70708

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>119 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>95 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>69 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>55 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711117

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

8082A Polychlorinated Biphenyls (PCB)

Batch CK70708 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0266		mg/kg wet	0.02500		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0253		mg/kg wet	0.02500		101	30-150			
Surrogate: Tetrachloro-m-xylene	0.0228		mg/kg wet	0.02500		91	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0239		mg/kg wet	0.02500		96	30-150			

LCS

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		103	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		100	40-140			

Surrogate: Decachlorobiphenyl	0.0260		mg/kg wet	0.02500		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0258		mg/kg wet	0.02500		103	30-150			
Surrogate: Tetrachloro-m-xylene	0.0239		mg/kg wet	0.02500		96	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0238		mg/kg wet	0.02500		95	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		98	40-140	1	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		101	40-140	3	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		99	40-140	3	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		101	40-140	0.4	30	

Surrogate: Decachlorobiphenyl	0.0268		mg/kg wet	0.02500		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0272		mg/kg wet	0.02500		109	30-150			
Surrogate: Tetrachloro-m-xylene	0.0236		mg/kg wet	0.02500		94	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0237		mg/kg wet	0.02500		95	30-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711117

Notes and Definitions

- U Analyte included in the analysis, but not detected
- SD Surrogate recovery(ies) diluted below the MRL (SD).
- S+ Surrogate recovery(ies) above upper control limit (S+).
- S- Surrogate recovery(ies) below lower control limit (S-).
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711117

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1711117

Date Received: 11/3/2017

Shipped/Delivered Via: ESS Courier

Project Due Date: 11/10/2017

Days for Project: 5 Day

1. Air bill manifest present? No
Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
Temp: 1.3 Iced with: Ice
5. Was COC signed and dated by client? Yes

6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. Were labs informed about **short holds & rushes**? Yes / No / NA
10. Were any analyses received outside of hold time? Yes No

11. Any Subcontracting needed? Yes No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

12. Were VOAs received? Yes / No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes No
a. Was there a need to contact the client? Yes / No
Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	179011	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	179010	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	179009	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	179008	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	179007	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
06	179006	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
07	179005	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
08	179004	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
09	179003	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
10	179002	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
11	179001	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
12	179000	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
13	178999	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
14	178998	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
15	178997	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
16	178996	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
17	178995	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
18	178994	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
19	178993	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
20	179012	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review
Are barcode labels on correct containers? Yes / No

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZA/MM

ESS Project ID: 1711117

Date Received: 11/3/2017

Completed By: [Signature]

Date & Time: 11/3/17 2000 ~~11/3/17~~ 2203

Reviewed By: [Signature]

Date & Time: 11/3/17 2230

Delivered By: [Signature]

Date & Time: 11/3/17 2230

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-
 2211 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
01117

Turn Time 5.05 Standard Rush Approved By: _____

Reporting Limits -

State where samples were collected: MA RI CT NH NJ NY ME Other _____

Is this project for any of the following: (please circle)
 MA-MCP CT-RCP RGP Other _____

Electronic Deliverable Yes ___ No ___
 Format: Excel Access ___ PDF Other ___

GZA Project Manager: <u>DAVID RUSZYK</u> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402 Glastonbury, CT 06033 (860) 286-8900 REASONABLE CONFIDENCE PROTOCOLS REQUIRED	Project # <u>05.004544.06</u> Project Name: <u>DANIELS MILL</u> Contract Pricing _____ Special Pricing: _____	Analysis PCB (metal 50x14) <u>502</u>	Comment #
---	---	--	-----------

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers														
1	11/2/2017	1200	G	wood floor	PCB-2-2-23	1	X													
2		1230		wood beam	PCB-1-2-24															
3		1245		wood ceiling	PCB-1-2-25															
4		1300		wood floor	PCB-1-2-26															
5		1315		Plaster	PCB-1-2-27															
6		1325		Brick	PCB-1-2-28															
7		1335		wood floor	PCB-1-2-29															
8		1345			PCB-2-1-24															
9		1355		wood beam	PCB-2-1-25															
10	↓	1405	↓	wood ceiling	PCB-2-1-26	↓	↓													

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAc 9- _____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA AG

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter SD

Cooler Present Yes ___ No ___

Seals Intact ___ Yes ___ No NA Sampled by: Anthony Trani ; Joseph Kief

Cooler Temperature: 0.1 + 1.3 ice Comments: (0.1) PAM Reporting limit

Relinquished by: (Signature) <u>David Ruszyk</u>	Date/Time <u>11/2/17</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>11/3/17 13:34</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>11/3/17 17:55</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>11/2/17 2005</u>
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Please E-mail all changes to Chain of Custody in writing.

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-
 2211 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
D1117

Turn Time Std Standard Rush Approved By: _____
 State where samples were collected: MA RI CT NH NJ NY ME Other _____
 Is this project for any of the following: (please circle)
 MA-MCP CT-RCP RGP Other _____

Reporting Limits -
 Electronic Deliverable Yes ___ No ___
 Format: Excel X Access ___ PDF X Other ___

GZA Project Manager: DAVID RWCZYK
 GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive, Suite 402
 Glastonbury, CT 06033
 (860) 286-8900
 REASONABLE CONFIDENCE PROTOCOLS REQUIRED

Project # 05.0045441.06
 Project Name: DANIELS MILL
 Contract Pricing: _____
 Special Pricing: _____

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	Analysis	Comment #
11	11/2/2017	1415	F	Brick	PCB-2-1-27	1	X	
12	↓	1430	↓	wood floor	PCB-1-1-28	↓	↓	
13	↓	1445	↓	↓	PCB-1-1-28B	↓	↓	
14	↓	1500	↓	wood beam	PCB-1-1-29	↓	↓	
15	↓	1515	↓	wood ceiling	PCB-1-1-30	↓	↓	
16	↓	1530	↓	wood column	PCB-1-1-31	↓	↓	
17	11/3/2017	0800	↓	plaster	PCB-1-1-32	↓	↓	
18	↓	0820	↓	masonry wall	PCB-1-1-33	↓	↓	
19	↓	0900	↓	masonry foundation	PCB-1-1-34	↓	↓	
20	↓	0920	↓	plaster	PCB-1-1-35	↓	↓	

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAce 9-_____
 Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA
 Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes ___ No ___
 Seals Intact ___ Yes ___ No ___ NA: ___
 Cooler Temperature: 0.9 + 1.3 Ice
 Sampled by: Anthony Tran, Joseph Kief
 Comments: 0.1 ppm reporting limit

Relinquished by: (Signature) <u>Anthony Tran</u>	Date/Time <u>11/3/17</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>11/3/17 13:54</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>11/3/17 17:56</u>	Received by: (Signature) <u>[Signature]</u>
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Please E-mail all changes to Chain of Custody in writing.



CERTIFICATE OF ANALYSIS

David Rusczyk
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive Suite 402
Glastonbury, CT 06033

RE: Daniels Mill (05.0045441.06)
ESS Laboratory Work Order Number: 1711141

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 5:51 pm, Nov 10, 2017

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711141

SAMPLE RECEIPT

The following samples were received on November 03, 2017 for the analyses specified on the enclosed Chain of Custody Record.

To achieve Reasonable Confidence Protocols (RCP) compliance for Connecticut data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All RCP requirements have been performed and achieved unless noted in the project narrative.

Question 5: Each method has been set-up in the laboratory to reach required RCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes (ie for GWPC samples, 1,2-Dibromoethane regulatory levels will not be met by VOA 8260. If this is a contaminant of concern Method 8011 will need to be used.). The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1711141-01	PCB-2-3-20	Solid	8082A
1711141-02	PCB-2-3-21	Solid	8082A
1711141-03	PCB-2-3-22	Solid	8082A
1711141-04	PCB-2-3-22B	Solid	8082A
1711141-05	PCB-2-3-23	Solid	8082A
1711141-06	PCB-2-3-24	Solid	8082A
1711141-07	PCB-2-2-19	Solid	8082A
1711141-08	PCB-2-2-20	Solid	8082A
1711141-09	PCB-2-2-21	Solid	8082A
1711141-10	PCB-2-2-22	Solid	8082A



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711141

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711141

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711141

**Laboratory Analysis
QA/QC Certification Form**

Project Number: 05.0045441.06

Sampling Date(s): 11/2/2017

Laboratory Sample ID(s): 1711141-01 through 1711141-10

List RCP Methods Used () 8260B () 8151A () ETPH () 6010B () 7470A/1A
Other: _____ () 8270C () 8081A () VPH () 6020 () 9014M
_____ (X) 8082 () 8021B () EPH () 7000 S () 7196A

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 failing outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents?	Yes (X) No ()
1A	Were the method specified preservation and holding time requirements met?	Yes (X) No ()
1B	<i>VPH and EPH Methods only:</i> Was the VPH or EPH method conducted without significant modifications (see Section 11.3 of respective RCP methods)?	Yes () No () N/A (X)
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes (X) No ()
3	Were samples received at an appropriate temperature (<6° C°)?	Yes (X) No () N/A ()
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes (X) No ()
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	Yes (X) No () Yes (X) 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 (X) No ()
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes () No (X)

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: Laboratory Director

Printed Name: Laurel Stoddard Date: November 10, 2017

Name of Laboratory: ESS Laboratory



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-3-20
Date Sampled: 11/02/17 10:15
Percent Solids: 96
Initial Volume: 10.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
ESS Laboratory Sample ID: 1711141-01
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 17:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 15:59		CK70709
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 15:59		CK70709
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 15:59		CK70709
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 15:59		CK70709
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 15:59		CK70709
Aroclor 1254 [2C]	0.1 (0.1)		8082A		1	11/08/17 15:59		CK70709
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 15:59		CK70709
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 15:59		CK70709
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 15:59		CK70709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>102 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>112 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>92 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>95 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-3-21
Date Sampled: 11/02/17 10:20
Percent Solids: 99
Initial Volume: 10.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
ESS Laboratory Sample ID: 1711141-02
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 17:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 16:18		CK70709
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 16:18		CK70709
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 16:18		CK70709
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 16:18		CK70709
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 16:18		CK70709
Aroclor 1254 [2C]	0.3 (0.1)		8082A		1	11/08/17 16:18		CK70709
Aroclor 1260 [2C]	0.2 (0.1)		8082A		1	11/08/17 16:18		CK70709
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 16:18		CK70709
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 16:18		CK70709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>97 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>102 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>83 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>91 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-3-22
Date Sampled: 11/02/17 10:25
Percent Solids: 83
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
ESS Laboratory Sample ID: 1711141-03
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 17:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 16:36		CK70709
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 16:36		CK70709
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 16:36		CK70709
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 16:36		CK70709
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 16:36		CK70709
Aroclor 1254 [2C]	7.2 (1.2)		8082A		10	11/10/17 3:03		CK70709
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 16:36		CK70709
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 16:36		CK70709
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 16:36		CK70709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	54 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	49 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	78 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	77 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-3-22B
Date Sampled: 11/02/17 10:30
Percent Solids: 88
Initial Volume: 10.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
ESS Laboratory Sample ID: 1711141-04
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 17:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 16:55		CK70709
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 16:55		CK70709
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 16:55		CK70709
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 16:55		CK70709
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 16:55		CK70709
Aroclor 1254 [2C]	2.8 (0.5)		8082A		5	11/10/17 3:22		CK70709
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 16:55		CK70709
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 16:55		CK70709
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 16:55		CK70709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	68 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	69 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	75 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	79 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
 Client Project ID: Daniels Mill
 Client Sample ID: PCB-2-3-23
 Date Sampled: 11/02/17 10:40
 Percent Solids: 93
 Initial Volume: 8.86
 Final Volume: 10
 Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
 ESS Laboratory Sample ID: 1711141-05
 Sample Matrix: Solid
 Units: mg/kg dry
 Analyst: CAD
 Prepared: 11/9/17 15:35

