

PHASE III DATA GAP
ASSESSMENT REPORT
FORMER AMERBELLE PROPERTY
104 EAST MAIN STREET
VERNON, CONNECTICUT

PREPARED FOR:

Town of Vernon 14 Park Place Vernon, Connecticut 06066

PREPARED BY:

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CONSTRUCTION MANAGEMENT

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July 2, 2015 File No. 05.0045441.00

Town of Vernon
Mr. John D. Ward, Town Administrator
Memorial Building
14 Park Place, 3rd Floor
Vernon, CT 06066

Re: RFQ/RFP #1060 - 02/17/2015

Phase III Data Gap Investigation Report – Former Amerbelle Textile Mill Property

Dear Mr. Ward:

GZA GeoEnvironmental, Inc. (GZA) is pleased to submit this one (1) hard copy and one electronic/digital copy (on attached disk) of the Phase III Data Gap Investigation Report for the former Amerbelle textile mill property located at 104 East Main Street in Vernon, Connecticut (Site). This report was prepared in accordance with our March 25, 2015 Professional Services Agreement.

We appreciate the opportunity to partner with you on this important redevelopment project. Should you have any questions or require additional information on the proposed remedial measures, please contact the undersigned, at your convenience.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Christopher J. Frey, LEP Senior Project Manager

Gordon T. Brookman, P.E., LEP

Principal

James T. Hutton, LEP Senior Project Manager

Gary J. Cluen, LEP Consultant/Reviewer

TABLE OF CONTENTS

	Page
1.0 INTRODUCTION	1
2.0 BACKGROUND	2
2.1 SITE HISTORY AND DESCRIPTION	2
2.2 PHYSIOGRAPHIC SETTING	
2.3 BEDROCK AND SURFICIAL GEOLOGY	6
2.4 HYDROGEOLOGY	
3.0 CONCEPTUAL MODEL	7
3.1 AREAS OF CONCERN (AOCs) AND CONSTITUENTS OF CONCERN (COCs	7
3.2 SUMMARY OF PREVOUS INVESTIGATIONS	8
3.3 CONCEPTUAL SITE MODEL	10
3.4APPLYING THE REMEDIATION STANDARD REGULATIONS	10
3.4.1 Direct Exposure Criteria (DEC)	11
3.4.2 Pollutant Mobility Criteria (PMC)	11
3.4.3 Groundwater Protection Criteria (GWPC)	12
3.4.4 Surface Water Protection Criteria (SWPC)	12
3.45 Groundwater Volatilization Criteria (GWVC)	12
3.4.6 Soil Vapor Volatilization Criteria (SVVC	13
4.0 SCOPE OF WORK AND FIELD ACTIVITIES	
4.1 SAMPLING RATIONALE	14
4.2 SOIL VAPOR SAMPLING	
4.3 TEST BORINGS AND SOIL SAMPLING	15
4.4 MONITORING WELLS	16
4.5 GROUNDWATER SAMPLING	
4.6 GROUNDWATER ELEVATION SURVEY	18
4.7 SURFACE WATER AND SEDIMENT SAMPLING	19
5.0 SUMMARY OF PAOC INVESTIGATIONS AND COMPARISON TO THE REME	DIATION
STANDARD REGULATIONS (RSRs)	20
5.1 REASONABLE CONFIDENCE PROTOCOL ANALYSIS: DATA QUALITY	21
5.2 METALS IN SITE SOILS	22
5.3 COMPLIANCE OF COCs IN SOILS WITH GB-PMCs	22
5.4 AOC 1: FORMER SOLVENT USTs	22
5.5 AOC 2: BUILDING 14 SOUTH LOADING DOCK	24
5.6 AOC 3: BUILDING 14 WEST LOADING DOCK	25
5.7 AOC 4: NORTHWEST CORNER OF BUILDING 14 - FINISHING DEPARTMENT	26
5.8 AOC 5: FORMER WASTEWATER CONVEYANCE TRENCHES	
5.9 AOC 6: SOUTHEAST CORNER OF BUILDING 14 - FORMER FINISHING C	HEMICAL
STORAGE AREA	
5.10 AOC 7: FORMER MAINTENANCE / MACHINE SHOP	30

5.11 AOC 8: WOC	DED SLOPE WEST OF BUILDINGS 1 AND 2	31
5.12 AOC 9: BUILI	DING 13 - LATEX COATING AREA	31
5.13 AOC 10: BUI	LDING 2 LOADING DOCK	32
5.14 AOC 11: BUI	LDINGS 1 AND 2	32
5.15 AOC 12: BUI	LDING 3	33
5.16 AOC 13: BUI	LDING 7	33
5.17 AOC 14: 18,0	000–GALLON FUEL OIL TANKS	34
5.18 AOC 15: FOR	MER ELECTRICAL TRANSFORMERS	35
5.19 AOC 16: BUIL	DING 17 LOADING DOCKS \f C \l	36
5.20 AOC 17: BUIL	.DING 9\f C \I	37
5.21 AOC 18: BUIL	.DING 8\f C \I	38
5.22 AOC 19: BUIL	.DING 11\f C \I	40
5.23 AOC 20: BUI	LDING 11 LOADING DOCK	43
5.24 AOC 21: FOR	MER GASOLINE STATION	45
5.25 AOC 22: SITE	FILL	45
5.26 AOC 23: SITE	GROUNDWATER	46
5.27 AOC 24: RAC	EWAY	49
5.28 AOC 25: AM	ERICAN MILL POND	49
6.0 CONCLUSIONS A	ND RECOMMENDATIONS	52
6.1 SUMMARY OF	SITE AND WORK PERFORMED	52
6.2 UPDATED COI	NCEPTUAL SITE MODEL	53
6.3 CONCLUSION	S AND RECOMMENDATIONS	55
TABLES		
TABLE 1	DATA GAP ASSESSMENT SUMMARY	
TABLE 2	MONITORING WELL CONSTRUCTION SUMMARY	AND
IADLL Z	GROUNDWATER ELEVATION MEASUREMENTS	AND
TARIF 3A-3N SUMI	MARY OF SOIL ANALYTICAL DATA BY AOC	
TABLE 30	SUMMARY OF SITE SPLP DATA	
TABLE 4	SOIL VAPOR SUMMARY TABLE	
TABLE 5	SUMMARY OF GROUNDWATER ANALYTICAL DATA AOC-23	
TABLE 6	SUMMARY OF SEDIMENT ANALYTICAL DATA AOC-25	
TABLE 7	SUMMARY OF SURFACE WATER ANALYTICAL DATA AOC-25	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
FIGURES		
FIGURE 1	SITE LOCUS	
FIGURE 2	SITE PLAN	
FIGURE 2A	SOIL VAPOR DETAL	
FIGURE 3	BEDROCK GROUNDWATER ELEVATION CONTOURS - APRIL 30,	2015
FIGURE 4	SURFACE WATER AND SEDIMENT SAMPLE LOCATIONS	

APPENDICES

APPENDIX A	LIMITATIONS
APPENDIX B	PREVIOUS ENVIRONMENTAL INVESTIGATION REPORTS
APPENDIX C	SOIL VAPOR SAMPLE LOGS AND LABORATORY ANALYTICAL REPORTS
APPENDIX D	BORING LOGS, SOIL SAMPLING SHEETS AND LABORATORY
	ANALYTICAL REPORTS
APPENDIX E	GROUNDWATER SAMPLING FIELD DATA SHEETS AND LABORATORY
	ANALYTICAL REPORTS
APPENDIX F	SURFACE WATER AND SEDIMENT SAMPLE LOGS AND LABORATORY
	ANALYTICAL REPORTS
APPENDIX G	LABORATORY ANALYTICAL QUALITY ASSESSMENT SUMMARY TABLES

Glossary of Frequently-used Abbreviations

ALC Aquatic Life Criteria
AOC Area of Concern

AST Aboveground Storage Tank

ATV all-terrain vehicle
BDL below detection limits

DCB dichlorobenzene (a specific chemical)

COC Constituent of Concern

CGS Connecticut General Statutes

CSM Conceptual Site Model

CTDEEP Connecticut Department of Energy and Environmental Protection

DEC Direct Exposure Criteria
DNAPL Dense non-aqueous phase liquid
DQA Data Quality Assessment
DQO Data Quality Objective(s)
DUE Data Usability Evaluation

ELUR Environmental Land Use Restriction
EPA Environmental Protection Agency (U.S.)

EPH Extractable Petroleum Hydrocarbon (a category of chemicals)

ESA Environmental Site Assessment

ETPH Extractable Total Petroleum Hydrocarbons (a category of chemicals)

eV Electron volt (unit of measure) fbg feet below grade (unit of measure)

GA-PMC Pollutant Mobility Criteria applicable in Class GA Groundwater Area
GB-PMC Pollutant Mobility Criteria applicable in Class GB Groundwater Area

GPR Ground Penetrating Radar

GWPC Groundwater Protection Criteria

GWVC Groundwater Volatilization Criteria GZA GZA GeoEnvironmental, Inc.

I/C-DEC Industrial/Commercial Direct Exposure Criteria

LCS Laboratory Control Sample LNAPL Light non-aqueous phase liquid

MEK methyl ethyl ketone (a specific chemical)

mg/Kg milligrams/kilogram (unit of measure, equivalent to parts per million)

mg/L milligrams/liter (unit of measure, equivalent to parts per million)

MRLs Minimum (Laboratory) Reporting Limits

MS Matrix spike

MSD Matrix spike duplicate

msl Mean sea level (a reference elevation)

MW Monitoring well

ORP Oxidation reduction potential

OVM Organic vapor meter

PAH Poly Aromatic Hydrocarbon (a category of chemicals)
PCB Polychlorinated Biphenyl (a category of chemicals)

PCE Perchloroethylene (a.k.a. tetrachloroethylene, a specific chemical)

PID Photoionization Detector PMC Pollutant Mobility Criteria

PP Priority Pollutants

ppmv parts per million by volume (unit of measure) psi pounds per square inch (unit of measure)

PVC Polyvinyl chloride (typically material of construction of monitoring well)

QA/QC Quality Assurance/Quality Control R-DEC Residential Direct Exposure Criteria

RCP Reasonable Confidence Protocols

RCRA Resource Conservation and Recovery Act

RSRs Remediation Standard Regulations

SB Soil boring

SPLP Synthetic Precipitation Leaching Procedure

SVOC Semi-Volatile Organic Compound (a category of chemicals)

SVVC Soil Vapor Volatilization Criteria
SWPC Surface Water Protection Criteria

TCA 1,1,1-Trichloroethane (a specific chemical)

TCE Trichloroethene (a.k.a, trichloroethylene, a specific chemical)

TCLP Toxicity Characteristic Leaching Procedure

TP Test pit

μg/Kg micrograms/kilogram (unit of measure, equivalent to parts per billion)

μg/L micrograms/liter (unit of measure, equivalent to parts per billion)

USGS United State Geologic Survey
UST Underground Storage Tank

VOC Volatile Organic Compound (a category of chemicals)

VPH Volatile Petroleum Hydrocarbons (a category of chemicals)

1.0 INTRODUCTION



GZA GeoEnvironmental, Inc. (GZA) was retained by the Town of Vernon to complete a Phase III Data Gap Investigation of known or potential release areas at the former Amerbelle Mill property located at 104 East Main Street, Vernon, Connecticut (Site). This work was funded by the State of Connecticut Department of Economic and Community Development (DECD) Remedial Action and Redevelopment Municipal Grant Program with the goal to develop a Remedial Action Plan that, when implemented, would adequately address environmental conditions at the Site to allow the redevelopment and reuse of the property as a commercial office space.

The purpose of the Phase III Data Gap Investigations was to address data gaps remaining from previous investigations so as to more fully characterize releases or potential releases to the environment at AOCs identified at the Site and to better refine the Conceptual Site Model and as it applies to confirmed releases. Based on this information, the potential threat of impacts posed from released constituents of concern (COCs) at each AOC were assessed to determine whether a remedial action would be required to achieve compliance with the remedial standards established under the Remediation Standard Regulations (RSRs) and to recommend a preferred course of action based on planned redevelopment and renovation of the site.

The Phase III Data Gap investigations were developed based on information presented in the following reports of previous environmental investigations of the Site, as made available to GZA:

- GeoDesign, Inc.: *Phase II Environmental Assessment*, Amerbelle Corporation, February 2004.
- GeoDesign, Inc.: *Phase I Environmental Site Assessment*, Amerbelle Corporation, March 2004.
- Metcalf & Eddy, Inc.: Field Task Work Plan for Amerbelle Textiles, Revision 1, October 2005.
- Metcalf & Eddy, Inc.: Target Brownfields Assessment Report, Amerbelle Textiles, August 2006.
- Fuss & O'Neill, Inc.: Quality Assurance Project Plan Addendum-Supplemental Phase III/Limited Phase III Environmental Site Assessment, Amerbelle Corporation, November 2008.
- Fuss & O'Neill, Inc.: Limited Phase II/Limited Phase III Environmental Site Assessment, Amerbelle Textiles, December 15, 2009.

A brief description of each of the AOCs identified at the Site, summary of known environmental conditions, based on investigations completed to date and perceived data gaps and rationale for proposed additional investigations is presented in Table 1. A locus plan showing the Site location and surrounding topographic features is presented in Figure 1.

A site plan showing the facility property, pertinent Site features and exploration locations is presented in Figure 2.



This report is subject to the Terms and Conditions of our contract and the Limitations in Appendix A.

2.0 BACKGROUND

Background information has been obtained by our review of reports of the Phase I, II and III reports listed in Section 1.0 above and review of available geologic and groundwater classification maps published by the State of Connecticut.

2.1 SITE HISTORY AND DESCRIPTION

Information regarding the history of operations at the Site was previously developed as part of environmental investigations completed at the Site by others. Therefore, the information presented in the following sections has largely been excerpted from those reports.

The subject Site is located at 104 East Main Street in an industrial zone of Vernon, Connecticut (Tolland County). The Site is the former Amerbelle Corporation textile mill facility, which operated at the property from the late 1880s until approximately 2012. The property is currently vacant. The facility complex is composed of approximately 13 buildings¹ situated on two parcels, north and south of Brooklyn Street. The parcel north of Brooklyn Street is approximately 1.5 acres in size and contains Buildings 1 through 9, 11 and 13 and the Boiler Room building. The parcel located south of Brooklyn Street is approximately 2.7 acres and contains Buildings 12 and 14. A site locus shows the location of the Site on a portion of a USGS 7.5 Minute Topographic Quadrangle Map. A site plan showing the Site property boundaries and other pertinent facility features is presented on Figure 2.

During the time of its operation, the Amerbelle Corporation produced specialty textiles for various applications. The Building 14 within the southern parcel was formerly used for dyeing, mixing and finishing operations and Building 12 was reportedly used for maintenance and repair of equipment and parts. In addition to dyeing operations, buildings within the northern parcel were also formerly used for coating operations, testing and storage.