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/10/17 12:00		CK70821
Aroclor 1221	ND (0.1)		8082A		1	11/10/17 12:00		CK70821
Aroclor 1232	ND (0.1)		8082A		1	11/10/17 12:00		CK70821
Aroclor 1242	ND (0.1)		8082A		1	11/10/17 12:00		CK70821
Aroclor 1248	ND (0.1)		8082A		1	11/10/17 12:00		CK70821
Aroclor 1254 [2C]	0.3 (0.1)		8082A		1	11/10/17 12:00		CK70821
Aroclor 1260	ND (0.1)		8082A		1	11/10/17 12:00		CK70821
Aroclor 1262	ND (0.1)		8082A		1	11/10/17 12:00		CK70821
Aroclor 1268	ND (0.1)		8082A		1	11/10/17 12:00		CK70821

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	40 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	44 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	43 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	50 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-3-24
Date Sampled: 11/02/17 10:50
Percent Solids: 91
Initial Volume: 10.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
ESS Laboratory Sample ID: 1711141-06
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/7/17 17:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/08/17 19:24		CK70709
Aroclor 1221	ND (0.1)		8082A		1	11/08/17 19:24		CK70709
Aroclor 1232	ND (0.1)		8082A		1	11/08/17 19:24		CK70709
Aroclor 1242	ND (0.1)		8082A		1	11/08/17 19:24		CK70709
Aroclor 1248	ND (0.1)		8082A		1	11/08/17 19:24		CK70709
Aroclor 1254 [2C]	3.7 (0.5)		8082A		5	11/10/17 3:41		CK70709
Aroclor 1260	ND (0.1)		8082A		1	11/08/17 19:24		CK70709
Aroclor 1262	ND (0.1)		8082A		1	11/08/17 19:24		CK70709
Aroclor 1268	ND (0.1)		8082A		1	11/08/17 19:24		CK70709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	75 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	77 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	74 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	77 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-2-19
Date Sampled: 11/02/17 11:00
Percent Solids: 99
Initial Volume: 10.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
ESS Laboratory Sample ID: 1711141-07
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/8/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/09/17 19:29		CK70820
Aroclor 1221	ND (0.1)		8082A		1	11/09/17 19:29		CK70820
Aroclor 1232	ND (0.1)		8082A		1	11/09/17 19:29		CK70820
Aroclor 1242	ND (0.1)		8082A		1	11/09/17 19:29		CK70820
Aroclor 1248	ND (0.1)		8082A		1	11/09/17 19:29		CK70820
Aroclor 1254	0.3 (0.1)		8082A		1	11/09/17 19:29		CK70820
Aroclor 1260	ND (0.1)		8082A		1	11/09/17 19:29		CK70820
Aroclor 1262	ND (0.1)		8082A		1	11/09/17 19:29		CK70820
Aroclor 1268	ND (0.1)		8082A		1	11/09/17 19:29		CK70820

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Surrogate: Decachlorobiphenyl</i>	86 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	87 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	87 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	96 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-2-20
Date Sampled: 11/02/17 11:10
Percent Solids: 99
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
ESS Laboratory Sample ID: 1711141-08
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/8/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/09/17 19:48		CK70820
Aroclor 1221	ND (0.1)		8082A		1	11/09/17 19:48		CK70820
Aroclor 1232	ND (0.1)		8082A		1	11/09/17 19:48		CK70820
Aroclor 1242	ND (0.1)		8082A		1	11/09/17 19:48		CK70820
Aroclor 1248	ND (0.1)		8082A		1	11/09/17 19:48		CK70820
Aroclor 1254 [2C]	0.7 (0.1)		8082A		1	11/09/17 19:48		CK70820
Aroclor 1260	ND (0.1)		8082A		1	11/09/17 19:48		CK70820
Aroclor 1262	ND (0.1)		8082A		1	11/09/17 19:48		CK70820
Aroclor 1268	ND (0.1)		8082A		1	11/09/17 19:48		CK70820

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	100 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	99 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	96 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	101 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-2-21
Date Sampled: 11/02/17 11:25
Percent Solids: 92
Initial Volume: 10.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
ESS Laboratory Sample ID: 1711141-09
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/8/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/09/17 20:07		CK70820
Aroclor 1221	ND (0.1)		8082A		1	11/09/17 20:07		CK70820
Aroclor 1232	ND (0.1)		8082A		1	11/09/17 20:07		CK70820
Aroclor 1242	ND (0.1)		8082A		1	11/09/17 20:07		CK70820
Aroclor 1248	ND (0.1)		8082A		1	11/09/17 20:07		CK70820
Aroclor 1254 [2C]	1.6 (0.1)		8082A		1	11/09/17 20:07		CK70820
Aroclor 1260	ND (0.1)		8082A		1	11/09/17 20:07		CK70820
Aroclor 1262	ND (0.1)		8082A		1	11/09/17 20:07		CK70820
Aroclor 1268	ND (0.1)		8082A		1	11/09/17 20:07		CK70820

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	57 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	58 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	59 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	46 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill
Client Sample ID: PCB-2-2-22
Date Sampled: 11/02/17 11:40
Percent Solids: 75
Initial Volume: 10
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 1711141
ESS Laboratory Sample ID: 1711141-10
Sample Matrix: Solid
Units: mg/kg dry
Analyst: CAD
Prepared: 11/8/17 16:15

8082A Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.1)		8082A		1	11/09/17 20:26		CK70820
Aroclor 1221	ND (0.1)		8082A		1	11/09/17 20:26		CK70820
Aroclor 1232	ND (0.1)		8082A		1	11/09/17 20:26		CK70820
Aroclor 1242	ND (0.1)		8082A		1	11/09/17 20:26		CK70820
Aroclor 1248	ND (0.1)		8082A		1	11/09/17 20:26		CK70820
Aroclor 1254 [2C]	2.2 (0.1)		8082A		1	11/09/17 20:26		CK70820
Aroclor 1260	ND (0.1)		8082A		1	11/09/17 20:26		CK70820
Aroclor 1262	ND (0.1)		8082A		1	11/09/17 20:26		CK70820
Aroclor 1268	ND (0.1)		8082A		1	11/09/17 20:26		CK70820

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>92 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>89 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>90 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>93 %</i>		<i>30-150</i>



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711141

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CK70709 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0266		mg/kg wet	0.02500		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0276		mg/kg wet	0.02500		111	30-150			
Surrogate: Tetrachloro-m-xylene	0.0218		mg/kg wet	0.02500		87	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0249		mg/kg wet	0.02500		99	30-150			

LCS

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		100	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		101	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		103	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140			

Surrogate: Decachlorobiphenyl	0.0265		mg/kg wet	0.02500		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0281		mg/kg wet	0.02500		112	30-150			
Surrogate: Tetrachloro-m-xylene	0.0244		mg/kg wet	0.02500		97	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0228		mg/kg wet	0.02500		91	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		105	40-140	4	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		104	40-140	3	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		108	40-140	4	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		103	40-140	4	30	

Surrogate: Decachlorobiphenyl	0.0273		mg/kg wet	0.02500		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0286		mg/kg wet	0.02500		115	30-150			
Surrogate: Tetrachloro-m-xylene	0.0251		mg/kg wet	0.02500		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0247		mg/kg wet	0.02500		99	30-150			

Batch CK70820 - 3540C



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711141

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CK70820 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0213		mg/kg wet	0.02500		85	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0223		mg/kg wet	0.02500		89	30-150			
Surrogate: Tetrachloro-m-xylene	0.0202		mg/kg wet	0.02500		81	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0213		mg/kg wet	0.02500		85	30-150			

LCS

Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140			

Surrogate: Decachlorobiphenyl	0.0235		mg/kg wet	0.02500		94	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0256		mg/kg wet	0.02500		102	30-150			
Surrogate: Tetrachloro-m-xylene	0.0210		mg/kg wet	0.02500		84	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0223		mg/kg wet	0.02500		89	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140	5	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140	4	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		92	40-140	4	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		97	40-140	2	30	

Surrogate: Decachlorobiphenyl	0.0232		mg/kg wet	0.02500		93	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0244		mg/kg wet	0.02500		98	30-150			
Surrogate: Tetrachloro-m-xylene	0.0221		mg/kg wet	0.02500		88	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0222		mg/kg wet	0.02500		89	30-150			

Batch CK70821 - 3540C



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711141

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

Batch CK70821 - 3540C

Blank

Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0228		mg/kg wet	0.02500		91	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0266		mg/kg wet	0.02500		107	30-150			
Surrogate: Tetrachloro-m-xylene	0.0191		mg/kg wet	0.02500		76	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0209		mg/kg wet	0.02500		83	30-150			

LCS

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		98	40-140			

Surrogate: Decachlorobiphenyl	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0255		mg/kg wet	0.02500		102	30-150			
Surrogate: Tetrachloro-m-xylene	0.0212		mg/kg wet	0.02500		85	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0207		mg/kg wet	0.02500		83	30-150			

LCS Dup

Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140	0.2	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	0.7	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		86	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140	2	30	

Surrogate: Decachlorobiphenyl	0.0216		mg/kg wet	0.02500		86	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0248		mg/kg wet	0.02500		99	30-150			
Surrogate: Tetrachloro-m-xylene	0.0214		mg/kg wet	0.02500		86	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0205		mg/kg wet	0.02500		82	30-150			



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711141

Notes and Definitions

- U Analyte included in the analysis, but not detected
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.
Client Project ID: Daniels Mill

ESS Laboratory Work Order: 1711141

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: GZA - Glastonbury CT - GZAMM

ESS Project ID: 1711141

Date Received: 11/3/2017

Shipped/Delivered Via: ESS Courier

Project Due Date: 11/10/2017

Days for Project: 5 Day

- 1. Air bill manifest present? No
Air No.: NA
- 2. Were custody seals present? No
- 3. Is radiation count <100 CPM? Yes
- 4. Is a Cooler Present? Yes
Temp: 1.3 Iced with: Ice
- 5. Was COC signed and dated by client? Yes

- 6. Does COC match bottles? Yes
- 7. Is COC complete and correct? Yes
- 8. Were samples received intact? Yes
- 9. Were labs informed about short holds & rushes? Yes / No / NA
- 10. Were any analyses received outside of hold time? Yes / No

- 11. Any Subcontracting needed? Yes / No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

- 12. Were VOAs received? Yes / No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA

- 13. Are the samples properly preserved? Yes / No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

- 14. Was there a need to contact Project Manager? Yes / No
a. Was there a need to contact the client? Yes / No
Who was contacted? _____ Date: _____ Time: _____ By: _____

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	179340	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	179339	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
03	179338	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
04	179337	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
05	179336	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
06	179335	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
07	179334	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
08	179333	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
09	179332	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
10	179331	Yes	NA	Yes	4 oz. Jar - Unpres	NP	

2nd Review
Are barcode labels on correct containers? Yes / No

Completed By: [Signature] Date & Time: 11/3/17 2209
 Reviewed By: [Signature] Date & Time: 11/3/17 2239
 Delivered By: [Signature] Date & Time: 11/3/17 2239

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-
 2211 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID
D11141

Turn Time 5 day Standard Rush _____ Approved By: _____
 Reporting Limits -

State where samples were collected: MA RI CT NH NJ NY ME Other _____

Is this project for any of the following: (please circle)
 MA-MCP CT-RCP RGP Other _____
 Electronic Deliverable Yes _____ No _____
 Format: Excel X Access _____ PDF X Other _____

GZA Project Manager: <u>DAVID RUSZYK</u> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402 Glastonbury, CT 06033 (860) 286-8900 REASONABLE CONFIDENCE PROTOCOLS REQUIRED		Project # <u>05.0045441-06</u> Project Name: <u>DANIELS MILL</u> Contract Pricing _____ Special Pricing: _____	Analysis PCB (metal solvent) 800	# of Containers	Comment #
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ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers												
1	11/2/2017	1015	G	Plaster	PCB-2-3-20	1	X											
2		1020		Brick	PCB-2-3-21													
3		1025		wood floor	PCB-2-3-22													
4		1030		↓	PCB-2-3-22B													
5		1040		wood beam	PCB-2-3-23													
6		1050		wood ceiling	PCB-2-3-24													
7		1100		Brick	PCB-2-2-19													
8		1110		Plaster	PCB-2-2-20													
9		1125		wood beam	PCB-2-2-21													
10		1140		wood ceiling	PCB-2-2-22													

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAc 9- _____

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA AG

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter SD

Cooler Present Yes No
 Seals Intact Yes No NA: _____
 Cooler Temperature: 0 + 1.5

Sampled by: Anthony Trani & Joseph Kief
 Comments: 21 PPM Reporting limit

Relinquished by: (Signature) <u>Anthony Trani</u>	Date/Time <u>11/3/17</u>	Received by: (Signature) <u>Joseph Kief</u>	Date/Time <u>11/3/17 13:30</u>	Relinquished by: (Signature) <u>Anthony Trani</u>	Date/Time <u>11/3/17 17:56</u>	Received by: (Signature) <u>Joseph Kief</u>	Date/Time <u>11/3/17 2004</u>
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Please E-mail all changes to Chain of Custody in writing.



APPENDIX G
UST LABORATORY REPORTS



Wednesday, December 20, 2017

Attn: Mr. Daid Rusczyk
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive
Suite 402
Glastonbury, CT 06033

Project ID: DANIELS MILL
Sample ID#s: BZ53773 - BZ53775

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.

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

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

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

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
VT Lab Registration #VT11301



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

Analysis Report
 December 20, 2017

FOR: Attn: Mr. Daid Rusczyk
 GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: LIQUID
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by:
 Received by: LB
 Analyzed by: see "By" below

Date Time

12/08/17 10:40
 12/08/17 11:53

Laboratory Data

SDG ID: GBZ53773
 Phoenix ID: BZ53773

Project ID: DANIELS MILL
 Client ID: TANK #1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.010	0.010	mg/L	1	12/11/17	TH	SW6010C
Arsenic	< 0.040	0.040	mg/L	1	12/11/17	TH	SW6010C
Barium	0.217	0.020	mg/L	1	12/11/17	TH	SW6010C
Cadmium	0.307	0.010	mg/L	1	12/11/17	TH	SW6010C
Chromium	0.221	0.010	mg/L	1	12/11/17	TH	SW6010C
Mercury	< 0.002	0.002	mg/L	1	12/11/17	RS	SW7470A
Lead	0.853	0.020	mg/L	1	12/11/17	TH	SW6010C
Selenium	< 0.50	0.50	mg/L	5	12/12/17	EK	SW6010C
Flash Point	>200	200	Degree F	1	12/11/17	Y	SW1010A
Ignitability	Passed	140	degree F	1	12/11/17	Y	SW846-Ignit
Total Organic Carbon	< 10	10	mg/L	10	12/16/17	RR/EG	SM5310C-00,-11
Mercury Digestion	Completed				12/11/17	W/W	SW7470A
Semi-Volatile Extraction	Completed				12/11/17	P/DQ	SW3520C
Total Metals Digestion	Completed				12/08/17	AG	
BTU Value	<500	500	BTU/LB		12/13/17	*	ASTMD240

Volatiles

1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	12/13/17	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	12/13/17	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	12/13/17	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	12/13/17	MH	SW8260C
Acetone	ND	25	ug/L	1	12/13/17	MH	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	12/13/17	MH	SW8260C
Benzene	ND	0.70	ug/L	1	12/13/17	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	12/13/17	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	12/13/17	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	12/13/17	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	12/13/17	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	12/13/17	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	12/13/17	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Methylene chloride	12	1.0	ug/L	1	12/13/17	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Styrene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Tetrachloroethene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	12/13/17	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	12/13/17	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	12/13/17	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	12/13/17	MH	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	91		%	1	12/13/17	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	12/13/17	MH	70 - 130 %
% Dibromofluoromethane	87		%	1	12/13/17	MH	70 - 130 %
% Toluene-d8	94		%	1	12/13/17	MH	70 - 130 %
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	10	ug/L	1	12/14/17	DD	SW8270D
1,2-Dichlorobenzene	ND	5.0	ug/L	1	12/14/17	DD	SW8270D
1,2-Diphenylhydrazine	ND	10	ug/L	1	12/14/17	DD	SW8270D
1,3-Dichlorobenzene	ND	5.0	ug/L	1	12/14/17	DD	SW8270D
1,4-Dichlorobenzene	ND	5.0	ug/L	1	12/14/17	DD	SW8270D
2,4,5-Trichlorophenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
2,4,6-Trichlorophenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
2,4-Dichlorophenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
2,4-Dimethylphenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
2,4-Dinitrophenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
2,4-Dinitrotoluene	ND	10	ug/L	1	12/14/17	DD	SW8270D
2,6-Dinitrotoluene	ND	10	ug/L	1	12/14/17	DD	SW8270D
2-Chloronaphthalene	ND	10	ug/L	1	12/14/17	DD	SW8270D
2-Chlorophenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
2-Methylphenol (o-cresol)	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
2-Nitroaniline	ND	10	ug/L	1	12/14/17	DD	SW8270D
2-Nitrophenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	20	ug/L	1	12/14/17	DD	SW8270D
3,3'-Dichlorobenzidine	ND	10	ug/L	1	12/14/17	DD	SW8270D
3-Nitroaniline	ND	10	ug/L	1	12/14/17	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
4-Bromophenyl phenyl ether	ND	10	ug/L	1	12/14/17	DD	SW8270D
4-Chloro-3-methylphenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
4-Chloroaniline	ND	10	ug/L	1	12/14/17	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
4-Nitroaniline	ND	10	ug/L	1	12/14/17	DD	SW8270D
4-Nitrophenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
Acetophenone	ND	10	ug/L	1	12/14/17	DD	SW8270D
Aniline	ND	10	ug/L	1	12/14/17	DD	SW8270D
Benzidine	ND	10	ug/L	1	12/14/17	DD	SW8270D
Benzoic acid	ND	100	ug/L	1	12/14/17	DD	SW8270D
Benzyl butyl phthalate	ND	10	ug/L	1	12/14/17	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Bis(2-chloroethoxy)methane	ND	10	ug/L	1	12/14/17	DD	SW8270D
Bis(2-chloroethyl)ether	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	10	ug/L	1	12/14/17	DD	SW8270D
Carbazole	ND	10	ug/L	1	12/14/17	DD	SW8270D
Diethyl phthalate	ND	10	ug/L	1	12/14/17	DD	SW8270D
Dimethylphthalate	ND	10	ug/L	1	12/14/17	DD	SW8270D
Di-n-butylphthalate	ND	10	ug/L	1	12/14/17	DD	SW8270D
Di-n-octylphthalate	ND	10	ug/L	1	12/14/17	DD	SW8270D
Isophorone	ND	10	ug/L	1	12/14/17	DD	SW8270D
N-Nitrosodimethylamine	ND	10	ug/L	1	12/14/17	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	10	ug/L	1	12/14/17	DD	SW8270D
N-Nitrosodiphenylamine	ND	10	ug/L	1	12/14/17	DD	SW8270D
Phenol	ND	2.0	ug/L	1	12/14/17	DD	SW8270D
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	72		%	1	12/14/17	DD	15 - 110 %
% 2-Fluorobiphenyl	73		%	1	12/14/17	DD	30 - 130 %
% 2-Fluorophenol	54		%	1	12/14/17	DD	15 - 110 %
% Nitrobenzene-d5	73		%	1	12/14/17	DD	30 - 130 %
% Phenol-d5	60		%	1	12/14/17	DD	15 - 110 %
% Terphenyl-d14	71		%	1	12/14/17	DD	30 - 130 %
<u>Semivolatiles (SIM)</u>							
1,2,4,5-Tetrachlorobenzene	ND	1.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	2.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
Acenaphthene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Acenaphthylene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Anthracene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.40	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Bis(2-ethylhexyl)phthalate	ND	1.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
Chrysene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	12/13/17	DD	SW8270D (SIM)
Dibenzofuran	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Fluoranthene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Fluorene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Hexachlorobenzene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Hexachlorobutadiene	ND	1.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
Hexachlorocyclopentadiene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Hexachloroethane	ND	1.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Naphthalene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Nitrobenzene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Pentachloronitrobenzene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Pentachlorophenol	ND	1.6	ug/L	1	12/13/17	DD	SW8270D (SIM)
Phenanthrene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Pyrene	ND	0.10	ug/L	1	12/13/17	DD	SW8270D (SIM)
Pyridine	ND	1.0	ug/L	1	12/13/17	DD	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 2,4,6-Tribromophenol	86		%	1	12/13/17	DD	15 - 110 %
% 2-Fluorobiphenyl	72		%	1	12/13/17	DD	30 - 130 %
% 2-Fluorophenol	30		%	1	12/13/17	DD	15 - 110 %
% Nitrobenzene-d5	76		%	1	12/13/17	DD	30 - 130 %
% Phenol-d5	72		%	1	12/13/17	DD	15 - 110 %
% Terphenyl-d14	96		%	1	12/13/17	DD	30 - 130 %

C = This parameter is subcontracted.

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:

TOC Analysis:

This sample was received with a pH>2. The EPA requires preservation at time of sampling to a pH of <2. A sample bias can not be ruled out.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

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.

BZ53773 - The pH in the preserved volatile vial was greater than 2. A negative bias may have occurred.

BTU Value (ASTMD240) was analyzed by CT certified lab #PH-0520.