Several aboveground storage tanks (ASTs) were identified as formerly located at the property:

- Two 18,000-gallon waste oil storage tanks
- One 27,000-gallon production water supply tank

¹ Note that there is no Building 10 associated with the current building designations.



- One 500-gallon tank containing sodium hydroxide for dyeing processes
- Two 275-gallon finishing resin tanks
- Two 7,500-gallon pH neutralization tanks
- One 275-gallon tank containing sodium hydroxide for pH neutralization
- One 275-gallon tank containing sulfuric acid for pH neutralization
- One 10,000-gallon hot water storage tank.

Buildings 1

Building 1 was reportedly used for the storage of raw materials (north end) storage of flammable, organic coatings, including formaldehyde, toluene, isopropyl alcohol and other brand-named compounds. Mixing operations were reportedly conducted within the southern side. A hazardous waste storage area was formerly located in the northwestern corner of the building. A Basement and earth/stone sub-basement underlie this area of Building 1.

Building 2

Building 2 was formerly used for storage and has a loading dock with three bays on the western side. It was reported that rolls of fabric were stored in this area at the time of Fuss & O'Neill's site visit in July 2008. The floor of Building 2 was reported to be concrete with a wood-floored basement area below. The area in front of the loading docks is paved with asphalt. GeoDesign reported that files held by the Fire Marshal indicate that tank trailers for fuel oil were temporarily located within this area during removal of installation of 18,000-gallon storage tanks at the Site in 1989.

Buildings 3, 4 and 5

These buildings were used as general storage areas. Basements underlie Buildings 3 and 4. Building 5 is located above the raceway arch. The basement of Building 4 contained pumps that were used to draw water from American Mill Pond for the fire suppression system.

Building 6

Building 6 is located adjacent to the Boiler Room and contains the boiler stack. No manufacturing processes were reported in this area. A shallow trough was reported as present in the floor to provide drainage for groundwater infiltrating into the foundation base. Boilers are located in the Boiler Room, an extension of Building 6 to the north. Concrete cradles for a historical AST are located outside Building 6, adjacent to the raceway.

Building 7



Building 7 formerly contained two solvent coater lines. Solvents used in coating materials were primarily methyl ethyl ketone (MEK) and toluene and were stored in Building 1. The solvent coaters formerly used ovens to dry coated textiles drawn through apparatus on conveyors. Thermal oxidizers were used to destroy volatilized exhaust gases coming from the dryers. The coating lines are located above the raceway. A loading dock with two-bays is located south of the eastern end of Building 7. The area outside the loading docks is asphalt paved.

Building 8

Building 8 was formerly used to filter water drawn from the Hockanum River for use in manufacturing operations. The water was drawn through a system of sand filters in the basement of the building and pumped to a 27,000-gallon holding tank located in the eastern portion of the basement. The building was also reportedly to have been historically used for discharge of process wastewater to the sanitary sewer and non-contact cooling water to the river. A floor drain system is located within the basement, which reportedly discharges to the sanitary sewer. During their walkover in 2008, Fuss & O'Neill reported observing several 55-gallon drums containing waste oil stored on containment pallets in the basement. The basement area may also have been used for former mixing or wastewater treatment operations. GeoDesign reported that Building 8 had historically also been used as a dye house until 1927.

Building 9

Building 9 was used for general storage, as well as for storage of miscellaneous chemicals within the ground floor. Historically, the building was also used for dye storage prior to 1927.

Building 11

This building was formerly used for the storage of equipment, drums of oil, and chemicals and historically for dye operations prior to 1927. A floor trench system used to convey infiltrating groundwater is located in the basement. The trench may also have been used as a drain for liquid dyeing operations. The discharge location of the trench system is not known, but is suspected to have discharged to American Mill Pond. A loading dock with one bay is located along at northern end of the building. A former elevator is present on the west wall. The first floor also included facility offices.

Building 12

The ground floor of this building formerly housed a machine shop and storage area. Maintenance operations were reported to have included welding, turning, milling,

grinding, electrical repair and parts cleaning. It is not known if historical manufacturing operations were conducted in this building.



Building 13

The eastern end of Building 13 formerly housed a latex coating line and a latex coating storage area. The western end of the building was used to temporarily store rolls of fabric.

Building 14

This building, built in 1956, occupies most of the southern parcel and was formerly used for the majority of textile dyeing and finishing operations conducted at the Site. A loading dock with two bays is located at the south-central portion of the building. A second dock is located in the northwest corner, with the southern bay opening to the upper floor of the building and the two northern bays opening to the lower floor. A textile storage area with an elevator is located in the southern corner of the building. Dyeing operations were primarily conducted in the western portion of the building. A dye mixing room was located in the northwest corner of the ground floor. Dyes in 55-gallon drums were reportedly stored outside the Dye Mixing Room. Dyeing and finishing machines were housed on the ground floor of the building. A floor drain trench system is located throughout the ground floor of the building and was used to collect drag out from the dye and coating operations when removing processed material from the machines. The drain system discharged to a wastewater sump, located in the western end of the building. Two 7,500-gallon pH neutralization tanks were located inside the loading dock area west of the sump. Chemicals for wastewater treatment (sodium hydroxide, citric acid, soda ash, and sodium bicarbonate) were reportedly stored in 55-gallon drums in the area of the sump. Treated wastewaters were discharged to the sanitary sewer.

Most of the finishing operations completed in the eastern portion of the building included the use of formaldehyde, fabric protector, and brand name chemicals. Chemicals used in this operation were stored in the southeastern corner of the building.

18,000-Gallon Fuel Oil ASTs

Two 18,000-gallon fuel oil ASTs are located within a steel building east of Building 13. The tanks are located within an aboveground concrete containment structure upon which the steel building was constructed. Two 20,000-gallon fuel oil USTs, formerly located within this same area, were removed in 1989 prior to the installation of the current tanks. It was reported that an unspecified volume of contaminated soils was removed from the area at that time for disposal. A composite sample was reported to contain 150 mg/Kg total petroleum hydrocarbons. The current tanks are no longer in use and reportedly have been pumped and emptied of their contents.

Exterior Pad-Mounted Transformers



Three PCB-containing transformers and one non-PCB-containing transformer were formerly located on a fence-enclosed concrete pad south of Building 7 and east and adjacent to the fuel oil storage building. The former transformer pad is mounted on a concrete slab, the eastern portion of which bridges over the raceway.

2.2 PHYSIOGRAPHIC SETTING

The Site is located within the Hockanum River Valley in the northwestern portion of Vernon, Connecticut. The walls of the valley rise steeply to the north and south of the Site and the valley floor drops away steeply immediately to the northwest of the Site. The elevation of the ground surface at the Site ranges from approximately 480 to 460 feet MSL west to east drops off steeply to the north to American Mill Pond to an elevation of approximately 430 MSL. Area topography is depicted on Figure 1.

The Hockanum River runs from southeast to northwest through the Site within a stone lined raceway. The raceway, starting from Paper Mill Pond to the southeast, passes below the northeast portion of Building 14, Brooklyn Street and Buildings 7 and 5 in the northern portion of the Site and spills down into American Mill Pond to the northwest (see Figure 2). A small dam controlling the hydraulic head of the upper portion of the raceway and Paper Mill Pond is located southeast of Building 5.

2.3 BEDROCK AND SURFICIAL GEOLOGY

According to the *Bedrock Geological Map of Connecticut* (Rodgers, Yale University, 1985), bedrock beneath the Site is the mapped as the Glastonbury Gneiss, consisting of light colored medium to coarse grained, well foliated, granitic gneiss.

The *Surficial Materials Map of Connecticut, USGS* (Stone, et. al., 1992) indicates unconsolidated deposits in the southern portion of the Site consist of sand and gravel over sands and transition to glacial tills in the northern portion of the Site. In general, overburden materials from borings completed at the Site were observed to consist of densely packed sands and silts with various amounts of gravel, cobbles and boulders encountered at depth. Foreign materials, such as coal ash, brick and asphalt fragments were observed in soils sampled at several borings, predominately in the northern portion of the Site, indicating that much of the area below the north campus of buildings is underlain by urban fill. The thickness of the overburden materials was found to vary across the Site, from less than 4 feet to 27 feet below grade.

2.4 HYDROGEOLOGY

As indicated in the data presented in Table 2, Groundwater was reported at depths ranging from 4.5 feet (well ME-1) to 18.33 feet bgs (well ME-6) and was encountered below the



bedrock surface across much of the Site. Based on groundwater elevation data collected at the site in April 30 2015, groundwater is inferred to flow generally to the northwest across the Site in the western portion the Site and is presumed to discharge to the American Mill Pond and to the northeast in the eastern portion of the Site towards East Main Street (see Figure 3).

The Hockanum River and American Mill Pond are classified by the State of Connecticut as C/B (CTDEP, 1993). 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 (CTDEP, 2002).

3.0 CONCEPTUAL MODEL

3.1 AREAS OF CONCERN (AOCs) AND CONSTITUENTS OF CONCERN (COCs

The Phase I Environmental Site Assessment completed by GeoDesign in 2004 identified twenty-one (21) AOCs at the Site. Subsequently, Fuss & O'Neill identified two additional AOCs at the Site as part of their 2009 Limited Phase II/Limited Phase III Environmental Site Assessment. Based upon our review of the historical reports listed in Section 1 and observations of the Site, GZA identified two additional AOCs, bringing the total to twenty-five. In summation, the twenty-five AOCs identified at the Site are as follows:

- AOC 1 Former xylene USTs south of Building 14
- AOC 2 Building 14 south loading dock
- AOC 3 Building 14 west loading dock
- AOC 4 Northwest corner of Building 14
- AOC 5 Building 14 wastewater conveyance trenches
- AOC 6 Southeast corner of Building 14
- AOC 7 Building 12, Maintenance
- AOC 8 Slope west of Buildings 1 and 2
- AOC 9 Building 13, Latex Coating
- AOC 10 Building 2 loading dock
- AOC 11 Buildings 1 and 2, Coating Storage
- AOC 12 Building 3, Storage
- AOC 13 Building 7, Solvent Coating
- AOC 14 Fuel oil ASTs
- AOC 15 Transformers
- AOC 16 Building 7 loading dock
- AOC 17 Building 9, Dye Storage
- AOC 18 Building 8, Former Dye House
- AOC 19 Building 11, Former Dyeing/ Current Chemical Storage
- AOC 20 Building 11 loading dock
- AOC 21 Former off-site gasoline station
- AOC 22 Fill

- AOC 23 Groundwater
- AOC 24 Race Way
- AOC 25- American Mill Pond.



Table 1 provides a list of AOCs and constituents of concern (COCs) inferred to be associated with each AOC based on our knowledge of historical Site operations there. The table also briefly describes our inferred conceptualized mechanisms for the potential release of COCs to the environment. A more detailed description of each AOC is provided in Section 5.0 of this report. The locations of the AOCs on the Site are shown on Figure 2.

3.2 SUMMARY OF PREVOUS INVESTIGATIONS

The following provides a summary of previous investigations conducted at the site, including Phase I and Phase II investigations completed by GeoDesign, Inc. in February and March 2004, the Targeted Brownfields Assessment Report completed by Metcalf & Eddy in 2006 and the Limited Phase II / Limited Phase III Environmental Site Assessment completed by Fuss & O'Neill in December 2009. The reports identified and described AOCs at the Site and constituents of concern (COCs) detected through investigations completed at these locations. Copies of these reports are presented within Appendix B. A brief summary of these reports and their findings follows:

<u>Phase I and II Environmental Site Assessments (ESAs), GeoDesign, Inc., February and March 2004:</u>

GeoDesign's Phase I environmental investigations were reported to have been completed in accordance with ASTM Standard E 1527-00 including the review of historical files and city directories, completion of a site walkover and inspection of interior and exterior portions of the Site. As a result of that work GeoDesign identified twenty-one AOCs at the Site.

GeoDesign's Phase II investigations included the advancement of eleven soil borings (AM-1 through AM-11), collection and laboratory analysis of fourteen soil samples, construction of four shallow overburden monitoring wells at borings AM-1, AM-3, AM-4 and AM-7 and analysis of groundwater sampled from those wells and one pre-existing Site well (W-1). Laboratory analyses of soils indicated the presence of trace concentrations (below laboratory reportable quantification levels) of aromatic VOCs in soils sampled from five of seven borings advanced at the Site. ETPH was detected at low concentrations (below applicable criteria) at five of eight locations sampled. Low concentrations of formaldehyde were also detected in soils at two borings AM-8 and AM-11, located in the northwestern portion of Building 14. SVOCs and PCBs were not detected in any of the soils sampled.

Trace concentrations of SVOCs and the VOC chloroethane were reported in groundwater sampled at well W-1, northwest of Bldg. 14. Zinc was also reported there at a concentration of 171 μ g/L, above the SWPC, and ETPH was detected at a concentration of 1,100 μ g/L.

ETPH was also reported at 790 μ g/L at well AM-7, located within Bldg. 11. Arsenic (11 μ g/L) and copper (μ g/L) were reported above the SWPC in that well.



Targeted Brownfields Assessment Report, Metcalf & Eddy, August 2006:

Investigations included the advancement five soil borings (ME-1 through ME-3, ME-5 and ME-6), collection and analysis of seven soil samples from four borings, construction of three shallow bedrock monitoring wells (ME-I, ME-2 and ME-6) and one in the overburden well (ME-5).

Laboratory analyses of soils indicated the presence of trace concentrations of VOCs in several of the shallow soil samples collected throughout the Site. Low concentrations of xylenes and ethyl benzene were reported in shallow soils samples at boring ME-3, located within the former Finish Chemical Storage Area in the southeast corner of Bldg. 14. Trace concentrations of PAHs were detected in soils sampled throughout the Site. More elevated concentrations were reported in soils sampled at boring ME-6 (Bldg. 11 loading dock), apparently associated with coal ash. Arsenic was reported at a concentration of 54.4 mg/kg in soils from boring ME-5, located south of the Building 7 loading dock. Low concentrations of ETPH were detected in soils throughout the site.

Groundwater samples were collected from the four of the newly installed wells (ME-I, ME-2, ME-5 and ME-6) and from an existing monitoring well (AM-7). Analytical results indicated the presence of TCE, PCE and several other VOCs in the groundwater downgradient of Building 11. Elevated concentrations of metals were reported at wells ME-2 (chromium, lead and copper) downgradient of the northwest portion of Building 14 in Brooklyn Street and at AM-7 (copper and zinc) located within Building 11. Groundwater sampled at ME-2 was reported to have a blue-green tint that was assumed to be associated with the dye release observed in groundwater during the sewer line installation in Brooklyn Street in 1989.

<u>Limited Phase II/ Limited Phase III Environmental Site Assessment, Fuss & O'Neill December 2009</u>:

Fourteen of twenty-three AOCs identified at the Site were investigated. No investigations were completed within Bldgs. 9 and 14. Investigations completed included the advancement of twenty-one exploration soil borings (SB-101 through SB-121) and the laboratory analysis of twenty-four soil samples, installation of three shallow bedrock wells (MW-1, MW-2, MW-3), sampling and analysis of groundwater from the three newly installed wells and five pre-existing monitoring wells (AM-01, AM-07, ME-01 ME-02 and ME-06). F&O concluded that the results of the investigations indicated that polluted fill, composed of sand and silt with trace amounts of concrete and asphalt fragments is present across the surface of the Site to depths of 1 to 1.5 feet. The fill reportedly contains concentrations of polynuclear aromatic hydrocarbons (PAHs) and metals (arsenic, cadmium chromium, copper, mercury, lead and zinc).