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

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Phyllis Shiller, Laboratory Director

December 20, 2017

Reviewed and Released by: Ethan Lee, 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
 December 20, 2017

FOR: Attn: Mr. Daid Rusczyk
 GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: LIQUID
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by:
 Received by: LB
 Analyzed by: see "By" below

Date

12/08/17
 12/08/17

Time

10:50
 11:53

Laboratory Data

SDG ID: GBZ53773
 Phoenix ID: BZ53774

Project ID: DANIELS MILL
 Client ID: TANK #2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.010	0.010	mg/L	1	12/11/17	TH	SW6010C
Arsenic	< 0.040	0.040	mg/L	1	12/11/17	TH	SW6010C
Barium	0.048	0.020	mg/L	1	12/11/17	TH	SW6010C
Cadmium	0.127	0.010	mg/L	1	12/11/17	TH	SW6010C
Chromium	0.133	0.010	mg/L	1	12/11/17	TH	SW6010C
Mercury	< 0.002	0.002	mg/L	1	12/11/17	RS	SW7470A
Lead	0.447	0.020	mg/L	1	12/11/17	TH	SW6010C
Selenium	< 0.50	0.50	mg/L	5	12/12/17	EK	SW6010C
Flash Point	>200	200	Degree F	1	12/11/17	Y	SW1010A
Ignitability	Passed	140	degree F	1	12/11/17	Y	SW846-Ignit
Total Organic Carbon	< 5.0	5.0	mg/L	5	12/16/17	RR/EG	SM5310C-00,-11
Mercury Digestion	Completed				12/11/17	W/W	SW7470A
Semi-Volatile Extraction	Completed				12/11/17	P/DQ	SW3520C
Total Metals Digestion	Completed				12/08/17	AG	
BTU Value	<500	500	BTU/LB		12/13/17	*	ASTMD240

Volatiles

1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	12/12/17	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	12/12/17	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	12/12/17	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	12/12/17	MH	SW8260C
Acetone	ND	25	ug/L	1	12/12/17	MH	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	12/12/17	MH	SW8260C
Benzene	ND	0.70	ug/L	1	12/12/17	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	12/12/17	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	12/12/17	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	12/12/17	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	12/12/17	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	12/12/17	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	12/12/17	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Methylene chloride	1.3	S 1.0	ug/L	1	12/12/17	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Styrene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Tetrachloroethene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	12/12/17	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	12/12/17	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	12/12/17	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	12/12/17	MH	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	99		%	1	12/12/17	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	12/12/17	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	12/12/17	MH	70 - 130 %
% Toluene-d8	97		%	1	12/12/17	MH	70 - 130 %
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	20	ug/L	1	12/14/17	DD	SW8270D
1,2-Dichlorobenzene	ND	10	ug/L	1	12/14/17	DD	SW8270D
1,2-Diphenylhydrazine	ND	20	ug/L	1	12/14/17	DD	SW8270D
1,3-Dichlorobenzene	ND	10	ug/L	1	12/14/17	DD	SW8270D
1,4-Dichlorobenzene	ND	10	ug/L	1	12/14/17	DD	SW8270D
2,4,5-Trichlorophenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
2,4,6-Trichlorophenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
2,4-Dichlorophenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
2,4-Dimethylphenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
2,4-Dinitrophenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
2,4-Dinitrotoluene	ND	20	ug/L	1	12/14/17	DD	SW8270D
2,6-Dinitrotoluene	ND	20	ug/L	1	12/14/17	DD	SW8270D
2-Chloronaphthalene	ND	20	ug/L	1	12/14/17	DD	SW8270D
2-Chlorophenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
2-Methylphenol (o-cresol)	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
2-Nitroaniline	ND	20	ug/L	1	12/14/17	DD	SW8270D
2-Nitrophenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	40	ug/L	1	12/14/17	DD	SW8270D
3,3'-Dichlorobenzidine	ND	20	ug/L	1	12/14/17	DD	SW8270D
3-Nitroaniline	ND	20	ug/L	1	12/14/17	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
4-Bromophenyl phenyl ether	ND	20	ug/L	1	12/14/17	DD	SW8270D
4-Chloro-3-methylphenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
4-Chloroaniline	ND	20	ug/L	1	12/14/17	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
4-Nitroaniline	ND	20	ug/L	1	12/14/17	DD	SW8270D
4-Nitrophenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
Acetophenone	ND	20	ug/L	1	12/14/17	DD	SW8270D
Aniline	ND	20	ug/L	1	12/14/17	DD	SW8270D
Benzidine	ND	20	ug/L	1	12/14/17	DD	SW8270D
Benzoic acid	ND	200	ug/L	1	12/14/17	DD	SW8270D
Benzyl butyl phthalate	ND	20	ug/L	1	12/14/17	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Bis(2-chloroethoxy)methane	ND	20	ug/L	1	12/14/17	DD	SW8270D
Bis(2-chloroethyl)ether	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	20	ug/L	1	12/14/17	DD	SW8270D
Carbazole	ND	20	ug/L	1	12/14/17	DD	SW8270D
Diethyl phthalate	ND	20	ug/L	1	12/14/17	DD	SW8270D
Dimethylphthalate	ND	20	ug/L	1	12/14/17	DD	SW8270D
Di-n-butylphthalate	ND	20	ug/L	1	12/14/17	DD	SW8270D
Di-n-octylphthalate	ND	20	ug/L	1	12/14/17	DD	SW8270D
Isophorone	ND	20	ug/L	1	12/14/17	DD	SW8270D
N-Nitrosodimethylamine	ND	20	ug/L	1	12/14/17	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	20	ug/L	1	12/14/17	DD	SW8270D
N-Nitrosodiphenylamine	ND	20	ug/L	1	12/14/17	DD	SW8270D
Phenol	ND	4.0	ug/L	1	12/14/17	DD	SW8270D
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	69		%	1	12/14/17	DD	15 - 110 %
% 2-Fluorobiphenyl	70		%	1	12/14/17	DD	30 - 130 %
% 2-Fluorophenol	48		%	1	12/14/17	DD	15 - 110 %
% Nitrobenzene-d5	65		%	1	12/14/17	DD	30 - 130 %
% Phenol-d5	41		%	1	12/14/17	DD	15 - 110 %
% Terphenyl-d14	71		%	1	12/14/17	DD	30 - 130 %
<u>Semivolatiles (SIM)</u>							
1,2,4,5-Tetrachlorobenzene	ND	2.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	4.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
Acenaphthene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Acenaphthylene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Anthracene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.80	ug/L	1	12/13/17	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Bis(2-ethylhexyl)phthalate	ND	2.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
Chrysene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.04	ug/L	1	12/13/17	DD	SW8270D (SIM)
Dibenzofuran	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Fluoranthene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Fluorene	ND	0.40	ug/L	1	12/13/17	DD	SW8270D (SIM)
Hexachlorobenzene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Hexachlorobutadiene	ND	2.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
Hexachlorocyclopentadiene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Hexachloroethane	ND	2.0	ug/L	1	12/13/17	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Naphthalene	ND	0.40	ug/L	1	12/13/17	DD	SW8270D (SIM)
Nitrobenzene	ND	0.40	ug/L	1	12/13/17	DD	SW8270D (SIM)
Pentachloronitrobenzene	ND	0.40	ug/L	1	12/13/17	DD	SW8270D (SIM)
Pentachlorophenol	ND	3.2	ug/L	1	12/13/17	DD	SW8270D (SIM)
Phenanthrene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Pyrene	ND	0.20	ug/L	1	12/13/17	DD	SW8270D (SIM)
Pyridine	ND	2.0	ug/L	1	12/13/17	DD	SW8270D (SIM)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 2,4,6-Tribromophenol	79		%	1	12/13/17	DD	15 - 110 %
% 2-Fluorobiphenyl	70		%	1	12/13/17	DD	30 - 130 %
% 2-Fluorophenol	31		%	1	12/13/17	DD	15 - 110 %
% Nitrobenzene-d5	75		%	1	12/13/17	DD	30 - 130 %
% Phenol-d5	50		%	1	12/13/17	DD	15 - 110 %
% Terphenyl-d14	90		%	1	12/13/17	DD	30 - 130 %

C = This parameter is subcontracted.

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:

TOC Analysis:

This sample was received with a pH>2. The EPA requires preservation at time of sampling to a pH of <2. A sample bias can not be ruled out.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

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.

BZ53774 - The pH in the preserved volatile vial was greater than 2. A negative bias may have occurred.

BTU Value (ASTMD240) was analyzed by CT certified lab #PH-0520.

S - Laboratory solvent, contamination is possible.

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

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Phyllis Shiller, Laboratory Director

December 20, 2017

Reviewed and Released by: Ethan Lee, 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
 December 20, 2017

FOR: Attn: Mr. Daid Rusczyk
 GZA GeoEnvironmental, Inc.
 655 Winding Brook Drive
 Suite 402
 Glastonbury, CT 06033

Sample Information

Matrix: LIQUID
 Location Code: GZACTENG
 Rush Request: Standard
 P.O.#:

Custody Information

Collected by:
 Received by: LB
 Analyzed by: see "By" below

Date Time

12/08/17 11:00
 12/08/17 11:53

Laboratory Data

SDG ID: GBZ53773
 Phoenix ID: BZ53775

Project ID: DANIELS MILL
 Client ID: TANK #6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.010	0.010	mg/L	1	12/11/17	TH	SW6010C
Arsenic	0.045	0.040	mg/L	1	12/11/17	TH	SW6010C
Barium	0.041	0.020	mg/L	1	12/11/17	TH	SW6010C
Cadmium	< 0.010	0.010	mg/L	1	12/11/17	TH	SW6010C
Chromium	< 0.010	0.010	mg/L	1	12/11/17	TH	SW6010C
Mercury	< 0.002	0.002	mg/L	1	12/11/17	RS	SW7470A
Lead	< 0.020	0.020	mg/L	1	12/11/17	TH	SW6010C
Selenium	< 0.10	0.10	mg/L	1	12/11/17	TH	SW6010C
Flash Point	112	200	Degree F	1	12/11/17	Y	SW1010A
Ignitability	Failed	140	degree F	1	12/11/17	Y	SW846-Ignit
Total Organic Carbon	7100	1000	mg/L	1000	12/16/17	RR/EG	SM5310C-00,-11
Mercury Digestion	Completed				12/11/17	W/W	SW7470A
Semi-Volatile Extraction	Completed				12/11/17	P/DQ	SW3520C
Total Metals Digestion	Completed				12/08/17	AG	
BTU Value	<500	500	BTU/LB		12/13/17	*	ASTMD240

Volatiles

1,1,1,2-Tetrachloroethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,1,1-Trichloroethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	1000	ug/L	2000	12/14/17	MH	SW8260C
1,1,2-Trichloroethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,1-Dichloroethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,1-Dichloroethene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,1-Dichloropropene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,2,3-Trichlorobenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,2,3-Trichloropropane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,2,4-Trichlorobenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,2,4-Trimethylbenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromo-3-chloropropane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,2-Dibromoethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,2-Dichlorobenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,2-Dichloroethane	ND	1200	ug/L	2000	12/14/17	MH	SW8260C
1,2-Dichloropropane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,3,5-Trimethylbenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,3-Dichlorobenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,3-Dichloropropane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
1,4-Dichlorobenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
2,2-Dichloropropane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
2-Chlorotoluene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
2-Hexanone	ND	10000	ug/L	2000	12/14/17	MH	SW8260C
2-Isopropyltoluene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
4-Chlorotoluene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
4-Methyl-2-pentanone	ND	10000	ug/L	2000	12/14/17	MH	SW8260C
Acetone	ND	6300000	ug/L	250000	12/20/17	MH	SW8260C
Acrylonitrile	ND	10000	ug/L	2000	12/14/17	MH	SW8260C
Benzene	ND	1400	ug/L	2000	12/14/17	MH	SW8260C
Bromobenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Bromochloromethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Bromodichloromethane	ND	1000	ug/L	2000	12/14/17	MH	SW8260C
Bromoform	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Bromomethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Carbon Disulfide	ND	10000	ug/L	2000	12/14/17	MH	SW8260C
Carbon tetrachloride	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Chlorobenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Chloroethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Chloroform	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Chloromethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
cis-1,2-Dichloroethene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
cis-1,3-Dichloropropene	ND	800	ug/L	2000	12/14/17	MH	SW8260C
Dibromochloromethane	ND	1000	ug/L	2000	12/14/17	MH	SW8260C
Dibromomethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Dichlorodifluoromethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Ethylbenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Hexachlorobutadiene	ND	800	ug/L	2000	12/14/17	MH	SW8260C
Isopropylbenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
m&p-Xylene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Methyl ethyl ketone	26000	10000	ug/L	2000	12/14/17	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Methylene chloride	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Naphthalene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
n-Butylbenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
n-Propylbenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
o-Xylene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
p-Isopropyltoluene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
sec-Butylbenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Styrene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
tert-Butylbenzene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Tetrachloroethene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Tetrahydrofuran (THF)	ND	5000	ug/L	2000	12/14/17	MH	SW8260C
Toluene	2500	2000	ug/L	2000	12/14/17	MH	SW8260C
Total Xylenes	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
trans-1,2-Dichloroethene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
trans-1,3-Dichloropropene	ND	800	ug/L	2000	12/14/17	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	10000	ug/L	2000	12/14/17	MH	SW8260C
Trichloroethene	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Trichlorofluoromethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Trichlorotrifluoroethane	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
Vinyl chloride	ND	2000	ug/L	2000	12/14/17	MH	SW8260C
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	98		%	2000	12/14/17	MH	70 - 130 %
% Bromofluorobenzene	101		%	2000	12/14/17	MH	70 - 130 %
% Dibromofluoromethane	99		%	2000	12/14/17	MH	70 - 130 %
% Toluene-d8	97		%	2000	12/14/17	MH	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	400	ug/L	20	12/14/17	DD	SW8270D
1,2,4-Trichlorobenzene	ND	400	ug/L	20	12/14/17	DD	SW8270D
1,2-Dichlorobenzene	ND	400	ug/L	20	12/14/17	DD	SW8270D
1,2-Diphenylhydrazine	ND	400	ug/L	20	12/14/17	DD	SW8270D
1,3-Dichlorobenzene	ND	400	ug/L	20	12/14/17	DD	SW8270D
1,4-Dichlorobenzene	ND	400	ug/L	20	12/14/17	DD	SW8270D
2,4,5-Trichlorophenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
2,4,6-Trichlorophenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
2,4-Dichlorophenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
2,4-Dimethylphenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
2,4-Dinitrophenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
2,4-Dinitrotoluene	ND	400	ug/L	20	12/14/17	DD	SW8270D
2,6-Dinitrotoluene	ND	400	ug/L	20	12/14/17	DD	SW8270D
2-Chloronaphthalene	ND	400	ug/L	20	12/14/17	DD	SW8270D
2-Chlorophenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
2-Methylnaphthalene	ND	400	ug/L	20	12/14/17	DD	SW8270D
2-Methylphenol (o-cresol)	ND	400	ug/L	20	12/14/17	DD	SW8270D
2-Nitroaniline	ND	400	ug/L	20	12/14/17	DD	SW8270D
2-Nitrophenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	400	ug/L	20	12/14/17	DD	SW8270D
3,3'-Dichlorobenzidine	ND	400	ug/L	20	12/14/17	DD	SW8270D
3-Nitroaniline	ND	400	ug/L	20	12/14/17	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
4-Bromophenyl phenyl ether	ND	400	ug/L	20	12/14/17	DD	SW8270D
4-Chloro-3-methylphenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
4-Chloroaniline	ND	400	ug/L	20	12/14/17	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	400	ug/L	20	12/14/17	DD	SW8270D
4-Nitroaniline	ND	400	ug/L	20	12/14/17	DD	SW8270D
4-Nitrophenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
Acenaphthene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Acenaphthylene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Acetophenone	ND	400	ug/L	20	12/14/17	DD	SW8270D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Aniline	ND	800	ug/L	20	12/14/17	DD	SW8270D
Anthracene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Benz(a)anthracene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Benzidine	ND	400	ug/L	20	12/14/17	DD	SW8270D
Benzo(a)pyrene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Benzo(b)fluoranthene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Benzo(ghi)perylene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Benzo(k)fluoranthene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Benzoic acid	ND	800	ug/L	20	12/14/17	DD	SW8270D
Benzyl butyl phthalate	ND	400	ug/L	20	12/14/17	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	400	ug/L	20	12/14/17	DD	SW8270D
Bis(2-chloroethyl)ether	ND	400	ug/L	20	12/14/17	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	400	ug/L	20	12/14/17	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	400	ug/L	20	12/14/17	DD	SW8270D
Carbazole	ND	400	ug/L	20	12/14/17	DD	SW8270D
Chrysene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Dibenz(a,h)anthracene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Dibenzofuran	ND	400	ug/L	20	12/14/17	DD	SW8270D
Diethyl phthalate	ND	400	ug/L	20	12/14/17	DD	SW8270D
Dimethylphthalate	ND	400	ug/L	20	12/14/17	DD	SW8270D
Di-n-butylphthalate	ND	400	ug/L	20	12/14/17	DD	SW8270D
Di-n-octylphthalate	ND	400	ug/L	20	12/14/17	DD	SW8270D
Fluoranthene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Fluorene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Hexachlorobenzene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Hexachlorobutadiene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Hexachlorocyclopentadiene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Hexachloroethane	ND	400	ug/L	20	12/14/17	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Isophorone	ND	400	ug/L	20	12/14/17	DD	SW8270D
Naphthalene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Nitrobenzene	ND	400	ug/L	20	12/14/17	DD	SW8270D
N-Nitrosodimethylamine	ND	400	ug/L	20	12/14/17	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	400	ug/L	20	12/14/17	DD	SW8270D
N-Nitrosodiphenylamine	ND	400	ug/L	20	12/14/17	DD	SW8270D
Pentachloronitrobenzene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Pentachlorophenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
Phenanthrene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Phenol	ND	400	ug/L	20	12/14/17	DD	SW8270D
Pyrene	ND	400	ug/L	20	12/14/17	DD	SW8270D
Pyridine	ND	400	ug/L	20	12/14/17	DD	SW8270D
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol	Diluted Out		%	20	12/14/17	DD	15 - 110 %
% 2-Fluorobiphenyl	Diluted Out		%	20	12/14/17	DD	30 - 130 %
% 2-Fluorophenol	Diluted Out		%	20	12/14/17	DD	15 - 110 %
% Nitrobenzene-d5	Diluted Out		%	20	12/14/17	DD	30 - 130 %
% Phenol-d5	Diluted Out		%	20	12/14/17	DD	15 - 110 %
% Terphenyl-d14	Diluted Out		%	20	12/14/17	DD	30 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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C = This parameter is subcontracted.

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:

TOC Analysis:

This sample was received with a pH>2. The EPA requires preservation at time of sampling to a pH of <2. A sample bias can not be ruled out.

Ignitability is based solely on the results of the closed cup flashpoint analysis performed above. Passed is >140 degree F.

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:

Due to a matrix interference and/or the presence of a large amount of non-target material in the sample, a dilution was required resulting in an elevated RL for the semivolatile analysis.

Semi-Volatile Comment:

The client requested semivolatile SIM analysis for some compounds. Due to sample matrix, the sample had to be run full scan and could not be evaluated to the requested detection levels.

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

BZ53775 - The pH in the preserved volatile vial was greater than 2. A negative bias may have occurred.

BTU Value (ASTMD240) was analyzed by CT certified lab #PH-0520.

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

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



Phyllis Shiller, Laboratory Director

December 20, 2017

Reviewed and Released by: Ethan Lee, 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

December 20, 2017

QA/QC Data

SDG I.D.: GBZ53773

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 412412 (mg/L), QC Sample No: BZ53160 (BZ53773, BZ53774, BZ53775)													
<u>ICP Metals - Aqueous</u>													
Arsenic	BRL	0.004	<0.004	<0.004	NC	97.3			98.1			75 - 125	20
Barium	BRL	0.002	0.040	0.042	4.90	105			104			75 - 125	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	99.8			98.7			75 - 125	20
Chromium	BRL	0.001	<0.001	<0.001	NC	102			101			75 - 125	20
Lead	BRL	0.002	<0.002	<0.002	NC	101			101			75 - 125	20
Selenium	BRL	0.010	<0.010	<0.010	NC	94.3			94.9			75 - 125	20
Silver	BRL	0.001	<0.001	<0.001	NC	101			101			75 - 125	20

QA/QC Batch 412493 (mg/L), QC Sample No: BZ53646 (BZ53773, BZ53774, BZ53775)

Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	99.6			97.3			80 - 120	20
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Comment:

Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.