Based on these investigations, F&O concluded the evidence did not indicate a release was present at three Site AOCs (AOC-9, AOC-11 and AOC-21). However, they reported the data did indicate that a release of either hazardous substances or petroleum oils was indicated at the remaining eleven AOCs they investigated at the Site. Site groundwater was found to have been impacted by releases of petroleum hydrocarbons and other hazardous constituents released to the soils at the Site. Chlorinated volatile organic compounds (CVOCs), principally tetrachloroethylene (PCE), were detected in the soils and groundwater in the northeast portion of Bldgs. 8 and 11. PCE and semi-volatile organic compounds (SVOCs) were also reported in groundwater in the northwestern portion of the property north of Brooklyn Street. Their report was inconclusive as to whether the Site groundwater plumes migrated offsite to the down gradient property north of the Site or American Mill Pond.

3.3 CONCEPTUAL SITE MODEL

The primary release mechanism for the majority of the Site's AOCs, those located within historical process areas, former material handling and storage areas, is inferred to be the release of hazardous constituents or petroleum oils to the building's floor slab or exterior paved surfaces to the soils below via cracks and/or joints within those surfaces. Exceptions to this pattern would be the release of materials directly to the subsurface soil from structure utilities present below the ground surface, e.g., the base of conveyance trenches or pits within the buildings, drain lines and underground storage tanks (USTs) formerly located at the Site. Given the relatively permeable native soils at the Site, releases from Site AOCs would have the potential to migrate downward through subsurface soils to the water table below. In the case of chlorinated solvents, as they are relatively immiscible in water and typically have densities greater than water, a release of a sufficient quantity could form a dense non-aqueous phase liquid (DNAPL) phase, which could migrate down through saturated soils below the water table to the bedrock surface and potentially into the bedrock through cracks and joints within that medium. GZA notes that access to areas within certain portions of the Site, particularly within building interiors, was limited by structures or materials present within the buildings or in some cases cobbles and/or boulders below floor slabs. Therefore, in these instances, data obtained from groundwater sampled downgradient of Site AOCs were used as additional lines of evidence to assess potential releases to the Site.

3.4 APPLYING THE REMEDIATION STANDARD REGULATIONS

As part of our Phase III assessment of environmental conditions at the Site, laboratory analytical results of Site soil and groundwater samples were compared to the remedial standards as set forth in Sections 22a-133k-1 through -3 of the Regulations of the State Agencies or the "Remediation Standard Regulations" (RSRs), as revised in June 27, 2013. The criteria applicable to constituents of concern released to Site soil include the Direct Exposure Criteria (DEC) and the Pollutant Mobility Criteria for a GB groundwater classification area (GB-



PMC), as defined under the Section 22a-133k-2 of the RSRs. The criteria applicable to the Site groundwater include the Surface Water Protection Criteria (SWPC) and Groundwater Volatilization Criteria (GWVC), as defined under Section 22a-133k-3 of the RSRs. A description of each of these criteria as well as their applicability to the Site is presented below.

3.4.1 Direct Exposure Criteria (DEC)

In soil, compliance with Direct Exposure Criteria (DEC) is evaluated through comparison of mass-based concentrations of contaminant constituents in soils to established numerical criteria. The purpose of the DEC standard is to protect human health from risks associated with direct contact with and ingestion of soil contaminants. Compliance with the DEC can be shown when the 95% upper confidence level of the mean of COC concentrations within a release area are less than the DEC. Otherwise, compliance is shown when all reported concentrations within the release area are less than the DEC.

The DEC are applicable to soil within 15 feet of ground surface. Separate criteria are established for residential (R-DEC) and industrial/commercial (I/C-DEC) areas. However, use of the less stringent industrial/commercial standards requires the owner of the property to place an Environmental Land Use Restriction (ELUR) on the property land records prohibiting use of the property for residential purposes. The DEC standards do not apply to "inaccessible soils", which are defined as soils more than four feet below ground surface or two feet below qualifying pavement (>3-inches thick) or below an existing building, provided an ELUR is in effect prohibiting the disturbance of the soil, pavement and/or building. The soil data summary tables (Tables 3A through 3N) provide a summary of soil analytical results in comparison to the R-DEC and I/C-DEC for Site COCs

3.4.2 Pollutant Mobility Criteria (PMC)

Concentrations of contaminant constituents in soil are also evaluated based on the Pollutant Mobility Criteria (PMC). The purpose of the PMC standard is to evaluate the potential for constituents to leach from the soil and degrade the underlying groundwater. Separate PMC standards are contained within the RSRs for sites located within Class GA and GAA groundwater areas versus those located within Class GB groundwater areas. Because the Site is located in a Class GB groundwater area, compliance with regard to the levels of COCs within the Site soils was evaluated using the GB-PMC.

For organic constituents, this evaluation can be performed by either: 1) using samples analyzed for total mass concentrations and comparing directly to PMC criteria presented in the RSRs, or 2) subjecting soil samples to the Synthetic Precipitation Leaching Procedure (SPLP) and comparing the concentrations of constituents in the extracts to the GWPC and/or leachate based PMC. Inorganic constituents (metals, cyanide, and PCBs) are evaluated based on SPLP data. As a conservative screening approach when SPLP data are not available, the maximum potential leachable concentrations in a sample can be estimated by dividing total mass concentrations by twenty (or conversely comparing mass-



based data to 20 times the extraction based PMC). Actual leachable concentrations are generally well below this calculated maximum. As explained in Section 5.3, concentrations of mass metals, SVOCs and ETPH in Site soils were evaluated for compliance with GB-PMC based on an assessment of SPLP analyses of Site soils having similar mass concentrations.

The GB-PMC do not apply to soil located below the seasonal high groundwater table, or to soils that have been rendered "environmentally isolated" (i.e., below a building, other permanent structure or approved engineered control), as long as an appropriate Environmental Land Use Restriction (ELUR) has been established. The soil data summary tables (Table 3A through 3O) provide a summary of soil analytical results in comparison to the GB-PMC for COCs identified in Site soils.

3.4.3 Groundwater Protection Criteria (GWPC)

The GWPC apply to areas where groundwater is or may be used as a potable water supply. Because the Site is located within a GB area and area residents are supplied public drinking water, the GWPC are not applicable to the groundwater at the Site.

3.4.4 Surface Water Protection Criteria (SWPC)

The SWPC are intended to provide an indication as to whether polluted groundwater discharging to a surface water could potentially cause degradation to the quality of the surface water body to a level where applicable Water Quality Standards are not being met. Compliance with the SWPC must be met at the point of discharge of the groundwater plume to the surface water body and may be determined by either a direct comparison of constituent concentrations to established numeric standards or by a number of alternative methods, including calculation of alternative SWPC criteria or Site-specific SWPC, with approval of the Commissioner. The groundwater data summary table (Table 5) provides SWPC for COCs identified through laboratory analyses of Site groundwater.

3.4.5 Groundwater Volatilization Criteria (GWVC)

GWVC are intended to protect human health from risks associated with inhalation of volatile organic vapors which could potentially migrate up into occupied building areas from VOC constituents present within the underlying groundwater. Separate criteria are established for residential (R-GWVC) and industrial commercial (I/C-GWVC) areas. However, use of the less stringent industrial/commercial standards requires the owner of a property to establish an ELUR on the property preventing the use of the property (or the applicable portion of the property) for residential usage. The GWVC are applicable to VOC concentrations in groundwater to depths of 15 feet below ground surface or the lowest level floor slab. The groundwater data summary table (Table 5) provides a comparison of detected VOC concentrations in Site Groundwater to both the R-GWVC and I/C-GWVC for comparative purposes.

3.4.6 Soil Vapor Volatilization Criteria (SVVC)



Where GWVC may be exceeded, SVVC can be used as a means of demonstrating compliance. SVVC are intended to provide an indication as to whether concentrations of gaseous phase volatile organic compounds in unsaturated soils are at levels that could pose an unacceptable risk of exposure to occupants within a building or some other habitable structure if those vapors were to intrude into and accumulate within that structure. Separate criteria are established for residential (R-SVVC) and industrial commercial (I/C-SVVC) areas. However, use of the less stringent industrial/commercial standards requires the owner of a property to establish an ELUR on the property preventing the use of the property (or the applicable portion of the property) for residential usage. Compliance with SVVC may be achieved when the concentration of the volatile vapor below the structure are found to be less than the established numeric criteria at each representative sample location. The soil vapor data summary table (Table 4) provides a comparison of detected VOC concentrations in Site soil vapor to both the R-SVVC and I/C-SVVC for comparative purposes.

4.0 SCOPE OF WORK AND FIELD ACTIVITIES

As indicated in Section 1.0 above, GZA's Phase III Data Gap Investigation program was developed based on information from previous environmental investigation reports.

The purpose of the Phase III data gap investigations was to obtain sufficient data to complete characterization of released COCs identified at the sixteen AOCs targeted for investigations at the Site to assess: 1) if not previously determined, if data confirms a release is present, 2) where a release is confirmed, whether the need for remediation is indicated and 3) where a release is found, define an appropriate course of action that, given the intended future use of the Site, would render those conditions to a state that meet applicable RSR remedial criteria and be adequately protective of human health and the environment.

A brief description of each of the AOCs identified at the Site, summary of known environmental conditions, based on investigations completed to date and perceived data gaps, and rationale for proposed additional investigations is presented in Table 1.

In the completion of this phase of investigations, GZA conducted the exploration and sampling of Site soils at 47 soil borings advanced through the overburden at AOCs at the Site, the laboratory analysis of 60 soil samples; the construction of five additional groundwater monitoring wells (two within the overburden and three within the bedrock aquifer at the Site); the laboratory analysis of groundwater sampled from the four recently installed wells (GZ-5 was found dry) and eight previously installed wells, collection and analysis of 14 soil vapor samples and the collection and analysis of six surface water and sediment samples from the impounded portions of the Hockanum River, up and downgradient of the Site.



Laboratory analytical results of the above samples were assessed relative to the remedial standards provided in the RSRs, adopted on June 27, 2013, where applicable, and our professional judgment was applied to formulate opinions regarding the extent and degree of releases identified at Site AOCs and the need for remedial actions (where required) to meet those standards. Table 1 summarizes the sampling program and laboratory analyses completed at the individual AOCs.

4.1 SAMPLING RATIONALE

The soil vapor, soil, groundwater and surface water/sediment sampling program was designed to collect additional data from 16 of the 25 Site AOCs where data gaps were found. The additional data was used in conjunction with prior data to allow GZA to assess whether sufficient data was available to determine whether released constituents, where found, are at concentrations that would require remedial action and to allow selection of an appropriate remedial remedy where that need was found. The location and depth of the samples collected was selected based on our Conceptual Site Model and inferred release mechanisms derived for each AOC. Groundwater, soil and soil vapor analytical results were compared to the applicable numeric standards of the RSRs as described in Section 3.4, above. Surface water results were compared to Connecticut Water Quality Standards. Sediment results were compared to Threshold Effects Concentrations available from EPA cited publications. The following sections summarize GZA's Phase III Data Gap Investigation scope of work. Table 1 and Section 5.0 below provide a summary of our sampling rationale at each AOC.

4.2 SOIL VAPOR SAMPLING

Based on the prior studies of AOC-18 and AOC-19, PCE, TCE and other VOCs were reported in borings from Building 8 and Building 11 (AOC-18 and AOC-19, respectively). The concentration of PCE exceeded R-DEC and GB-PMC and TCE exceeded GB-PMC in a soil sample collected from boring SB-109 within Building 11. A lower concentration of TCE, below the R-DEC and GB-PMC, was reported in soil at boring SB-105, within Building 8. Based upon these findings, a release of chlorinated volatile organic compounds CVOCs requiring remedial action is present below the floor of Building 11 and potentially below Building 8. Additional exploration and analyses of the soils were required to more fully define the extent of the CVOC releases below those buildings.

Preliminary to initiating additional soil investigations there, GZA completed a survey of concentrations of soil vapors below the floor slabs of those buildings to better delineate where elevated concentrations of VCOCs are present in soils below the floor and refine soil boring locations so as to bias soil borings to areas of greatest impact.

Soil gas samples were collected using GeoProbe™ manual sampling equipment. At each soil vapor sampling point, GZA drilled a pilot hole through the concrete floor slab and advanced a stainless steel vapor probe approximately one foot into the soils below using



an electric hammer drill. The pilot hole around the probe was filled with modeling clay to form a seal around the probe at floor level. Sampling tubing was connected to the upper portion of the probe and ambient air was purged from the probe and tubing using a peristaltic pump and a sample of soil vapors below the floor slab was then collected within a pre-evacuated SUMMA canister.

During purging, GZA measured and recorded flow rate and vacuum pressure within the tubing and screened soil vapors within purged air for VOC vapors using a MiniRae Lite organic vapor meter (OVM). A flow meter was used during purging to measure the rate of flow of air from the probe and a Magnehelix® meter was used to assess vacuum pressure during purging. The PID readings range from 1.5 to 3.8 parts per million (ppm) in Building 8 and 1.3 to 14 ppm in Building 11. Measurements and data generated during the sampling operation were recorded on field data sheets, copies of which are provided in Appendix C. Soil test locations are shown on Figure 2A and a summary of soil vapor analytical data are provide on Table 4.

4.3 TEST BORINGS AND SOIL SAMPLING

In April 2015, GZA advanced 47 soil borings at the Site using a Geoprobe® direct-push unit or, at restricted locations, manually driving a one inch Geoprobe Macrocore soil sampler using an electric hammer drill. Boring exploration locations are shown on Figures 2 and 2A.

Soil samples were collected from the borings consecutively in up to 4-foot intervals of depth using stainless steel Geoprobe® soil samplers. The recovered soil samples were observed in the field by GZA's staff for environmental indicators of a release (i.e. staining, discoloration and/or odors), and grain size descriptions of the samples were recorded using a modified Burmister soil classification system. Selected portions of sampled soils 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 D of this report.

Additionally, select soils were screened for total metals using x-ray flouresence (XRF) to screen samples for elevated metal concentrations and to assist in the selection of samples to run for leachable metals using EPA's Synthetic Precipitation leaching procedure (SLPL). XRF screening logs are presented in Appendix D.

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



VOCs via EPA Method 8260; SVOCs/PAHs via EPA Method 8270D; ETPH via the Connecticut Department of Health Services methodology; Total and SPLP metals²using EPA Methods 6010, 7471 and 1312; Formaldehyde; Methanol; Ammonia;

Complete chain of custody control was maintained for the samples, from soil sampling until they were received by the laboratory. Laboratory analytical reports and chain of custody records for soil samples are provided in Appendix D. Soil analytical results are summarized on Table 3A to 3O.