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QA/QC Report

December 20, 2017

QA/QC Data

SDG I.D.: GBZ53773

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 413434 (mg/L), QC Sample No: BZ53210 (BZ53773, BZ53774, BZ53775)													
Total Organic Carbon	BRL	1.0	<1.0	<1.0	NC	111			90.0			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 412592 (Degree F), QC Sample No: BZ54015 (BZ53773, BZ53774, BZ53775)													
Flash Point			>200	>200	NC	100						75 - 125	30
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													



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QA/QC Report

December 20, 2017

QA/QC Data

SDG I.D.: GBZ53773

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 412606 (ug/L), QC Sample No: BZ53663 (BZ53773, BZ53774, BZ53775)										
Semivolatiles (SIM) - Liquid										
1,2,4,5-Tetrachlorobenzene	ND	0.50	59	66	11.2				30 - 130	20
2-Methylnaphthalene	ND	0.02	65	72	10.2				30 - 130	20
Acenaphthene	ND	0.02	65	70	7.4				30 - 130	20
Acenaphthylene	ND	0.02	66	72	8.7				30 - 130	20
Anthracene	ND	0.02	66	68	3.0				30 - 130	20
Benz(a)anthracene	ND	0.02	72	73	1.4				30 - 130	20
Benzo(a)pyrene	ND	0.02	68	70	2.9				30 - 130	20
Benzo(b)fluoranthene	ND	0.02	73	76	4.0				30 - 130	20
Benzo(ghi)perylene	ND	0.02	57	59	3.4				30 - 130	20
Benzo(k)fluoranthene	ND	0.02	70	72	2.8				30 - 130	20
Bis(2-ethylhexyl)phthalate	ND	0.10	84	94	11.2				30 - 130	20
Chrysene	ND	0.02	68	69	1.5				30 - 130	20
Dibenz(a,h)anthracene	ND	0.01	64	66	3.1				30 - 130	20
Dibenzofuran	ND	0.05	57	60	5.1				30 - 130	20
Fluoranthene	ND	0.02	67	67	0.0				30 - 130	20
Fluorene	ND	0.02	66	68	3.0				30 - 130	20
Hexachlorobenzene	ND	0.02	68	72	5.7				30 - 130	20
Hexachlorobutadiene	ND	0.05	51	59	14.5				30 - 130	20
Hexachlorocyclopentadiene	ND	0.05	36	36	0.0				30 - 130	20
Hexachloroethane	ND	0.05	43	53	20.8				30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	0.02	61	63	3.2				30 - 130	20
Naphthalene	ND	0.02	53	60	12.4				30 - 130	20
Nitrobenzene	ND	0.05	55	63	13.6				30 - 130	20
Pentachloronitrobenzene	ND	0.10	78	85	8.6				30 - 130	20
Pentachlorophenol	ND	0.20	70	72	2.8				30 - 130	20
Phenanthrene	ND	0.02	64	66	3.1				30 - 130	20
Pyrene	ND	0.02	68	69	1.5				30 - 130	20
Pyridine	ND	0.50	33	40	19.2				30 - 130	20
% 2,4,6-Tribromophenol	74	%	76	81	6.4				15 - 110	20
% 2-Fluorobiphenyl	58	%	60	64	6.5				30 - 130	20
% 2-Fluorophenol	36	%	34	44	25.6				15 - 110	20
% Nitrobenzene-d5	53	%	52	61	15.9				30 - 130	20
% Phenol-d5	14	%	39	48	20.7				15 - 110	20
% Terphenyl-d14	67	%	70	70	0.0				30 - 130	20

Comment:

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

QA/QC Batch 412606 (ug/L), QC Sample No: BZ53663 (BZ53773, BZ53774, BZ53775)

Semivolatiles - Liquid

1,2,4,5-Tetrachlorobenzene	ND	3.5	70	77	9.5				30 - 130	20
1,2,4-Trichlorobenzene	ND	3.5	59	68	14.2				30 - 130	20

QA/QC Data

SDG I.D.: GBZ53773

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2-Dichlorobenzene	ND	1.0	52	61	15.9				30 - 130	20
1,2-Diphenylhydrazine	ND	1.6	74	78	5.3				30 - 130	20
1,3-Dichlorobenzene	ND	1.0	49	59	18.5				30 - 130	20
1,4-Dichlorobenzene	ND	1.0	49	58	16.8				30 - 130	20
2,4,5-Trichlorophenol	ND	1.0	75	81	7.7				30 - 130	20
2,4,6-Trichlorophenol	ND	1.0	70	78	10.8				30 - 130	20
2,4-Dichlorophenol	ND	1.0	65	72	10.2				30 - 130	20
2,4-Dimethylphenol	ND	1.0	68	73	7.1				30 - 130	20
2,4-Dinitrophenol	ND	1.0	78	80	2.5				30 - 130	20
2,4-Dinitrotoluene	ND	3.5	77	80	3.8				30 - 130	20
2,6-Dinitrotoluene	ND	3.5	80	86	7.2				30 - 130	20
2-Chloronaphthalene	ND	3.5	66	75	12.8				30 - 130	20
2-Chlorophenol	ND	1.0	51	59	14.5				30 - 130	20
2-Methylnaphthalene	ND	3.5	66	73	10.1				30 - 130	20
2-Methylphenol (o-cresol)	ND	1.0	65	73	11.6				30 - 130	20
2-Nitroaniline	ND	3.5	99	105	5.9				30 - 130	20
2-Nitrophenol	ND	1.0	54	62	13.8				30 - 130	20
3&4-Methylphenol (m&p-cresol)	ND	1.0	68	76	11.1				30 - 130	20
3,3'-Dichlorobenzidine	ND	5.0	85	88	3.5				30 - 130	20
3-Nitroaniline	ND	5.0	101	106	4.8				30 - 130	20
4,6-Dinitro-2-methylphenol	ND	1.0	77	81	5.1				30 - 130	20
4-Bromophenyl phenyl ether	ND	3.5	78	82	5.0				30 - 130	20
4-Chloro-3-methylphenol	ND	1.0	79	83	4.9				30 - 130	20
4-Chloroaniline	ND	3.5	66	72	8.7				30 - 130	20
4-Chlorophenyl phenyl ether	ND	1.0	77	82	6.3				30 - 130	20
4-Nitroaniline	ND	5.0	68	73	7.1				30 - 130	20
4-Nitrophenol	ND	1.0	77	81	5.1				15 - 130	20
Acenaphthene	ND	1.5	75	83	10.1				30 - 130	20
Acenaphthylene	ND	3.5	72	78	8.0				30 - 130	20
Acetophenone	ND	3.5	67	75	11.3				30 - 130	20
Aniline	ND	3.5	58	63	8.3				30 - 130	20
Anthracene	ND	1.5	80	82	2.5				30 - 130	20
Benz(a)anthracene	ND	1.5	83	84	1.2				30 - 130	20
Benzidine	ND	4.5	120	120	0.0				30 - 130	20
Benzo(a)pyrene	ND	1.5	71	73	2.8				30 - 130	20
Benzo(b)fluoranthene	ND	1.5	79	81	2.5				30 - 130	20
Benzo(ghi)perylene	ND	1.5	75	77	2.6				30 - 130	20
Benzo(k)fluoranthene	ND	1.5	78	81	3.8				30 - 130	20
Benzoic acid	ND	10	63	60	4.9				30 - 130	20
Benzyl butyl phthalate	ND	1.5	80	84	4.9				30 - 130	20
Bis(2-chloroethoxy)methane	ND	3.5	73	78	6.6				30 - 130	20
Bis(2-chloroethyl)ether	ND	1.0	51	57	11.1				30 - 130	20
Bis(2-chloroisopropyl)ether	ND	1.0	47	53	12.0				30 - 130	20
Bis(2-ethylhexyl)phthalate	ND	1.5	84	86	2.4				30 - 130	20
Carbazole	ND	5.0	84	88	4.7				30 - 130	20
Chrysene	ND	1.5	87	88	1.1				30 - 130	20
Dibenz(a,h)anthracene	ND	1.5	81	84	3.6				30 - 130	20
Dibenzofuran	ND	3.5	71	77	8.1				30 - 130	20
Diethyl phthalate	ND	1.5	77	80	3.8				30 - 130	20
Dimethylphthalate	ND	1.5	76	80	5.1				30 - 130	20
Di-n-butylphthalate	ND	1.5	84	86	2.4				30 - 130	20
Di-n-octylphthalate	ND	1.5	83	85	2.4				30 - 130	20
Fluoranthene	ND	1.5	84	86	2.4				30 - 130	20

QA/QC Data

SDG I.D.: GBZ53773

Parameter	BIK		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
Fluorene	ND	1.5	78	83	6.2				30 - 130	20
Hexachlorobenzene	ND	3.5	76	78	2.6				30 - 130	20
Hexachlorobutadiene	ND	3.5	58	66	12.9				30 - 130	20
Hexachlorocyclopentadiene	ND	3.5	38	41	7.6				30 - 130	20
Hexachloroethane	ND	3.5	46	55	17.8				30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	3.5	76	80	5.1				30 - 130	20
Isophorone	ND	3.5	69	75	8.3				30 - 130	20
Naphthalene	ND	1.5	64	73	13.1				30 - 130	20
Nitrobenzene	ND	3.5	58	63	8.3				30 - 130	20
N-Nitrosodimethylamine	ND	1.0	52	64	20.7				30 - 130	20
N-Nitrosodi-n-propylamine	ND	3.5	64	69	7.5				30 - 130	20
N-Nitrosodiphenylamine	ND	3.5	70	73	4.2				30 - 130	20
Pentachloronitrobenzene	ND	5.0	74	77	4.0				30 - 130	20
Pentachlorophenol	ND	3.5	72	74	2.7				30 - 130	20
Phenanthrene	ND	1.5	78	81	3.8				30 - 130	20
Phenol	ND	1.0	52	62	17.5				15 - 130	20
Pyrene	ND	1.5	80	82	2.5				30 - 130	20
Pyridine	ND	5.0	38	45	16.9				30 - 130	20
% 2,4,6-Tribromophenol	61	%	72	75	4.1				15 - 110	20
% 2-Fluorobiphenyl	59	%	66	74	11.4				30 - 130	20
% 2-Fluorophenol	37	%	40	52	26.1				15 - 110	20
% Nitrobenzene-d5	49	%	56	62	10.2				30 - 130	20
% Phenol-d5	13	%	47	56	17.5				15 - 110	20
% Terphenyl-d14	61	%	82	86	4.8				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 413145 (ug/L), QC Sample No: BZ53773 (BZ53773)

Volatiles - Liquid

1,1,1,2-Tetrachloroethane	ND	1.0	102	101	1.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	100	103	3.0				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	93	96	3.2				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	93	90	3.3				70 - 130	30
1,1-Dichloroethane	ND	1.0	91	94	3.2				70 - 130	30
1,1-Dichloroethene	ND	1.0	93	90	3.3				70 - 130	30
1,1-Dichloropropene	ND	1.0	99	95	4.1				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	93	102	9.2				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	98	98	0.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	96	98	2.1				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	98	97	1.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	96	113	16.3				70 - 130	30
1,2-Dibromoethane	ND	1.0	97	100	3.0				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	90	93	3.3				70 - 130	30
1,2-Dichloroethane	ND	1.0	100	103	3.0				70 - 130	30
1,2-Dichloropropane	ND	1.0	91	90	1.1				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	99	97	2.0				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	90	94	4.3				70 - 130	30
1,3-Dichloropropane	ND	1.0	94	94	0.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	90	92	2.2				70 - 130	30
2,2-Dichloropropane	ND	1.0	103	105	1.9				70 - 130	30
2-Chlorotoluene	ND	1.0	93	92	1.1				70 - 130	30
2-Hexanone	ND	5.0	74	74	0.0				70 - 130	30

QA/QC Data

SDG I.D.: GBZ53773

Parameter	BIK		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
2-Isopropyltoluene	ND	1.0	97	97	0.0				70 - 130	30
4-Chlorotoluene	ND	1.0	91	91	0.0				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	77	80	3.8				70 - 130	30
Acetone	ND	5.0	92	90	2.2				70 - 130	30
Acrylonitrile	ND	5.0	69	73	5.6				70 - 130	30
Benzene	ND	0.70	92	93	1.1				70 - 130	30
Bromobenzene	ND	1.0	94	98	4.2				70 - 130	30
Bromochloromethane	ND	1.0	90	93	3.3				70 - 130	30
Bromodichloromethane	ND	0.50	101	102	1.0				70 - 130	30
Bromoform	ND	1.0	102	103	1.0				70 - 130	30
Bromomethane	ND	1.0	98	103	5.0				70 - 130	30
Carbon Disulfide	ND	1.0	93	93	0.0				70 - 130	30
Carbon tetrachloride	ND	1.0	125	123	1.6				70 - 130	30
Chlorobenzene	ND	1.0	93	94	1.1				70 - 130	30
Chloroethane	ND	1.0	96	96	0.0				70 - 130	30
Chloroform	ND	1.0	94	100	6.2				70 - 130	30
Chloromethane	ND	1.0	83	90	8.1				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	91	93	2.2				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	98	98	0.0				70 - 130	30
Dibromochloromethane	ND	0.50	105	110	4.7				70 - 130	30
Dibromomethane	ND	1.0	92	93	1.1				70 - 130	30
Dichlorodifluoromethane	ND	1.0	84	84	0.0				70 - 130	30
Ethylbenzene	ND	1.0	98	97	1.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	104	105	1.0				70 - 130	30
Isopropylbenzene	ND	1.0	93	92	1.1				70 - 130	30
m&p-Xylene	ND	1.0	95	95	0.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	75	75	0.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	102	105	2.9				70 - 130	30
Methylene chloride	ND	1.0	83	88	5.8				70 - 130	30
Naphthalene	ND	1.0	99	108	8.7				70 - 130	30
n-Butylbenzene	ND	1.0	102	97	5.0				70 - 130	30
n-Propylbenzene	ND	1.0	94	91	3.2				70 - 130	30
o-Xylene	ND	1.0	97	95	2.1				70 - 130	30
p-Isopropyltoluene	ND	1.0	99	96	3.1				70 - 130	30
sec-Butylbenzene	ND	1.0	100	94	6.2				70 - 130	30
Styrene	ND	1.0	96	97	1.0				70 - 130	30
tert-Butylbenzene	ND	1.0	97	92	5.3				70 - 130	30
Tetrachloroethene	ND	1.0	95	92	3.2				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	68	78	13.7				70 - 130	30
Toluene	ND	1.0	95	94	1.1				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	89	90	1.1				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	95	96	1.0				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	80	82	2.5				70 - 130	30
Trichloroethene	ND	1.0	98	93	5.2				70 - 130	30
Trichlorofluoromethane	ND	1.0	100	97	3.0				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	97	92	5.3				70 - 130	30
Vinyl chloride	ND	1.0	91	93	2.2				70 - 130	30
% 1,2-dichlorobenzene-d4	94	%	100	97	3.0				70 - 130	30
% Bromofluorobenzene	96	%	105	104	1.0				70 - 130	30
% Dibromofluoromethane	88	%	95	98	3.1				70 - 130	30
% Toluene-d8	95	%	102	100	2.0				70 - 130	30

QA/QC Data

SDG I.D.: GBZ53773

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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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 413284 (ug/L), QC Sample No: BZ53775 (BZ53775 (2000X))

Volatiles - Liquid

1,1,1,2-Tetrachloroethane	ND	1.0	107	106	0.9				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	102	103	1.0				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	100	98	2.0				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	99	108	8.7				70 - 130	30
1,1-Dichloroethane	ND	1.0	101	102	1.0				70 - 130	30
1,1-Dichloroethene	ND	1.0	103	105	1.9				70 - 130	30
1,1-Dichloropropene	ND	1.0	100	100	0.0				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	132	146	10.1				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	99	102	3.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	115	121	5.1				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	106	104	1.9				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	113	117	3.5				70 - 130	30
1,2-Dibromoethane	ND	1.0	103	106	2.9				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	101	103	2.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	101	106	4.8				70 - 130	30
1,2-Dichloropropane	ND	1.0	99	102	3.0				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	105	106	0.9				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	105	103	1.9				70 - 130	30
1,3-Dichloropropane	ND	1.0	96	98	2.1				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	100	104	3.9				70 - 130	30
2,2-Dichloropropane	ND	1.0	108	108	0.0				70 - 130	30
2-Chlorotoluene	ND	1.0	102	102	0.0				70 - 130	30
2-Hexanone	ND	5.0	110	108	1.8				70 - 130	30
2-Isopropyltoluene	ND	1.0	119	121	1.7				70 - 130	30
4-Chlorotoluene	ND	1.0	100	98	2.0				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	106	110	3.7				70 - 130	30
Acrylonitrile	ND	5.0	95	101	6.1				70 - 130	30
Benzene	ND	0.70	103	106	2.9				70 - 130	30
Bromobenzene	ND	1.0	102	103	1.0				70 - 130	30
Bromochloromethane	ND	1.0	94	102	8.2				70 - 130	30
Bromodichloromethane	ND	0.50	104	108	3.8				70 - 130	30
Bromoform	ND	1.0	106	109	2.8				70 - 130	30
Bromomethane	ND	1.0	117	120	2.5				70 - 130	30
Carbon Disulfide	ND	1.0	119	119	0.0				70 - 130	30
Carbon tetrachloride	ND	1.0	90	108	18.2				70 - 130	30
Chlorobenzene	ND	1.0	99	103	4.0				70 - 130	30
Chloroethane	ND	1.0	118	114	3.4				70 - 130	30
Chloroform	ND	1.0	97	102	5.0				70 - 130	30
Chloromethane	ND	1.0	112	115	2.6				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	98	97	1.0				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	108	109	0.9				70 - 130	30
Dibromochloromethane	ND	0.50	105	110	4.7				70 - 130	30
Dibromomethane	ND	1.0	97	103	6.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	111	110	0.9				70 - 130	30
Ethylbenzene	ND	1.0	103	103	0.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	116	120	3.4				70 - 130	30
Isopropylbenzene	ND	1.0	104	102	1.9				70 - 130	30

QA/QC Data

SDG I.D.: GBZ53773

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								
m&p-Xylene	ND	1.0	103	103	0.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	104	103	1.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	119	123	3.3				70 - 130	30
Methylene chloride	ND	1.0	96	100	4.1				70 - 130	30
Naphthalene	ND	1.0	125	133	6.2				70 - 130	30
n-Butylbenzene	ND	1.0	108	110	1.8				70 - 130	30
n-Propylbenzene	ND	1.0	105	105	0.0				70 - 130	30
o-Xylene	ND	1.0	102	103	1.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	108	108	0.0				70 - 130	30
sec-Butylbenzene	ND	1.0	104	105	1.0				70 - 130	30
Styrene	ND	1.0	104	105	1.0				70 - 130	30
tert-Butylbenzene	ND	1.0	104	103	1.0				70 - 130	30
Tetrachloroethene	ND	1.0	102	107	4.8				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	93	103	10.2				70 - 130	30
Toluene	ND	1.0	101	105	3.9				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	100	102	2.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	108	111	2.7				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	102	106	3.8				70 - 130	30
Trichloroethene	ND	1.0	103	104	1.0				70 - 130	30
Trichlorofluoromethane	ND	1.0	113	113	0.0				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	117	117	0.0				70 - 130	30
Vinyl chloride	ND	1.0	122	118	3.3				70 - 130	30
% 1,2-dichlorobenzene-d4	92	%	100	104	3.9				70 - 130	30
% Bromofluorobenzene	90	%	104	103	1.0				70 - 130	30
% Dibromofluoromethane	91	%	105	104	1.0				70 - 130	30
% Toluene-d8	96	%	101	102	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 412956 (ug/L), QC Sample No: BZ54690 (BZ53774)

Volatiles - Liquid

1,1,1,2-Tetrachloroethane	ND	1.0	107	103	3.8	96	108	11.8	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	106	102	3.8	101	116	13.8	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	102	95	7.1	94	98	4.2	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	100	85	16.2	95	100	5.1	70 - 130	30
1,1-Dichloroethane	ND	1.0	99	94	5.2	90	102	12.5	70 - 130	30
1,1-Dichloroethene	ND	1.0	104	102	1.9	89	106	17.4	70 - 130	30
1,1-Dichloropropene	ND	1.0	107	104	2.8	103	113	9.3	70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	118	104	12.6	67	104	43.3	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	106	99	6.8	96	105	9.0	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	107	98	8.8	79	100	23.5	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	102	100	2.0	96	104	8.0	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	108	96	11.8	94	101	7.2	70 - 130	30
1,2-Dibromoethane	ND	1.0	105	95	10.0	96	106	9.9	70 - 130	30
1,2-Dichlorobenzene	ND	1.0	100	94	6.2	89	101	12.6	70 - 130	30
1,2-Dichloroethane	ND	1.0	108	94	13.9	100	111	10.4	70 - 130	30
1,2-Dichloropropane	ND	1.0	100	92	8.3	94	102	8.2	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	102	102	0.0	99	105	5.9	70 - 130	30
1,3-Dichlorobenzene	ND	1.0	100	96	4.1	94	100	6.2	70 - 130	30
1,3-Dichloropropane	ND	1.0	105	92	13.2	92	99	7.3	70 - 130	30
1,4-Dichlorobenzene	ND	1.0	97	95	2.1	89	99	10.6	70 - 130	30
2,2-Dichloropropane	ND	1.0	105	103	1.9	94	108	13.9	70 - 130	30