The soil borings were advanced to depths ranging from 0.25 feet to 27 feet below grade. GZA notes, at many of the borings, sampler refusal was encountered due to cobbles, boulders, bedrock or buried building structures. Bedrock was inferred to have been encountered in Site borings from approximately 2.5 feet below grade (inside Building 14) to approximately 27 feet below grade (outside of Building 11). Subsurface materials generally consisted of fill containing fine to coarse sands and silts with varying degrees of gravel, cobbles and boulders. Debris connoting fill (coal, coal ash, asphalt, brick, and glass) was observed at several boring locations and typically was present in soils sampled from the northern portion of the site (north of Brooklyn Street).

4.4 MONITORING WELLS

Glycols; and

PCBs via EPA Method 8082A.

GZA constructed five (5) wells (GZ-1 through GZ-5) as part of the Phase III Data Gap Investigation. The overburden well borings (GZ-4 and GZ-5) were advanced using hollow stem auger until refusal on bedrock was encountered. The bedrock wells (GZ-1 through GZ-3) were advanced by driving casing to refusal into the upper bedrock surface and then drilling into the bedrock using an air rotary Geoprobe® drill rig. The locations of the newly constructed monitoring wells are shown on Figures 2 and 3.

Monitoring wells were constructed with 2-inch diameter, schedule 40, flush-joint thread, polyvinyl chloride (PVC). Screened sections of the wells were installed to span the water table. The length of the installed well screens ranged from 8 feet in GZ-4 to 15 feet in GZ-2. At each well location, a sand filter pack was installed within the boring annulus around the well screen, extending to 1 to 2 feet above the top of screen. A minimum 2-foot thick bentonite seal was then placed on top of the filter sand (except at GZ-4, where 0.5 feet of bentonite was installed due to space constraints) and the remaining annulus was backfilled with auger spoils. The monitoring wells were completed at the ground surface with steel

² Metals are arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, copper, zinc.



flush-mounted road-box protective covers. A summary of construction details of Site wells is presented in Table 2. Monitoring well logs for wells GZ-1 through GZ-5, providing a description of geologic materials encountered, well construction details and other recorded drilling data, are presented in Appendix D.

After installation was completed, the monitoring wells were developed by alternately surging and purging groundwater from the wells to remove fines (clay and silt sized particles) in the aquifer immediately surrounding the screened portion of the well to improve the hydraulic communication of the well with the surrounding aquifer and to minimize the amount of sediments entrained within groundwater extracted from the well (which could cause bias in analytical results of groundwater sampled from the wells). The wells were left undisturbed for a period of about one week to allow groundwater conditions to stabilize prior to sampling.

4.5 GROUNDWATER SAMPLING

GZA sampled groundwater from newly installed wells GZ-1 through GZ-4³ and from existing Site wells AM-1, AM-7, ME-1, ME-2, ME-6, MW-01, MW-02 and MW-03 on April 30 and May 1, 2015 to assess groundwater conditions downgradient of AOCs identified at the Site. GZA notes that well GZ-5 was found to be dry at the time of the sampling. In addition, wells AM-3, AM-4 and AM-5, originally targeted for sampling, could not be located and are believed to have been paved over and/or destroyed. Therefore, other wells within those areas were used for evaluation of groundwater conditions at the Site. Prior to sampling, GZA measured and recorded the depth to groundwater within each well. Groundwater was then sampled from the wells using a peristaltic pump, typically positioned within the wells at the approximate middle of the saturated portion of the screened well segment. Groundwater was purged from the wells 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 to remove groundwater from the wells with a minimum drawdown of groundwater within the well (<0.3 feet) and with a minimum of turbidity or entrained sediments in the purged water (<5 NTUs). The USEPA and CTDEEP recommend using low stress/low flow groundwater sampling methodology to collect samples representative of groundwater within the surrounding aquifer at the screened portion of each well.

Following that method, 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 an HF Scientific field turbidity meter. Turbidity and water quality parameters were measured at approximately 3 to 5 minute intervals (approximately the time of one full discharge of the volume of the flow through cell) until stability of those parameters was achieved in

³ Well GZ-5 was found to be dry at the time of sampling.

accordance with EPA guidelines. Groundwater monitoring data was recorded on groundwater sampling field data sheets during well purging and sampling. Copies of the field data sheets are included in Appendix E.



When groundwater monitoring parameters were shown to have reached stable conditions, samples were collected from the pumped groundwater from the wells at low flow extraction rates. 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 a Connecticut Department of Health Services certified environmental laboratory for analysis of one or more of the following parameters: VOCs via EPA Method 8260, SVOCs using EPA Method 8270D, aniline, formaldehyde, methanol, ammonia, phenols and selected metals using EPA 6010 Methods⁴. Complete chain of custody control was maintained for the samples from the time they were obtained through the time they were analyzed by the laboratory.

Table 5 indicates the laboratory analyses completed for the groundwater samples obtained from each well and a summary of the analytical results reported by the laboratory. Copies of the laboratory reports with sample Chains of Custody records are presented in Appendix E. A discussion of the groundwater sample analytical results and their significance in terms of a potential release at each Site AOC and Site-wide groundwater quality as a whole is presented in Section 5.27 of this report.

4.6 GROUNDWATER ELEVATION SURVEY

On April 24, 2015, GZA surveyed and measured the relative elevation of the top of the PVC riser of the available existing and newly installed Site wells to provide a reference datum to determine Site groundwater elevations at each well. The survey was conducted using a tripod-mounted laser level and a stadia rod. The elevations of Site well risers were measured relative to an arbitrary elevation of 100 feet established at the top of PVC riser at ME-6. Calculated relative elevations of the top of monitoring well risers, used as established reference points when measuring depth to groundwater at wells, are summarized in Table 2.

GZA measured the depth to groundwater within the Site wells prior to groundwater sampling on April 30, 2015. Depth to water measurements were used to calculate groundwater elevations relative to the elevation datum established at each well (top of PVC well riser). Depth to water measurements were recorded on a water level measurement log, copies of which are presented in Appendix E. Depth to groundwater measurements and calculated groundwater elevations are presented on Table 2.

Using the above depth to groundwater measurements, the relative elevation of the groundwater table at each bedrock monitoring well was calculated and plotted on the Site

⁴ Metals are arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver and zinc.



plan presented in Figure 3 with inferred bedrock groundwater elevation contours and groundwater flow directions based on that data. As shown on that plan, the direction of groundwater flow across the Site is inferred to flow towards the northwest on the western portion of the Site and more northeast on the eastern portion of the Site. Flow in overburden appears to be more northward toward American Mill Pond. Groundwater flow in bedrock did not appear to be influenced by the raceway, based on the data collected at the Site.

4.7 SURFACE WATER AND SEDIMENT SAMPLING

In order to assess impacts to the American Mill Pond, potential risks to sensitive ecologic receptors within the pond system sediments was evaluated through the completion of sampling and analysis of sediments and surface water. Samples of sediment and surface water from upgradient Paper Mill Pond were additionally collected to provide baseline data against which potential impacts to the surface water system from upgradient sources, as opposed to those from historical site operations, may be compared.

On April 22, 2015, GZA personnel collected surface water and sediment samples from the American Mill Pond and Paper Mill Pond. A small boat was used to access sampling locations. Surface water samples were collected by placing tubing one foot below the surface and then pumping water using a peristaltic pump, filtered with a 0.45 µM filter, into laboratory provided collection bottles. Prior to collection of samples, the depth of the water was measured and a YSI 556 water quality meter was used to collect surface water quality parameters (oxidation reduction potential [ORP], dissolved oxygen, temperature, specific conductivity, and pH) and a HF Scientific field turbidity meter was used to collect turbidity measurements. Three surface water samples were collected from the upgradient Paper Mill Pond (AOC-25 SW-4, AOC-25 SW-5, and AOC-25 SW-6) and three surface water samples were collected from the American Mill Pond (AOC-25 SW-1, AOC-25 SW-2, and AOC-25 SW-3). The locations of the surface water samples are shown on Figure 4. Surface water sample logs are provided in Appendix F.

Sediment samples were collected with a hand auger from the bottom of the pond to a depth of 0.5 feet below the substrate surface. Sediment and surface water samples were co-located. Samples AOC-25 SED-1, AOC-25 SED-2, and AOC-25 SED-3 were collected from American Mill Pond and samples AOC-25 SED-4, AOC-25 SED-5, and AOC-25 SED-6 were collected from Paper Mill Pond. Sediment from the hand auger was placed into laboratory provided jars. Sediment sample logs are provided in Appendix F.

Sediment materials encountered were observed to consist of dark brown organics with varying amounts of fine to coarse sand and fine gravel. GZA did not observe or detect the presence of environmental indicators (i.e. staining or odors) that would suggest an obvious release of contaminants. PID screening results did not indicate the presence of volatile vapors in the recovered sediment samples.

Surface water samples were provided to a Connecticut Certified Laboratory for analysis of the following:



- Hardness,
- Ammonia,
- Phenols,
- Aniline,
- SVOCs, and
- Site Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, copper, zinc)

Sediment samples were provided to a Connecticut Certified Laboratory for analysis of the following:

- Aniline,
- Ammonia,
- Phenol,
- Total Organic Carbon (TOC),
- Grain Size,
- SVOCs, and
- Site Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, copper, zinc)

A summary of the surface water sample results is provided on Table 7 and a summary of the sediment sampling results is provided on Table 6. Copies of the laboratory reports with sample Chains of Custody records are presented in Appendix F.

5.0 SUMMARY OF AOC INVESTIGATIONS AND COMPARISON TO THE REMEDIATION STANDARD REGULATIONS (RSRs)

The following sections summarize the results of GZA's Phase III Data Gap Investigations and provide a discussion of the laboratory analytical results of soil and groundwater samples in the context of the Remediation Standard Regulations (RSRs).

The locations of the individual AOCs and sampling locations are provided on Figures 2 through 4. The results of laboratory analyses of samples collected during this investigation are presented in Tables 3 through 7. Boring logs documenting subsurface conditions encountered are included in Appendix D. Copies of laboratory analytical reports for soil samples are included in Appendix D, for groundwater samples in Appendix E and for surface water and sediment samples in Appendix F. Table 1 provides a synopsis of the CSM at each of the AOCs investigated, our sampling rationale, number of samples collected and parameters tested and results of the testing program. Previous environmental reports

providing additional data regarding environmental conditions at the Site are presented in Appendix B.



Section 5.1 provides a discussion of laboratory data quality for the samples, Section 5.2 provides a discussion of metals in soil, and Sections 5.3 through 5.29 provide discussions of Site conditions by AOC. Section 5.27 provides discussion of groundwater quality on a Sitewide basis.

5.1 REASONABLE CONFIDENCE PROTOCOL ANALYSIS: DATA QUALITY

Laboratory analyses for soil, groundwater, sediment, surface water and soil vapor samples collected at the Site by GZA were completed using CTDEEP Reasonable Confidence Protocol (RCP) methodologies. The CTDEEP recommends the use of RCP methodologies in the analysis of environmental samples to ensure and demonstrate that adequate quality assurance and quality control (QA/QC) was maintained by the laboratory during performance of the analytical procedures. Laboratory case Narratives explaining nonconformances with RCP QC test requirements and the QA/QC packages that accompanied the laboratory results were assessed to evaluate the "usability" of the data produced following the procedures outlined within the May 2009, CTDEP <u>Laboratory Quality Control Assurance and Quality Control, Data Quality Assessment and Data Usability Evaluation Guidance Document</u> (DQA/DUE Guidance).

QA/QC tests completed included the periodic analysis of laboratory control samples (LCS) and analysis of matrix spike (MS) and matrix spike duplicate (MSD) samples as a measure of variability of the results produced by the laboratory methods employed and the precision and accuracy of the laboratory analytical results reported. QA/QC tests performed also included the analyses of trip blank samples to measure any cross-contamination between samples for VOCs.

In total, two groundwater and seven soil trip blanks were collected. All trip blanks were non-detect indicating no cross-contamination had occurred.

In conformance with DQA/DUE guidance, RCP non-conformances identified within the QA/QC case narratives by the analytical laboratory were summarized on Data Quality Assessment Worksheets and Data Usability Assessment Evaluation Forms along with the inferred potential high or low bias of the data as indicated by those results. A summary of our evaluation of the laboratory QC test results that were reported outside established RCP conformance for site soils, groundwater and soil vapor samples is presented in the tables in Appendix G.

Sporadic potential high biases were noted for various compounds. However, a high bias does not affect the data usability for its intended purpose. Sporadic potential low biases were noted for various compounds. However, other supporting QA/QC, such as LCS and MS, helped support GZAs opinion that the data is usable for its intended purpose.

5.2 METALS IN SITE SOILS



As shown on Table 3A through N, soil samples from Site AOCs were tested for one or more Site metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, copper and zinc). While metals were detected above laboratory MRLs, concentrations at most AOCs were similar Site-wide and are inferred to be indicative of natural concentrations present within the native soils, unaffected by releases. Mass-based concentrations of arsenic at AOC-16 (Building 7 Loading Dock) and AOC-17 (Building 9) and lead at AOC 19 (Building 11) and were detected above the R-DEC and I/C-DECs for those metals. GZA has concluded the elevated concentration of those constituents represent a release to the soils at those locations⁵. A discussion of assessments of total metal concentrations in soils at Site AOCs is provided in Sections 5.4 through 5.26 below.

5.3 COMPLIANCE OF COCs IN SOILS WITH GB-PMCs

To evaluate compliance with GB-PMC, GZA reviewed analytical results of total metals, SVOCs and ETPH reported in Site soil samples in comparison to concentrations of total COCs leached by SPLP extraction as part of previous investigations completed at the Site. As outlined in Table 3O, GZA compiled the range of total and corresponding SPLP leached concentrations reported in Site soils in comparison to the relevant GB-PMC. Also, compiled in the table are the number of Site soil samples tested by SPLP analysis, the maximum total concentration of each COC reported in Site soil samples and whether the maximum concentration reported fell within the range of total metal concentrations tested by SPLP analysis.

As indicated in Table 30, with the exception of arsenic at 122 mg/Kg, reported at boring AM-1, the highest total concentrations of metals and PAHs in reported Site soils were within the range or samples tested by SPLP extraction. Of the samples tested, with the exception of beryllium at ME-6SB (0.5-4) all reported SPLP-leached concentrations were below the current GB-PMC. Through this comparison GZA infers that it is logical to conclude that soils with concentrations equal to or less the maximum total metal concentrations would not leach at concentrations above GB-PMC.

5.4 AOC 1: FORMER SOLVENT USTs

A 5,000-gallon and a 3,000-gallon steel underground storage tanks, formerly used for the storage of xylenes, were located below the parking lot south of Building 14 and west of the

⁵ GZA notes that total beryllium at 0.13 mg/Kg in soils at ME-6SB(0.5-4) was reported to leach at 0.48 mg/L under SPLP extraction, above the GB-PMC of 0.04 mg/L. However, the SPLP concentration was approximated due to limitation posed within the laboratory quality control review. In addition, several other Site soil samples having higher total beryllium concentrations were reported to leach at concentrations below the GB-PMC. Therefore, it is interpreted that the SPLP result in ME-6SB(0.5-4) was biased high and compliance with the GB-PMC is presumed for beryllium.



southern loading dock. Information presented in previous investigation reports indicate that tightness tests, conducted on the tanks in April 1988 and July 1989 indicated one tank failed the required tightness criteria in July 1989. The tanks (installed in 1972) were reportedly removed in July 1993. However, it was reported that no record was found to indicate that post-excavation soil sampling was completed within the tank grave after removal of the tanks to document whether or not a release from the tanks had occurred.

Additionally, a historical Site Plan of the Amerbelle Corporation property dated 1956 provided by the Town of Vernon indicates that a 5,000-gallon Stoddard solvent tank and a 3,000-gallon Xylol solvent tank were also previously present at that location.

Available reports indicate that no investigations of this AOC were conducted under previous environmental assessments of the Site. Based on the above, additional explorations and analysis of soils were completed at this AOC by GZA to determine whether conditions indicate a release may be present or absent there.

The following additional investigations were performed:

- Advancement of two Geoprobe® borings (AOC-1-1 and AOC-1-2) and the continuous sampling of soils within the footprint of the former USTs to approximately 11.3 feet and 14.7 feet below ground surface (bgs), respectively;
- Visual observation, PID field screening, and logging of grain size descriptions of soils;
- Collections of soils from 8 to 10 feet bgs (below assumed depth of former USTs);
- Analysis of soils for 8020 list VOCs, PAHs and ETPH.

Subsurface materials encountered in the borings were observed to generally consist of brown fine to medium or fine to coarse sand with various amounts of gravel and little to trace silts. Six-inch thick layers of silt and/or silt and clay were observed in boring AOC-1-2 at 4.3 feet and 10 feet bgs, respectively, presumed to be a product of fill material placed in the tank grave after removal. Observation of the soils sampled from the borings did not indicate the presence of environmental indicators (i.e. staining or odors) that would suggest an obvious release of contaminants. PID screening results did not indicate the presence of volatile vapors in the recovered soil samples.

The CSM for a potential release of oils/solvents from the former USTs was a subsurface release directly to soils from the tanks. If a release was present, it was inferred that it would most likely be encountered below the base of the former tank graves where soils would not have been disturbed during UST removals. Standard tank size charts indicate that 3,000 and 5,000-gallon USTs are typically between 5 and 6 feet in diameter. Assuming that the tanks were buried 2 to 3 feet below the ground surface, soils sampled from 8 to 10 feet bgs within the borings were submitted for laboratory analyses, i.e., samples AOC-1-1(8-10) and AOC-1-2(8-10).



As summarized in Table 1, laboratory analyses indicated that VOCs and PAHs were below the minimum reportable limits (MRLs) of the laboratory analytical method in both samples. ETPH was reported at 74 and 340 mg/K in the samples from AOC-1-1 and AOC-1-2, respectively. Although the concentrations of ETPH reported within the soil samples are below the applicable RSR remedial criteria for that parameter, the levels reported, particularly at AOC-1-2(8-10) indicate a release of petroleum oils is present at this location. GZA had initially planned to analyze groundwater sampled at well AM-3, located just to the northeast of the tank locations as an additional line of evidence to assess the magnitude of a release there. However, no evidence of the well could be found at that location and it is believed the well has been destroyed and the area paved over since time of its installation in 2002. Previous groundwater sampling completed at AOC-3 in January 2004 found no evidence of a release from that tank.

The current soil data suggests that a release occurred. Upon further exploration and analysis of soils, it can be determined if a small excavation will be necessary to meet applicable RSR remedial criteria or if no remediation will be necessary.

5.5 AOC 2: BUILDING 14 SOUTH LOADING DOCK

The southern loading dock is located near the center of the south side of Building 14 east of AOC-1. It is presumed that this loading area had been used to service former dye operations, chemical finishing and chemical storage areas within the building. Our review of previous reports found no indication that investigations had been completed within the immediate vicinity of the loading dock. One boring (AM-3) was advanced approximately 35 feet west of the loading dock in the area of the former Ammonia storage tank. A deeper soil sample (from 3 to 5 feet bgs) obtained from that boring was submitted for laboratory analysis and reported to contain low levels of VOCs (2,2-dimethylhexane) and ETPH below the R-DEC and I/C-DEC. As the inferred release mechanism for this AOC is a top-down model, the sample collected from 3 to 5 feet bgs was not inferred to be representative of the zone of potential highest impacts at that location. Therefore additional sampling of shallow soils at that location was proposed.

Based on the above, GZA completed the following investigations within this area:

- Advancement of 2 Geoprobe® borings (one in front of each loading dock door) to 4 feet bgs (AOC-2-2 and AOC-2-3);
- Advancement of one Geoprobe® boring (AOC-2-1) near AM-3;
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils from 0.5 to 2 feet bgs (or from depth interval exhibiting greatest impacts, if apparent);
- Analysis of soils for 8020 list VOCs, PAHs and ETPH (AOC-2-1- and AOC-2-3);
- Additional analysis of soils from AOC-2-2 for SVOCs, formaldehyde, glycol, ammonia, metals and methanol.



The locations of the above borings were biased to where cracks and/or degraded areas were observed within the asphalt pavement within the AOC. Subsurface materials encountered generally consisted of sand and silts. Brick fragments in soils from AOC-2-2 indicates the materials are likely fill. GZA did not detect the presence of environmental indicators (i.e. staining or odors) that would suggest an obvious release of contaminants. PID screening results did not indicate the presence of volatile vapors in the recovered soil samples. As boring AOC-2-2 was located downslope from the loading area at a crack in a shallow depression, it was inferred that soils there would be most likely representative of worse case condition soils and the shallow soil sampled from that location was selected or additional analysis.

VOCs, ETPH and PAHs or SVOCs were reported below laboratory MRLs in all three soil samples from the area. Similarly, glycols, ammonia and formaldehyde were below MRLs in soils at AOC-2-2. A trace concentration of methanol (20 mg/kg) and somewhat elevated concentrations of barium (120 mg/kg) and lead (90 mg/kg) were reported in that sample. These concentrations are significantly below remedial criteria and are inferred to be consistent with low level degradation by fill materials observed at other locations at the Site and typical of urban environments. Therefore, no additional investigation or remediation of this AOC is recommended.

5.6 AOC 3: BUILDING 14 WEST LOADING DOCK

Two loading areas are present on the west side of Building 14. The more southerly dock has one overhead door and services the upper floor of the building. The northern loading area has two overhead doors and services the lower floor of the building where wastewater neutralizations tanks were formerly located. The areas below the docks are covered with asphalt pavement. A catch basin is located at the base of the northern loading dock.

Two borings (AM-2 and ME-1) had previously been advanced through the paved ramp area uphill and to the north of the northern loading dock. No soil analyses were completed at AM-2. Trace levels of ETPH (inferred by GZA to be within the range of baseline noise by the test method) were detected in groundwater at this well. Low concentrations of ETPH, PAHs and metals (above site background range concentrations) were detected in shallow soils at ME-1, inferred to be due to the presence of fill there.

Based on our assessment of available data, the potential for a release at the loading areas had not been adequately characterized by the current data set. Therefore, additional sampling and analysis of shallow soils was proposed to better determine whether a release may be present or absent at this AOC.

The following additional investigations were performed:

 Advancement of 2 Geoprobe® borings to 4 feet bgs (one in front of each loading dock area);



- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils from 0.5 to 2 feet bgs (or from depth interval exhibiting greatest impacts, if apparent) (AOC-3-1 and AOC-3-2);
- Analysis of soils for 8020 list VOCs, metals and ETPH;
- Analysis of SVOCs, formaldehyde, glycol, ammonia and methanol at AOC-3-2 where impacts to soils were indicated.

The locations of the above borings were biased to where cracks and/or degraded areas were observed within the pavement. Boring AOC-3-2 was installed adjacent to the catch basin at the foot of the northern loading dock. Subsurface materials encountered were found to generally consist of sand and silts. The upper two inches of soils sampled below the asphalt at AOC-3-1 were observed to be lightly purple stained. A seven-inch layer of silt and clay encountered 1.5 feet bgs at AOC-3-2 was observed to be stained and exhibited a petroleum odor. Stained soils with a petroleum odor were also encountered at 5.4 feet bgs. However, PID screening results did not indicate the presence of volatile vapors in the recovered soil samples. Due to these observed impacts, soils from 4 to 6 feet from AOC -3-2 were selected for additional analysis.

Laboratory analyses indicated that VOCs, ETPH and PAHs or SVOCs were reported below laboratory MRLs in both soil samples. Low concentrations of formaldehyde (6.1 mg/Kg) and methanol (18 mg/kg) were reported in sample AOC-3-2(4-6). The concentration of barium (614 mg/Kg) was also marginally elevated in comparison to other reported concentrations at the Site. These concentrations are significantly below remedial criteria, and below a concentration expected to leach above GB-PMCs based on evaluation of other Site soils (see Table 3O). The above concentrations are inferred to be consistent with low level degradation by fill materials observed at other locations at the Site and typical of urban environments.

No detectable impacts were indicated by the laboratory analyses from the dye at AOC-3-1 or from petroleum hydrocarbons at AOC-3-2. Based on a presumed future restriction prohibiting residential usage of the property, no additional investigation of this AOC is recommended.

5.7 AOC 4: NORTHWEST CORNER OF BUILDING 14 – FINISHING DEPARTMENT

The northwest corner of Building 14 was formerly used for textile dyeing operations and contains the former dye/mixing room and textile dyeing storage areas. The area also contains former wastewater conveyance trenches, pits and a wastewater collection sump. Releases of dye and finishing products from the conveyance trenches and sumps within this area were suspected when the presence of dye-impacted groundwater was observed infiltrating a trench in Brooklyn Street off the northwest corner of Building 14, during laying of a sewer line there in 1997. During the inspection of that release, dye was also observed seeping from around an exhaust vent and through seams in the foundation wall in this area.



Analysis of soils sampled from boring AM-8 (3-4 ft. bgs) detected low concentrations of formaldehyde (17 mg/Kg). Analysis of groundwater from well ME-2, installed to the north of Building 14 in Brooklyn Street) detected low concentrations of aniline dye and ETPH. Copper, chromium and lead were detected at concentrations above SWPC.

Based on our assessment of the available data, the potential for a release of dye chemicals, which could account for the plume observed in groundwater downgradient of this area, had not been adequately characterized by the current data set. Additional sampling and analysis of soils was performed to better determine whether a release may be present or absent at this AOC.

Based on that assessment, the following additional investigations were performed:

- Advancement 3 Geoprobe® borings (AOC-4-1, AOC-4-4 and AOC-4-5) along the former conveyance pipeline (adjacent to the former Dye/Mixing Room) to 6 feet bgs;
- Advancement of 2 Geoprobe[®] borings (AOC-4-2 and AOC-4-3) within the former Dye/Mixing Room to 4 feet bgs;
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils at 4 to 6 feet bgs along the former piping and 0.5 to 2 feet bgs within the former Dye/Mixing Room (or from depth interval exhibiting greatest impacts, if apparent);
- Analysis of soils for 8020 list VOCs, ETPH and metals;
- Additional analysis of SVOCs, formaldehyde, glycol, ammonia and methanol of soils sampled at AOC-4-2 and AOC-4-5 (randomly selected).

Borings AOC-4-1, AOC-4-4 and AOC-4-5 were placed at locations inferred to be downgradient of the former wastewater conveyance pipe, which was reported to be 2 to 4 feet below the ground surface. The inferred release mechanism under our CSM for this feature is the subsurface release from the pipe, soils sampled from 4 to 6 feet bgs, inferred to be below the level of the pipe, were selected for analysis. AOC-4-2 and AOC-4-3 were placed at locations inferred downgradient of a shallow (approximately 0.5 feet deep) trench observed within the dye mixing room. Soil samples from were collected from 0.5 to 2 feet bgs, inferred below the base of the trench.

Subsurface materials encountered were found to generally consist of fine to medium sand with varying amounts of gravel and cobbles. Due to the presence of the larger particles, repeated attempts were often required at deeper borings to reach the target depth. A layer of dark black soils was encountered, but GZA did not observe or detect the presence of environmental indicators (i.e. staining or odors) that would suggest an obvious release of contaminants. PID screening results did not indicate the presence of volatile vapors in the recovered soil samples.



Moderately elevated concentrations of ETPH, below the DEC and PMC, were detected in soils sampled from 4 to 6 feet bgs outside the building at Brooklyn Street at AOC-4-1 (230 mg/Kg) and from shallow soils sampled within the former Dye Mixing Room at AOC-4-3 (470 mg/Kg). Trace concentrations of aromatic VOCs were also reported within those samples, trace xylenes were reported in shallow soils from AOC-4-2 as well. Metal concentrations were reported similar to those observed at other locations at the Site. A low level of formaldehyde (9 mg/Kg) was reported in soils from 4-6 feet bgs at AOC-4-5.

The reported concentrations of ETPH in soils outside the building at Brooklyn Street at AOC-4-1 and within the former Dye Mixing Room at AOC-4-3, while not above remedial criteria, indicate the presence of a release of petroleum hydrocarbons at those locations. Additional sampling is recommended to more fully define these release areas and to resolve whether concentrations of the petroleum released there exceed remedial criteria. It is anticipated that the recommended additional sampling can be incorporated within the remedial phase of operations at the Site, when the building is demolished.

The low concentrations of metals, VOCs and formaldehyde are generally consistent with conditions reported in soils at other locations within this building and area inferred to be artifacts of incidental releases from historical Site operations. Based on a presumed future restriction prohibiting residential usage of the property, no additional investigations are recommended with respect to these COCs.

5.8 AOC 5: FORMER WASTEWATER CONVEYANCE TRENCHES

Former pits and conveyance trenches are located throughout Building 14 and were reportedly used in dyeing and finishing operations to a collect and drain wastewater from the northwest corner of the building for treatment. The conveyance trenches had been identified as a suspect source for the dye-impacted groundwater off the northwest corner of Building 14 before repairs to those structures were made.

Investigations of soils within the building by GeoDesign in 2004 included advancement of four borings within the building (AM-8 through AM-11). Borings AM-8 and AM-10 were completed at locations inferred to be downgradient of the former pits and conveyance trenches. However, soils sampled at AM-10 were not submitted for laboratory analyses. Low concentrations of aromatic VOCs (xylenes at 2.2 mg/Kg and ethylbenzene at 0.35 mg/Kg) were detected in soils sampled at boring AM-8 from 3 to 4 feet bgs. A low concentration of formaldehyde was also reported in that sample at 17 mg/Kg. Based on our review of previous available reports, it was concluded that additional investigations of a potential release of chemical dye and finishing wastewaters from these conveyance trenches was warranted.