QA/QC Data

SDG I.D.: GBZ53773

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2-Chlorotoluene	ND	1.0	100	101	1.0	93	103	10.2	70 - 130	30	
2-Hexanone	ND	5.0	94	72	26.5	89	94	5.5	70 - 130	30	
2-Isopropyltoluene	ND	1.0	102	101	1.0	96	106	9.9	70 - 130	30	
4-Chlorotoluene	ND	1.0	99	98	1.0	90	98	8.5	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	92	70	27.2	81	89	9.4	70 - 130	30	
Acetone	ND	5.0	86	83	3.6	87	102	15.9	70 - 130	30	
Acrylonitrile	ND	5.0	78	62	22.9	75	80	6.5	70 - 130	30	l
Benzene	ND	0.70	100	94	6.2	96	105	9.0	70 - 130	30	
Bromobenzene	ND	1.0	103	100	3.0	96	103	7.0	70 - 130	30	
Bromochloromethane	ND	1.0	97	87	10.9	90	100	10.5	70 - 130	30	
Bromodichloromethane	ND	0.50	110	97	12.6	100	108	7.7	70 - 130	30	
Bromoform	ND	1.0	119	99	18.3	99	112	12.3	70 - 130	30	
Bromomethane	ND	1.0	91	89	2.2	61	94	42.6	70 - 130	30	m,r
Carbon Disulfide	ND	1.0	105	104	1.0	90	107	17.3	70 - 130	30	
Carbon tetrachloride	ND	1.0	129	126	2.4	121	141	15.3	70 - 130	30	m
Chlorobenzene	ND	1.0	101	96	5.1	93	101	8.2	70 - 130	30	
Chloroethane	ND	1.0	104	104	0.0	87	105	18.8	70 - 130	30	
Chloroform	ND	1.0	102	93	9.2	96	111	14.5	70 - 130	30	
Chloromethane	ND	1.0	96	91	5.3	78	95	19.7	70 - 130	30	
cis-1,2-Dichloroethene	ND	1.0	99	92	7.3	93	103	10.2	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	109	92	16.9	96	103	7.0	70 - 130	30	
Dibromochloromethane	ND	0.50	113	99	13.2	96	115	18.0	70 - 130	30	
Dibromomethane	ND	1.0	105	88	17.6	96	104	8.0	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	108	108	0.0	83	102	20.5	70 - 130	30	
Ethylbenzene	ND	1.0	105	98	6.9	99	108	8.7	70 - 130	30	
Hexachlorobutadiene	ND	0.40	110	113	2.7	95	111	15.5	70 - 130	30	
Isopropylbenzene	ND	1.0	101	100	1.0	99	104	4.9	70 - 130	30	
m&p-Xylene	ND	1.0	101	98	3.0	96	104	8.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	83	71	15.6	97	105	7.9	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	113	92	20.5	101	115	13.0	70 - 130	30	
Methylene chloride	ND	1.0	91	84	8.0	81	90	10.5	70 - 130	30	
Naphthalene	ND	1.0	117	109	7.1	73	109	39.6	70 - 130	30	r
n-Butylbenzene	ND	1.0	107	101	5.8	100	109	8.6	70 - 130	30	
n-Propylbenzene	ND	1.0	99	98	1.0	95	104	9.0	70 - 130	30	
o-Xylene	ND	1.0	105	98	6.9	96	103	7.0	70 - 130	30	
p-Isopropyltoluene	ND	1.0	106	100	5.8	99	110	10.5	70 - 130	30	
sec-Butylbenzene	ND	1.0	104	98	5.9	102	109	6.6	70 - 130	30	
Styrene	ND	1.0	106	96	9.9	97	104	7.0	70 - 130	30	
tert-Butylbenzene	ND	1.0	101	96	5.1	98	105	6.9	70 - 130	30	
Tetrachloroethene	ND	1.0	103	93	10.2	111	119	7.0	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	88	67	27.1	76	84	10.0	70 - 130	30	l
Toluene	ND	1.0	103	95	8.1	96	106	9.9	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	97	96	1.0	89	101	12.6	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	105	88	17.6	92	99	7.3	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	86	72	17.7	73	82	11.6	70 - 130	30	
Trichloroethene	ND	1.0	104	96	8.0	97	107	9.8	70 - 130	30	
Trichlorofluoromethane	ND	1.0	108	109	0.9	95	116	19.9	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	103	102	1.0	90	106	16.3	70 - 130	30	
Vinyl chloride	ND	1.0	104	104	0.0	83	103	21.5	70 - 130	30	
% 1,2-dichlorobenzene-d4	96	%	102	100	2.0	103	100	3.0	70 - 130	30	
% Bromofluorobenzene	95	%	105	100	4.9	104	103	1.0	70 - 130	30	
% Dibromofluoromethane	94	%	101	91	10.4	99	101	2.0	70 - 130	30	
% Toluene-d8	96	%	103	100	3.0	103	101	2.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBZ53773

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

s = This parameter is outside laboratory Blank Surrogate 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

December 20, 2017

Wednesday, December 20, 2017

Criteria: None

State: CT

Sample Criteria Exceedances Report

GBZ53773 - GZACTENG

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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*** 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 exceedances. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedance 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: GZA GeoEnvironmental, Inc.

Project Location: DANIELS MILL

Project Number:

Laboratory Sample ID(s): BZ53773-BZ53775

Sampling Date(s): 12/8/2017

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 7470/7471, 8260, 8270

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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1A	Were the method specified preservation and holding time requirements met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1B	<u>YPH and EPH methods only:</u> Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
2	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3	Were samples received at an appropriate temperature (< 6 Degrees C)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
4	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? See Sections: SVOA Narration, SVOASIM Narration, VOA Narration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	a) Were reporting limits specified or referenced on the chain-of-custody? b) Were these reporting limits met?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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:** Wednesday, December 20, 2017

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



RCP Certification Report

December 20, 2017

SDG I.D.: GBZ53773

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.

Mercury Narration

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

Instrument:

MERLIN 12/11/17 11:12 Rick Schweitzer, Chemist 12/11/17

BZ53773, BZ53774, BZ53775

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 412493 (BZ53646)

BZ53773, BZ53774, BZ53775

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 12/11/17 07:42 Tina Hall, Chemist 12/11/17

BZ53773, BZ53774, BZ53775

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 12/12/17 07:13 Emily Kolominskaya, Chemist 12/12/17

BZ53773, BZ53774

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



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Certification Report

December 20, 2017

SDG I.D.: GBZ53773

ICP Metals Narration

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 412412 (BZ53160)

BZ53773, BZ53774, BZ53775

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

SVOA Narration

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

QC Batch 412606 (Samples: BZ53773, BZ53774, BZ53775): -----

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. (N-Nitrosodimethylamine)

The LCS/LCSD RPD exceeds the method criteria for one or more surrogates, therefore there may be variability in the reported result. (% 2-Fluorophenol)

The surrogate recovery for the batch blank was below acceptance recovery, all other surrogate recoveries were within criteria, the low bias affects the blank only.

Instrument:

CHEM29 12/13/17-2

Damien Drobinski, Chemist 12/13/17

BZ53773, BZ53774, BZ53775

Initial Calibration Verification (CHEM29/SPLIT_1208):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: Bis(2-chloroethoxy)methane 0.295 (0.3)

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

Continuing Calibration Verification (CHEM29/1213_11-SPLIT_1208):

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 0.094 (0.1), Acenaphthene 0.837 (0.9),

Bis(2-chloroethoxy)methane 0.286 (0.3), Hexachlorobenzene 0.095 (0.1)

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

QC (Batch Specific):

Batch 412606 (BZ53663)

BZ53773, BZ53774, BZ53775

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



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



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SVOA Narration

All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: % 2-Fluorophenol(26.1%), N-Nitrosodimethylamine(20.7%)
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

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

QC Batch 412606 (Samples: BZ53773, BZ53774, BZ53775): -----

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)

The LCS/LCSD RPD exceeds the method criteria for one or more surrogates, therefore there may be variability in the reported result. (% 2-Fluorophenol, % Phenol-d5)

The surrogate recovery for the batch blank was below acceptance recovery, all other surrogate recoveries were within criteria, the low bias affects the blank only.

Instrument:

CHEM07 12/13/17-1 Damien Drobinski, Chemist 12/13/17

BZ53773, BZ53774

Initial Calibration Verification (CHEM07/SIM_1127):

94% of target compounds met criteria.

The following compounds had %RSDs >20%: Chrysene 30% (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 (CHEM07/1213_02-SIM_1127):

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 412606 (BZ53663)

BZ53773, BZ53774, BZ53775

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: % 2-Fluorophenol(25.6%), % Phenol-d5(20.7%), Hexachloroethane(20.8%)

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%)

Additional 8270 criteria: 20% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid



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SVOASIM Narration

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? No.

QC Batch 412956 (Samples: BZ53774): ----

The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (Acrylonitrile, Tetrahydrofuran (THF))

QC Batch 413145 (Samples: BZ53773): ----

The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (Acrylonitrile, Tetrahydrofuran (THF))

QC Batch 413284 (Samples: BZ53775): ----

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. (1,2,3-Trichlorobenzene, Naphthalene)

Instrument:

CHEM17 12/12/17-1

Harry Mullin, Chemist 12/12/17

BZ53774

Initial Calibration Verification (CHEM17/VT-S1211):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: trans-1,4-dichloro-2-butene 22% (20%)

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.032 (0.05), 2-Hexanone 0.076 (0.1), Acetone 0.046 (0.1), Acrylonitrile 0.049 (0.05), Bromoform 0.072 (0.1), Methyl ethyl ketone 0.066 (0.1),

Tetrahydrofuran (THF) 0.042 (0.05)

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

Continuing Calibration Verification (CHEM17/1212_02-VT-S1211):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

99% of target compounds met criteria.

The following compounds did not meet % deviation criteria: Bromomethane 33%L (30%)

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.032 (0.05), Acrylonitrile 0.040 (0.05), Bromoform 0.080 (0.1), Tetrahydrofuran (THF) 0.036 (0.05), trans-1,4-dichloro-2-butene 0.049 (0.05)

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

CHEM17 12/13/17-1

Michael Hahn, Chemist 12/13/17

BZ53773

Initial Calibration Verification (CHEM17/VT-S1211):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: trans-1,4-dichloro-2-butene 22% (20%)

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.032 (0.05), 2-Hexanone 0.076 (0.1), Acetone 0.046 (0.1), Acrylonitrile 0.049 (0.05), Bromoform 0.072 (0.1), Methyl ethyl ketone 0.066 (0.1),

Tetrahydrofuran (THF) 0.042 (0.05)



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VOA Narration

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

Continuing Calibration Verification (CHEM17/1213_02-VT-S1211):

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 0.293 (0.3), 1,2-Dibromo-3-chloropropane 0.033 (0.05), Acrylonitrile 0.038 (0.05), Bromoform 0.078 (0.1), Tetrahydrofuran (THF) 0.031 (0.05)

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

CHEM17 12/14/17-1

Michael Hahn, Chemist 12/14/17

BZ53775

Initial Calibration Verification (CHEM17/VT-S1213):

95% of target compounds met criteria.

The following compounds had %RSDs >20%: Acrylonitrile 27% (20%), Bromoform 22% (20%), trans-1,4-dichloro-2-butene 22% (20%)

The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.030 (0.05), 2-Hexanone 0.061 (0.1), 4-Methyl-2-pentanone 0.090 (0.1), Acrylonitrile 0.042 (0.05), Bromoform 0.072 (0.1), Methyl ethyl ketone 0.053 (0.1), Tetrahydrofuran (THF) 0.035 (0.05)

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

Continuing Calibration Verification (CHEM17/1214_02-VT-S1213):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

99% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.294 (0.3), 1,2-Dibromo-3-chloropropane 0.033 (0.05), Acrylonitrile 0.035 (0.05), Bromoform 0.080 (0.1), Tetrahydrofuran (THF) 0.031 (0.05)

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

CHEM17 12/20/17-1

Michael Hahn, Chemist 12/20/17

BZ53775

Initial Calibration Verification (CHEM17/VT-S1219):

90% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet recommended response factors: Acetone 0.055 (0.1)

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

Continuing Calibration Verification (CHEM17/1220_02-VT-S1219):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

99% of target compounds met criteria.

The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

QC (Batch Specific):

Batch 412956 (BZ54690)



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VOA Narration

BZ53774

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

All LCSD recoveries were within 70 - 130 with the following exceptions: Acrylonitrile(62%), Tetrahydrofuran (THF)(67%)

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 413145 (BZ53773)

BZ53773

All LCS recoveries were within 70 - 130 with the following exceptions: Acrylonitrile(69%), Tetrahydrofuran (THF)(68%)

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 413284 (BZ53775)

BZ53775

All LCS recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(132%)

All LCSD recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(146%), Naphthalene(133%)

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

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

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

Temperature Narration

The samples in this delivery group were received at 3.8°C.

(Note acceptance criteria is above freezing up to 6°C)



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