The following investigations were performed at this AOC:



- Advancement of 6 Geoprobe® borings north and adjacent to former pits and conveyance trenches to 8 feet bgs or refusal (AOC-5-1 through AOC-5-6);
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of soils from 6 to 8 feet of depth, inferred below the bottoms of the pits and trenches or from the bottom of the boring if it could not be advanced deeper;
- Analysis of soils for 8020 list VOCs, ETPH and metals;
- Two samples (AOC-5-4 and 5-5) showing highest impacts were also analyzed for SVOCs, formaldehyde, glycol, ammonia and methanol.

Subsurface materials encountered were observed to consist of fine to medium sand with varying amounts of gravel and cobbles. GZA did not observe or detect the presence of environmental indicators (i.e. staining or odors) that would suggest an obvious release of contaminants. PID screening results did not indicate the presence of volatile vapors in the recovered soil samples.

Due to the presence of the larger particles, repeated attempts were often required at deeper borings to reach the target depth. After several repeated attempts, the soil boring at AOC-5-1 could not be advanced past 2 feet bgs, therefore, no soil sample was collected at that location. In addition, conditions in the building restricted where borings could be located within certain areas of the building. Repeated attempts were made to advance a boring in the limited space available between the Jet Dyeing, Beam Dyeing and Jig Dyeing pits. The thickness of the concrete floor slab was greater than 2 feet and precluded the advancement of borings within that area.

Laboratory analyses indicated that concentration of aromatic VOCs, ETPH and SVOCs in the soil samples were below laboratory MRLs in the soil samples collected. A low concentration of formaldehyde (6.3 mg/Kg) was reported in sample AOC-5-5(4-5.5). Metal concentrations were not inferred to be elevated above concentrations observed at other locations at the Site. The above concentrations are generally consistent with conditions previously reported within this building and are inferred to be representative of marginally degraded fill materials similar to fill materials observed at other locations at the Site and typical of urban environments. Based on a presumed future restriction prohibiting residential usage of the property, no additional investigation of this AOC is recommended.

5.9 AOC 6: SOUTHEAST CORNER OF BUILDING 14 – FORMER FINISHING CHEMICAL STORAGE AREA

The southeast corner of Building 14 was formerly used for treatment and finishing of textile products prior to dyeing and for storage of finishing chemicals. Analysis of soils from 7 to 9 ft. bgs at boring AM-9 detected low to trace concentrations of VOCs, ETPH, metals and (one) PAH. No analyses of shallow soils were completed in this area.



The inferred mechanism for the release of COCs under our CSM for this AOC is a top-down release scenario (spilling or leaking of finishing materials to the floor slab and to the soils below through cracks or seams). As only deeper soils had been analyzed, it was inferred that additional investigations were warranted to better characterize the area.

The following additional investigations were performed:

- Advancement of 2 Geoprobe® borings (AOC-6-1 and AOC-6-2) to 4 feet bgs;
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils from a depth immediately below the bottom of the floor slab (0.5 to 2 ft bgs) or soils showing the greatest impact;
- Analysis of soils for 8020 list VOCs, ETPH and metals;

Laboratory analyses indicated that concentration of aromatic VOCs and ETPH in the soil samples were below laboratory MRLs in both soil samples collected within this AOC. Metal concentrations were not inferred to be elevated above concentrations observed at other locations at the Site and were not reported above R-DECs or concentrations that would infer to leach above GB-PMCs. The above concentrations are generally consistent with conditions previously reported within this building and are inferred to be representative of marginally degraded fill materials similar to other locations at the Site and typical of urban environments. Based on a presumed future restriction prohibiting residential usage of the property, no additional investigation of this AOC is recommended.

5.10 AOC 7: FORMER MAINTENANCE / MACHINE SHOP

The former Maintenance/Machine Shop is located within the lower floor of Building 12 and was used for machining of parts and the repair and maintenance of equipment used in operations throughout the facility. Building 12 is indicated as likely to be left standing as part of the planned site redevelopment.

Our review of the reports of previous Site investigations made available to GZA found no information indicating that investigations of a potential release had been conducted within this area. Therefore, the potential of a release of oils or solvents to the soils below the floor slab within this building had not been determined.

Based on the above, GZA completed the following investigations within this area:

- Advancement of 2 Geoprobe® borings (AOC-7-1 and AOC-7-2) to 4 feet bgs;
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils from a depth immediately below the bottom of the floor slab (0.5 to 2 ft bgs);
- Analysis of soils for VOCs, ETPH and PAHs.



Subsurface materials encountered were observed to consist of fine to medium sand with little silt and fine gravel. Trace brick material was reported in soils from boring AOC-7-1, indicating the presence of fill material. GZA did not observe or detect the presence of environmental indicators (i.e. staining or odors) that would suggest an obvious release of contaminants. PID screening results did not indicate the presence of volatile vapors in the recovered soil samples.

Laboratory analyses indicate that concentrations of PAHs and aromatic VOCs were below laboratory MRLs in the soil samples collected. ETPH was reported at 8,000 mg/Kg in sample AOC-7-2(0.5-2), above the I/C-DEC and GB-PMC of 2,500 mg/Kg. ETPH was reported below the laboratory MRL in sample AOC-7-1(0.5-2). The ETPH concentration at AOC-7-2(0.5-2) indicates that some form of remedial action will be required to address that release. Under the current redevelopment plans, Building 12 is to be left standing. Therefore, we presume that the preferred remedial approach to address this release of petroleum would be the establishment of institutional controls over the entire footprint of the building. Based on a presumed future restriction prohibiting residential usage of the property, no additional investigation within this AOC is recommended. However, one additional boring outside the building to the north on Brooklyn Street is recommended during the remedial phase.

5.11 AOC 8: WOODED SLOPE WEST OF BUILDINGS 1 AND 2

Previous reports indicate mixed solid waste was observed on the steep wooded slope north and west of Buildings 1 and 2. Additionally, a report indicated that dye-impacted groundwater was observed seeping from the slope in this area.

No investigations of this area were made as the area is considered inaccessible as the ground surface slopes steeply to the north to the American Mill Pond.

No direct investigations of this area are proposed due to the challenges to safely working within this area. Impacts from dye to groundwater within the area was evaluated indirectly through assessment of groundwater quality in upgradient well MW-02. Although purple tinged groundwater was observed in well ME-2 to the south east and slightly side gradient, no evidence of dye impacts were observed in water purged from MW-02. Laboratory analysis of water sampled from that well indicated that aniline and phenolics were reported below laboratory MRLs and concentrations of ammonia and metals, natural occurring constituents, were at concentrations similar to those reported in other Site wells. Therefore, no impacts from that release of dye upgradient of this area were inferred by these data and no additional investigation or remediation of this AOC is recommended.

5.12 AOC 9: BUILDING 13 - LATEX COATING AREA

Building 13 is located at the southwest corner of the parcel north of Brooklyn Street. The building was formerly used for the application of water-based latex coatings on textile

products. Building 13 is indicated as likely to be demolished as part of the planned Site redevelopment.



Previously, analysis of shallow soils (0.5 to 2.0 ft. bgs) from two borings, SB-101 and SB-102 by Fuss & O'Neill in 2009, indicated the presence of low concentrations of PAHs at SB-102. No indication of a release was found at SB-101. PAH concentrations reported at SB-102 are inferred to be typical of degraded fill found present throughout the site and not indicative of a release from former site operations. Therefore, no further investigations of this AOC were conducted as part of the Phase III Data Gap Investigation and no remediation is required.

5.13 AOC 10: BUILDING 2 LOADING DOCK

The loading dock for Building 2 is located on the west side of the building and opens to a paved parking area to the west. Building 2 was formerly used for the storage of organic coatings and chemicals and provided access to the former hazardous waste storage area within the lower floor of Building 1. Building 2 is indicated as likely to be demolished as part of the planned Site redevelopment.

Three borings (SB-112, SB-113 and SB-114) were advanced outside of the loading dock through the asphalt pavement by Fuss & O'Neill in 2009. Analysis of shallow soils (0.5 to 2.0 ft. bgs) indicated the presence of low concentrations of PAHs in soils from SB-112. However, these constituents were inferred to be associated with asphalt fragments present in the fill sampled at that location. Therefore, no impacts from a release from former Site operations was concluded and no further investigations of this AOC were conducted as part of the Phase III Data Gap Investigation and no remediation is planned.

5.14 AOC 11: BUILDINGS 1 AND 2

Buildings 1 and 2 are located in the northwest corner of the site and were formerly used for storage of flammable organic coating materials, as well as other materials. The western portion of Building 1 contained a former hazardous waste storage area and was also reportedly used for mixing of organic coatings for textiles prior to dyeing. A loading dock is located on the western side of Building 2. Building 1 and Building 2 are identified as remaining under current Site redevelopment plans.

Fuss & O'Neill reported that no investigations had been completed within these areas as no stains or other indications of a release observed with the buildings and that sampling within the basement and sub-basement portions of the buildings was not possible as the concrete slab directly overlies the bedrock within these areas. Based on this report and our observations, no investigations of this AOC were conducted as part of the Phase III Data Gap Investigation and no remediation is planned.

5.15 AOC 12: BUILDING 3



Building 3 is located in the northwest corner of the site and is immediately east of building 2. Building 3 was reportedly formerly used for general storage of textiles and other materials. This building is indicated as likely to be demolished under current Site redevelopment plans.

Analysis of soils at boring SB-104, advanced through the concrete floor slab by Fuss & O'Neill in 2009, indicated the presence of several PAH constituents and metals above background. One PAH constituent (benzo(b)fluoranthene) was reported at a concentration equal to the GB-PMC and I/C-DEC. Analysis of deeper soils at (5 to 7 ft. bgs) by GeoDesigns in 2004 indicated the presence of a low concentration of ETPH at 770 mg/Kg, above the R-DEC.

GZA's assessment of the data obtained at this location found these impacts to be consistent with and typically representative of the general condition of the degraded fill reported below the floor slabs across the northern complex of buildings. GZA's assessment of this area was that sufficient data is available to assume the fill underlying this portion of the Site is equally degraded and actions to mitigate potential hazards or threats of exposure may be addressed through establishment of institutional controls and other actions incorporated into future redevelopment plans. Based on this assessment, no investigations of this AOC were conducted as part of the Phase III Data Gap Investigation. The ETPH presence will be addressed in the ELUR.

5.16 AOC 13: BUILDING 7

Building 7 is located in the central portion of the northern building complex and formerly contained the solvent coating operations (containing primarily toluene, isopropyl alcohol and methyl ethyl ketone or MEK). The raceway passes under the eastern portion of the former location of the coating lines. This building is indicated as likely to be demolished under current site redevelopment plans.

One shallow soil boring (SB-103) was advanced to the north of the western end of the former coating line by Fuss & O'Neill in 2009. Analysis of soils from 0.5 to 2.0 feet of depth indicated the presence of elevated concentrations of metals, ETPH (600 mg/Kg) above the R-DEC and certain PAHs above the I/C-DECs and GB-PMCs, assumed associated with coal ash observed in soils there. As no investigation of soils were completed directly within the area of the former coating lines, the following additional investigations were performed:

- Advancement of 3 Geoprobe® borings (AOC-13-1, AOC-13-2 and AOC-13-3) to 4 feet or refusal;
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils from a depth immediately below the bottom of the floor slab (0.5 to 2 ft bgs);

Analysis of soils for VOCs, ETPH, PAHs.



Subsurface materials encountered were observed to consist of fine to coarse sands with some fine gravel, little silt and trace amounts of asphalt, brick and coal ash above 5 to 7 feet of depth, indicating the presence of fill material. GZA did not observe or detect the presence of environmental indicators (i.e. staining or odors) that would suggest an obvious release of contaminants. PID screening results did not indicate the presence of volatile vapors in the recovered soil samples.

Laboratory analyses of soil samples indicate that concentrations of ETPH, PAHs and VOCs were reported below laboratory MRLs at borings AOC-13-1(0.5-2) and AOC-13-2(0.5-2). A low concentration of ETPH was reported in sample AOC-13-3(0.5-2) at 83 mg/Kg, below the R-DEC of 500 mg/Kg. Certain PAHs were reported above the I/C-DEC and GB-PMCs in that sample. A trace concentration (0.0051 mg/Kg) of 1,1,1-trichloroethane was also detected there.

The impacts reported in sample location AOC-13-3 are considered to be generally consistent with the degraded fill reported below the floor slabs across the northern complex of buildings. GZA's assessment of this area was that sufficient data is available to assume the fill underlying this portion of the Site is equally degraded and actions to mitigate potential hazards or threats of exposure may be addressed through establishment of institutional controls and other actions incorporated into future redevelopment plans. Based on this assessment, no additional investigations of this AOC are recommended. Institutional controls and/or excavation could occur after the building is demolished.

5.17 AOC 14: 18,000-GALLON FUEL OIL TANKS

Two 18,000-gallon No. 2 fuel oil tanks are located within a steel building between Brooklyn Street and Building 7. The tanks are mounted within a concrete containment structure on which the surrounding building rests. It was reported that two underground 20,000-gallon fuel oil tanks had also been located within the same concrete containment structure from 1948 to 1989 and that the structure at that time had an earthen base and was backfilled with sand. Due to the sand backfill, the tanks were subject to state regulations for underground tank facilities. The tanks were reported to initially contain No. 6 fuel oil and later were used for the storage of re-refined off specification and specification used fuel oils until they were removed in 1989.

It was reported that a tightness test completed on the older tanks prior to their removal in 1989 found that one of the tanks failed established tightness criteria for that time. No documentation was found that confirmation soil samples were collected from below the tanks at the time of their removal. However, it was reported that analysis of a composite sample of the soils removed with the tanks showed ETPH was present at 150 mg/Kg, as were low concentrations of 1,1,1-trichloroethane, toluene and trace metals. PCBs were reported as below laboratory reportable limits.



Documents indicate tanks on trailers within a concrete containment structure in the parking area west of Building 2 were used as a temporary fuel oil storage facility for the Site until the existing 18,000-gallon storage tanks were installed in 1991. No indication was made relating to where the temporary storage facility was located. It was reported that a concrete floor was poured to form a base for the containment structure and the metal building was constructed to fully enclose the structure. GZA understands that this building and the tanks will be removed under the current Site redevelopment plans.

No direct investigations of soils was conducted within this building as the presence of the tanks and current containment structure made the area inaccessible to sampling. GZA therefore assessed potential impacts from the release of fuel oils from this AOC indirectly through the sampling and analysis of groundwater from well GZ-3, located within Building 7 approximately 20 feet to the north of AOC 14. Well GZ-3 is screened from approximately 10 to 20 feet of depth bgs, across the water table within the shallow bedrock. Analysis of groundwater sampled from that well reported VOCs to be below the laboratory MRLs and trace concentrations of SVOCs. These data may be considered representative of degraded fill observed below Building and are not conclusively indicative of the presence of a significant release of fuel oils from AOC 14.

GZA notes, however, that analysis of soils from boring SB-111, located just outside the northeast corner of the containment structure for AOC-14, reported ETPH at 3,900 mg/Kg and PAHs at concentrations greater than 12 mg/Kg, both above the I/C-DEC and GB-PMCs for those compounds. It is unclear whether those detections may be related to a release of petroleum from the storage tanks within the building or to transformers (see AOC-6) formerly located on the adjacent concrete pad. However, GZA understands the building, containment structure and the tanks will be removed as part of the planned restoration of the Site. We therefore recommend that soils within the footprint of the containment structure be sampled after the tanks and structure have been removed and the area be remediated.

5.18 AOC 15: FORMER ELECTRICAL TRANSFORMERS

Four oil-cooled electrical transformers were formerly mounted on a concrete pad within a fenced enclosure east of the fuel oil storage tank containment building AOC 14. Three of the transformers reportedly had at one time contained PCB dielectric fluid. The transformers had been removed from the area on some unspecified date.

In 2009, Fuss & O'Neill also sampled soils (SB-111) for PCBs, but they were not detected above the laboratory reportable limit. It was unclear whether release identified by ETPH and PAH in SB-111 may have been related to the former transformers mounted on the adjacent concrete pad or the former 20,000-gallon fuel oil tanks at AOC-14. As only one sample was collected from the area, the vertical and horizontal extent of the release has not been adequately characterized by the data set.

Based on the above, the following additional investigations were completed:



- Advancement of 3 Geoprobe® borings (AOC-15-1, AOC-15-2 and AOC-15-3) to 4 feet bgs or refusal around the base of the pad;
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils from 0.5 to 2 ft bgs of depth immediately below the bottom of the concrete slab surrounding the pad;
- Analysis of soils for ETPH, PAHs and PCBs.

No stains, discoloration or other indication of a release were observed on the surface of the former transformer pad nor on the surrounding concrete surface. Soils sampled from the borings advanced in the area were observed to consist of fine to coarse sands with varying amounts of silt and fine gravel. GZA did not observe or detect the presence of environmental indicators (i.e. staining or odors) that would suggest an obvious release of contaminants. PID screening results did not indicate the presence of volatile vapors in the recovered soil samples.

Laboratory analyses did not detect PCBs in the soil samples above laboratory MRLs. Low concentrations of PAHs were reported in soils from borings AOC-15-1 and AOC-15-3. ETPH was reported in the soil sampled from boring AOC-15-2 at 3,300 mg/Kg, in excess of the I/C-DEC and GB-PMC. The boring is located on the west side of the pad, between the pad and the AOC 14 fuel oil containment building. As no stains were reported on or near the concrete surface of the pad, it is inferred that the elevated ETPH reported in soils at AOC-15-2 and boring SB-111 are related to a release from the adjacent petroleum storage area at AOC-14, reported when underground storage tanks and impacted soils were removed from the area in 1989. It is our understanding that the containment structure and the tanks at AOC-14 will be removed as part of the planned restoration of the Site. We therefore recommend that investigation of soils in the area be expanded to the north and west of the pad be after the tanks and structure have been removed. Remediation will be performed within this area.

5.19 AOC 16: BUILDING 7 LOADING DOCKS

The loading dock for Building 7 is located on the southwest side of the building and opens to a paved parking area to the south. The building was formerly used for solvent coating of textiles after dyeing and finishing. Building 7 is indicated as likely to be demolished as part of the planned site redevelopment.

Previous investigations included the analysis of soils from four borings (AM-1, ME-5, SB-117 and SB-118) advanced within the parking area outside (to the south) of the loading dock. Analysis of shallow soils (0.5 to 3.0 ft. bgs) indicated the presence of elevated concentrations of arsenic and PAHs in the soil there at concentrations greater than the I/C-DECs. With the exception of arsenic, reported at 122 mg/Kg at boring AM-1, results of SPLP



analysis of Site soils indicated all metals and PAHs tested leached at concentrations below GB-PMCs. Arsenic at AM-1 is inferred exempt from PMCs as it appears related to coal ash observed in soils there. ETPH was also reported at a concentration above the R-DEC. Low levels of ammonia (140 mg/Kg) and certain metals above background concentrations were also reported.

With the exception of ETPH and ammonia, the reported detected constituents are inferred likely to be representative of impacts associated with the fill material which underlies the majority of the building complex north of Brooklyn Street. Based on our review of the existing data set, additional investigations of deeper soils in the immediate vicinity of the loading dock was completed to better define the vertical extent of impacts there. In addition, due to the elevated concentrations of metals reported in shallow soils within the area, GZA collected and analyzed soils sampled from 0.5 to 2 feet of depth for total and SPLP metals to assess potential leaching of metals from the soils under SPLP extraction. The following additional investigations were performed:

- Advancement of one Geoprobe[®] boring (AOC-16-1) to refusal (11 feet bgs);
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow (0.5 and 2 ft bgs) and deeper (9 to 11 ft bgs) soils;
- Analysis of shallow soils for total and SPLP RCRA 8 metals;
- Analysis of deeper soils for ETPH, metals and ammonia.

Soils sampled from the boring advanced in the area were observed to consist of fine to coarse sands with varying amounts of silt and little fine gravel. A seven-inch layer of asphalt was encountered approximately 0.6 feet bgs. No environmental indicators (i.e. staining or odors) were observed in the soils sampled that would suggest an obvious release of contaminants. PID screening results did not indicate the presence of volatile vapors in the recovered soils.

Elevated concentrations of arsenic, barium and lead were reported in the shallow soil sample from 0.5 to 2 feet bgs. Arsenic was reported above the I/C-DEC at 11.7 mg/Kg. SPLP analysis of that sample indicated all metals tested leached at concentrations below GB-PMCs. Arsenic at AM-1 is inferred to be associated with the presence of ash there an exempt from GB-PMCs. Lower concentrations of metals were reported in soils from 9 to 11 feet bgs. ETPH and ammonia were reported below laboratory MRLs. The above data do not indicate impacts at deeper depths at that location.

5.20 AOC 17: BUILDING 9

Building 9 is located near the southeast corner of the northern building complex and was reportedly formerly used for general storage and dye storage prior to 1927. A 1989 survey of the Site reported storage of miscellaneous chemicals on the ground floor of the building. This building is indicated as likely to remain under current site redevelopment plans.



Analysis of one shallow soil sample (SB-107 0.5 to 2.0 ft. bgs) obtained near the center of the room reported ETPH at 680 mg/Kg (above the R-DEC) and elevated metals above the general range of concentrations reported at other locations at the Site. Arsenic was reported at 22.9 mg/Kg, above the I/C-DEC. SPLP analysis of that sample indicated arsenic to leach below the GB-PMC. It is inferred that, with the exception of ETPH, the reported constituents are typical of those associated with impacted fill present throughout the northern portion of the Site and not necessarily indicative of a release associated with former facility operations. The vertical extent of the ETPH impacted soils within this area was not assessed by this investigation.

Additional investigations performed were:

- Advancement of 1 Geoprobe® boring (AOC-17-1) to bedrock or refusal (inferred as 12 feet bgs);
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils from the depth interval showing the greatest impact;
- Analysis of soils for ETPH.

Sampler refusal was encountered at AOC-17-1 at 4.5 feet of depth. Based on weathered stone observed in the end of the sampler at that depth, refusal was inferred to be on bedrock. Soils sampled from the boring were observed to consist of brick and concrete fill in the upper 0.75 feet of soils and fine to coarse sands with varying amounts of silt, gravel and cobbles below. A two-inch layer of black discolored sand was encountered approximately at 0.75 feet bgs. PID screening results did not indicate the presence of volatile vapors in the soils.

Analysis of the soil sample obtained from 2 to 4 feet bgs reported ETPH to be below laboratory MRLs. The above data do not indicate impacts at deeper depths to soils at that location. No further investigation is warranted. The ETPH and arsenic exceedances at concentrations greater than the DECs can be addressed by the ELUR.

5.21 AOC 18: BUILDING 8

Building 8 is located near the eastern side of the raceway in the northern building complex and was formerly used for filtering of water pumped from the Hockanum River before use as process water. It was reported that the building was used as a dye house prior to 1927. Process wastewater was discharged to the sanitary sewer from the building. Floor drains present in the basement of the building were reported to also discharge to the sanitary sewer. In addition, it was reported that test dry cleaning was formerly performed on textile products within the upper floors of the building and waste tetrachloroethene (PCE) was stored within the building before being shipped offsite. This building is indicated as likely to be partially demolished under current site redevelopment plans.



Two borings (SB-105 and SB-106) were previously advanced through the concrete floor slab within the building. Fragments of brick, ash, and wood debris indicated that the soils within this area were constituted of fill material. Analysis of soils from 0.5 to 2.0 feet of depth indicated the presence of low concentrations of PCE (41 ½g/Kg) at SB-105 and PAHs greater than I/C-DEC at SB-106. The latter sample was also reported to contain ETPH at 130 mg/Kg, below DECs and the GB-PMC. Elevated metals (arsenic, copper and zinc) and a low concentration of ammonia were also indicated.

With the exception of PCE and ETPH, the reported concentrations of metals, PAHs and ammonia in the area was inferred to be typical of degraded fill observed at other locations below the northern building complex. The reported concentrations of PCE and ETPH are inferred to indicate a separate release of those constituents at this AOC and the full lateral and vertical extent of the release of those constituents was not fully characterized by the current data.

Based on the above information, the following additional investigations were completed:

- Sampling of soil vapor from below the floor slab at five points and analysis of the samples for Method TO-15 VOCs,
- Dependent upon soil vapor sample results, advancement of up to 5 Geoprobe® borings to 12 feet bgs or refusal;
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils from each boring from 0.5 to 2 ft bgs and above the water table (encountered at approximately 7.5 to 16 ft bgs) or from the depth interval showing the greatest impacts;
- Analysis of soils for CVOCs and ETPH.

GZA sampled soil vapor from five locations (SV-10 through SV-14) within the northern portion of Building 8 (see detail on Figure 2A) and analyzed for VOCs by EPA Method TO-15. The borings were centered near boring SB-105, where previous investigations by Fuss & O'Neill in 2009 had reported ETPH and tetrachloroethylene (PCE) in shallow soils. The purpose of the sampling was to survey the concentrations VOC in soil vapors below the floor in the area of SB-105 to assess if elevated VOCs may extend beyond that boring location. We note that floor trenches, drainage lines and other conditions within the building limited access to some areas for the survey, particularly southwest of points SV-12 and SV-14 where former sand filter tanks had been cut open and frozen sand and gravel debris from those tanks was covering the floor.

As summarized in Table 4, a broad range of aromatic and chlorinated VOCs were reported at relatively low concentrations in the soil vapors sampled there, including PCE, trichloroethylene (TCE), methyl ethyl ketone (MEK), acetone, toluene, xylene, ethanol and isopropyl alcohol. All the reported vapor concentrations were significantly below established Residential and Industrial/Commercial Soil Volatilization Criteria (R- and I/C-

SVVCs). The highest reported PCE concentrations appeared to be centered at SV-13, at $5.48 \mu g/L$.



Based on these results, GZA sampled soils at five soil borings (AOC-18-1 through AOC-18-5) advanced within the area. Soils sampled within the area were observed to consist of fine to coarse sands with varying amounts of fine gravel and little silt. Fragments or layers of asphalt, brick and concrete were encountered in soils up to 4 feet of depth at several boring locations, inferred to be remnants of old structures, floor slabs or fill covered during the historical development of the Site. A one-inch layer of coal ash was also encountered at two feet of depth at boring AOC-8-4. A PID screening result of 2 ppm was reported in the upper 4 feet of soils sampled from AOC-18-5. GZA notes that repeated failed boring attempts were made in the northeast corner of Building 8, north of boring AOC-18-4. However, the thickness of the concrete slab, multiple shallow refusals and overhead obstructions impeded completion of borings there.

As indicated in Table 3L, laboratory analysis of shallow and deep soils sampled from the five borings reported concentrations of CVOCs to be below the laboratory MLRs in all ten samples analyzed. ETPH was reported above the R-DEC, at 1,800 mg/Kg, in soils sampled at AOC-18-4 from 0.5 to 2 feet bgs, but was below the laboratory MRLs in the deeper soils sampled there at 10 to 12 feet bgs. ETPH was detected at 150 mg/Kg, below the R-DEC, in deeper soils sampled at boring AOC-18-3 (8 to 10 feet bgs), but was not detected in the shallow soils sampled there. ETPH was reported below the laboratory MRLs in the remaining soil samples.

Based on the results of this investigation, GZA does not infer that VOCs are present in soils within this area at elevated concentrations beyond that reported at SB-105. The ETPH in soils reported above the R-DEC at AOC-18-4 are consistent with concentrations ETPH and PAHs present in soils at other locations within the northern complex at concentrations above R-DECs and typical of the degraded fill present within this portion of the Site. It is GZA's understanding that the establishment of institutional controls, combined with the development of the Site is the conceptual remedial solution that will be implemented to address these soils. Therefore, no further investigations of this area are recommended.

5.22 AOC 19: BUILDING 11

Building 11 is located in the northwest corner of the northern building complex and was formerly used for storage of equipment, as well as drums of oils and other chemicals. Prior to 1927, the building was reportedly used for dyeing operations. The lower floor contains a concrete trench system in the floor which was used to convey infiltrating groundwater out of the building (presumed to discharge to the American Mill Pond). The trench may also have been used for the conveyance of waste dye process water as well. This building is indicated as likely to be preserved under current redevelopment plans.



Soils were previously sampled and analyzed within this area at three shallow borings (SB-108, SB-109 and SB-110) and one deeper boring (AM-7) as part of previous investigations. The following is a synopsis of the analytical results indicating a release of constituents at those locations:

SB-109 (1.75') - PCE at 36 mg/Kg, TCE at 2 mg/Kg, ETPH 4,700 mg/Kg As at 10.8 mg/Kg, Pb at 6030 mg/Kg;

SB-108 (1.75') - ETPH at 230 mg/Kg;

SB-110 (1.75') - PCE at 0.015 mg/Kg;

SB-119 (1.75') - PCE at 0.0072 mg/Kg

AM-7 (3'-4') - ETPH at 83 mg/Kg

The reported concentrations of PCE and TCE at SB-109 are greater than the GB-PMCs, the concentration of PCE is also greater than the R-DEC and is indicative that PCE could be potentially present within this area at higher concentrations. The concentration of ETPH at SB-109 are greater than the I/C-DECs and GB-PMCs. The concentrations of arsenic and lead are above the I/C-DECs, but did not leach at concentrations above the GB-PMC under extraction by the Synthetic Precipitation Leaching Procedure (SPLP).

Based on these results, the following additional investigations were performed:

- Sampling of a soil vapor from below the floor slab at nine points in the area and hydraulically downgradient to boring SB-109.
- Analysis of the soil vapor samples for VOCs by Method TO-15,
- Advancement of up to 9 Geoprobe[®] borings to 12 feet bgs or refusal (AOC-19-1 through AOC-19-9);
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Sampling of shallow soils from each boring from 0.5 to 2 ft bgs and above the water table (encountered at approximately 7.5 to 16 ft bgs) or from the depth interval showing the greatest impacts;
- Analysis of soils for CVOCs and ETPH.
- Installation of one overburden groundwater well (GZ-4) within boring AOC-19-7;
- Analysis of groundwater for RCRA 8 metals, VOCs, and SVOCs.

GZA sampled soil vapor from 11 points (SV-1 through SV-9 and SV-15 and SV-16) within the northern portion of Building 11 (see detail on Figure 2A). The samples collected were analyzed for VOCs by EPA Method TO-15. The borings were centered near and north of boring SB-109 (inferred to be hydraulically downgradient), where concentrations of PCE had previously been reported to assess if elevated VOCs may extend beyond that boring location.



As indicated by the data summarized in Table 4, the VOCs reported in vapors below the floor slab of that building were similar to that reported below Building 8 and at concentrations well below R- and I/C-SVVCs. The highest concentrations of PCE were reported at SV-15 and SV-7 (at 756 μ g/L and 711 μ g/L, respectively), located near the northeast corner of the room. PCE was reported at 496 μ g/L at SV-8, near the northeast wall of the building and below 100 μ g/L at the remainder of the locations.

Based on these results, GZA advanced nine soil borings through the floor slab of the building. Borings AOC-19-6 and AOC-19-7 were completed at or near the locations of soil vapor sampling points SV-15 and SV-7, respectively. AOC-19-5 was completed near point SV-8. GZA notes that again that multiple sampler refusals were encountered at AOC-19-8 and AOC-19-9; borings could not be advanced past 2.5 feet of depth at those locations. Additionally, a thick concrete floor slab also prevented completion of planned borings to the north and west of AOC-19-7, inferred possibly to be a buried loading dock or a building footing.

Soils sampled within the area were observed to consist of fine to coarse sands with varying amounts of gravel and cobbles. Crushed trap rock, brick and concrete were encountered below the floor slab at several boring locations at depths from 2 to 3 feet. Trace coal ash was encountered at 4 feet of depth at boring AOC-19-5. Black stained soils were also observed in soils from that boring sampled just above the water table at approximately 11.5 feet. PID screening of soils there reported readings from 36.3 to 393.8 ppm, the highest concentrations corresponding to the black stained soils. Highest PID field screening readings were reported for soils sampled at AOC-19-7 from 0 to 2 feet bgs at 7,053 ppm. A reading of 1,200 ppm was also recorded for soils sampled from about 4.8 feet of depth and just above the water table, again, corresponding to stained soils. PID readings above background were also reported for soils sampled from boring AOC-19-4.

As indicated in Table 3M, laboratory analyses of soil samples indicate the highest concentrations of PCE were reported in soils sampled from boring AOC-19-7. PCE concentrations were reported at 1,700 mg/Kg and 1,200 mg/Kg from soils sampled at 2-4 and 4-6 feet bgs, respectively. Both concentrations are above the I/C-DEC and GB-PMC for that compound. PCE was also reported above the R-DEC and/or GB-PMC in soils sampled from borings AOC-19-4, AOC-19-5 and AOC-19-9.

The highest concentration of ETPH reported was 33,000 mg/Kg from soils sampled from at AOC-19-6 from 0.5 to 2 feet bgs. ETPH was reported above the I/C-DEC and GB-PMC in soils sampled from that boring, as well as from borings AOC-19-1, AOC-19-2, AOC-19-4, AOC-19-5 and AOC-19-7. ETPH was reported below the laboratory MRLs in the remaining soil samples.

In addition to the above, GZA installed overburden monitoring well GZ-4 at boring AOC-19-7 where highest concentrations of PCE were reported in soils to allow assessment of "worst



case" impacts to groundwater at that location and allow gauging for the presence of PC as a separate phase liquid. The well screen was installed on top of the bedrock surface and was screened from approximately 2.5 to 10.5 feet bgs. On April 30, 2015, the well was gauged and groundwater was sampled from the well. Groundwater was measured at 9.44 feet below ground surface and gauging of that well with an interface probe found no indication that separate phase product was present there.

Laboratory analysis of groundwater from that well reported PCE at 5,900 μ g/L and TCE at 24 μ g/L. The concentration of PCE was reported above the Industrial/Commercial Groundwater Volatilization Criteria (I/C-GWVC) of 1,500 μ g/L.

The concentrations of metals, PCE and ETPH reported in soils at this AOC indicate remedial action will need to be undertaken to reduce concentrations to levels which are compliant with applicable RSR Criteria or to render conditions there to a status that will eliminate potential exposure pathways to future occupants of the building. As the concentration of PCE in groundwater indicates a potential exposure threat from VOC vapors there, remediation of PCE will likely require some form of active remediation, as vapor extraction or chemical oxidation to reduce the concentrations present in soils there, followed by some form of active or passive sub-floor ventilation system to preclude potential exposures from vapors emanating upward from the groundwater, through soils to the inhabitable building space above. It is GZA's understanding that the establishment of institutional controls, combined with the development of the Site will likely be implemented to address the DEC and GB-PMC exceedances posed by other COCs present in these soils. Based on the above, no further investigations of this area are recommended.

5.23 AOC 20: BUILDING 11 LOADING DOCK

The loading dock for Building 11 is located on the north side of the building and opens to a paved parking area.

One boring (SB-119) was advanced within the parking area outside of the loading dock. Analysis of shallow soils (0.5 to 2.0 ft. bgs) indicated the presence of PCE at 0.0072 mg/Kg, below the I/C-DEC and GB-PMC. Two wells were also constructed within the parking lot to the west of the loading dock: overburden well AM-5 and shallow bedrock well ME-6. Analysis of groundwater from ME-6 was reported to contain 210 μ g/L of PCE and 220 μ g/L TCE. The presence of those constituents in groundwater is inferred to originate from the release documented within Building 11 or the loading dock.

The current vertical and lateral extent of the release of PCE reported at SB-119 has not been fully defined by the investigations completed there.

Based on the above information, the following additional investigations were performed:



- Advancement of 3 Geoprobe[®] borings up to 27 feet bgs (AOC-20-1 through AOC-20-3);
- Logging of PID field screening, visual observation, grain size descriptions of soils;
- Collecting two shallow soil samples (0.5-2 feet bgs) and two deep soil samples (9-11 and 24-27 feet bgs) from the three borings; and
- Analysis of soils for CVOCs, AVOCs, PAHs, and ETPH.

GZA sampled soils at three borings advanced in the loading dock by Building 11, outside the overhead door to Building 8 and by an overhead door west of Building 8 by monitoring well MW-01. Soils sampled within the area were observed to consist of fill containing fine to coarse sands with varying amounts of fine gravel and little silt. Fragments or layers of asphalt, brick and concrete were encountered in soils up to 27 feet of deep, inferred to be remnants of old structures, floor slabs or fill covered during the historical development of the Site. PID screening results non-detect in the soils sampled from AOC-20-1 to AOC-20-3.

As indicated in Table 3N, laboratory analysis of shallow and deep soils sampled from the three borings reported concentrations of AVOCs to be below the laboratory MRLs in the one sample analyzed. CVOCs were detected in three (samples from AOC-20-1 and AOC-20-2) of the four samples analyzed. In boring AOC-20-2 (24-27 feet bgs) PCE was detected at 1.1 mg/kg and at 0.022 mg/kg in the shallow sample from AOC-20-2. ETPH was also reported in AOC-20-2 (24-27 feet bgs) at a concentration of 2,200 mg/kg. ETPH was not detected in the shallow sample from AOC-20-2 and ETPH was not detected above laboratory MRLs in the remaining two samples from the other borings.

Based on the results of this investigation, it appears a release of CVOCs consisting of PCE mixed with ETPH has occurred. This release is likely a top down release that may have originated in the area around Building 8 and/or Building 11. The GB-PMC do not apply to the detection of PCE in the AOC-20-2 deep sample because the sample was collected 24-27 feet below ground and below the inferred groundwater table. Similarly, the R-DEC do not apply to ETPH in soils greater than 15 feet from the ground surface. It is GZA's understanding that the establishment of institutional controls, combined with the development of the Site is the conceptual remedial solution that will be implemented to address these soils. Therefore, no further investigations of this area are recommended.

5.24 AOC 21: FORMER GASOLINE STATION



A gasoline station was formerly located off Site across East Main Street from Building 11. Sampling of groundwater from onsite wells under previous investigations completed in 2006 did not indicate a release of gasoline constituents had migrated from that site to the Amerbelle property. Based on that information, it was concluded that the former gas station did not represent an AOC and no further investigations have been conducted.

5.25 AOC 22: SITE FILL

Impacted soil fill materials have been identified in borings located across the site and at depths up to 13 feet bgs. Typical identifiers of impacted fill include asphalt fragments, coal ash, brick and other miscellaneous materials. Laboratory analyses of these soils indicate impacts typically include elevated concentrations of metals (particularly arsenic and lead), PAHs and occasionally ETPH. Arsenic and PAH constituents were often reported at concentrations greater than applicable DECs.

It is GZA's opinion that sufficient data is available from investigations completed to date to adequately address Site fill and actions to mitigate potential hazards or threats of exposure can be incorporated under current redevelopment plans. Explorations and laboratory analyses of Site soils completed under the current Phase III Data Gap Assessment supported our conceptual site model that soils below the building complex north of Brooklyn Street are widely impacted by metals (chiefly arsenic and lead) and PAHs, primarily from coal ash in fill, and ETPH at concentrations greater than DECs. It is our opinion that the most practical response with respect to the soils would be to manage potential risks through development and implementation of a soils management plan and meet RSR remedial requirements by rendering the soils "inaccessible" under current regulations by allowing soils to remain below buildings that will be left standing under proposed redevelopment plans, construction of new buildings over these soils or to cap areas of degraded soils with clean soils, paved parking areas or planned landscaped areas.

Data indicate there are two areas in the northern section of the Site where elevated concentrations of constituents of COCs appear to be the results of a separate release and not related to fill: The release of petroleum apparently associated with the former 18,000-gallon fuel oil USTs at AOC 15 and a release of CVOCs, primarily PCE, below Building 11.

Soils within the southern parcel have only indicated minor impacts and data from that area do not indicate that management or exposure from these soils would pose a concern.

Based on the above, no further investigations of Site wide fill are proposed.

5.26 AOC 23: SITE GROUNDWATER



As shown in Figure 3, the direction of groundwater flow within the bedrock at the Site is inferred to be generally to the north-northwest in the western portion of the Site and to the northeast in the central and eastern portions of the Site. This flow pattern, based on depth to groundwater measurements taken at Site wells by GZA on April 30, 2015, is different than depicted in earlier environmental investigation reports, where groundwater flow in the center and eastern portions of the site were shown to be north-northwestward. Based on this discrepancy, GZA gauged the depth to groundwater at Site wells again on May 7, 2015 with the results confirming the results of the first data set. Therefore, this depiction is inferred to be representative of conditions at the site at the time of the sampling.

According to prior reports, Site groundwater has been sampled by GeoDesign in 2004, Metcalf & Eddy in 2006 and Fuss & O'Neill in 2009. Based upon reports of these historical groundwater sampling events, data indicate three groundwater plumes where contaminants were present at the Site: 1) western portion of the Site north and downgradient of Building 14 (presumably from the release of dye and or dye process water from former dyeing operations there); 2) on the northeast portion of the Site by Buildings 8, 9, and 11, presumably from the release of VOCs and identified within Building 11 (see AOC-19 soils discussion); and at the loading dock associated with Building 7 (central portion of the Site north of Brooklyn Street).

Downgradient of Building 14, in Brooklyn Street, dye impacted groundwater was observed seeping into a trench during a sewer line installation in 1989. In well ME-2, concentrations of arsenic, copper, chromium and lead were reported in exceedance of SWPC and low concentrations of ammonia, formaldehyde, SVOCs and aniline dye were also detected in that well. Low concentrations of metals were detected in well ME-1 and low concentrations of SVOCs were detected in well MW-02. Low concentrations of ammonia were detected in ME-1, ME-2 and MW-02.

North of Buildings 8, 9, and 11, well ME-6 was reported to contain vinyl chloride at 10 ½g/L, PCE at 210 ½g/L and TCE at 220 ½g/L, when sampled in 2009. In addition, well ME-6 was reported to have contained low concentrations of ammonia. Elevated concentrations of metals and SVOCs were reported at well AM-7, above respective SWPC, and low concentrations of ammonia were also detected in that well. Low concentrations of metals and ammonia were detected at MW-01. In the loading dock by Building 7, low concentrations of metals, SVOCs and ammonia were detected at well AM-1.

Based on results of the previous and most current investigations, GZA installed five additional wells at the Site to better assess potential impacts to Site groundwater downgradient of identified AOCs and reduce uncertainties from identified data gaps at the Site. A summary of well construction and groundwater sampling methodologies are

presented in Section 4.0. On April 30 and May 1, 2015, GZA collected groundwater from existing and newly installed wells as follows:



AM-1 (metals, PAHs, ammonia)

AM-7 (metals, PAHs, VOCs)

ME-1 (metals, SVOCs, aniline, ammonia, phenol)

ME-2 (metals, SVOCs, aniline, ammonia, phenol)

ME-6 (metals, PAHs, VOCs)

MW-01(metals, PAHs, VOCs)

MW-02(metals, SVOCs, aniline, ammonia, phenol)

MW-03(metals, SVOCs, aniline, ammonia, phenol)

GZ-1 (metals, SVOCs, aniline, ammonia, phenol)

GZ-2 (metals, SVOCs, aniline, ammonia, phenol)

GZ-3 (metals, VOCs and PAHs)

GZ-4 (metals, PAHs, VOCs)

GZ-5 (Not sampled – well dry at time of sampling)

Based upon the results of groundwater sampling, the observations were made with regard to the three identified Site plumes:

Wells ME-1, ME-2, GZ-1, GZ-2, and MW-02 - Potential releases from historical fabric dyeing and coating operations at Building 14:

Generally, low concentrations of metals and SVOCs were detected in groundwater sampled from these wells with concentrations reported below SWPC. In addition, low levels of phenols were detected in ME-2 and ammonia in wells AM-1, ME-2, MW-02, GZ-1, and GZ-2. GZA notes, that a black/blue color was observed in the well purge water at ME-2, which is likely a dye. Based upon our groundwater sample results, it appears a release has occurred. At well ME-2, aniline was detected at 0.47 mg/l which is in exceedence of the SWPC. However, we note that aniline was reported below the laboratory MRL and SWPC in downgradient well MW-02. Therefore, no exceedance of the SWPC is inferred and impacts from this plume to Site groundwater quality are not inferred by this data set to require a remedial response. However, four seasonal quarterly sampling event within 24 months or 12 rounds of groundwater sampling within 12 months are required to be completed to demonstrate compliance.

Wells AM-7, ME-6, and GZ-4 – Buildings 8 and 11

Copper, lead, mercury and zinc and several SVOCs were reported at concentrations above the SWPC numeric criteria in groundwater from well AM-7, located within Building 11. A low concentration of PCE (1.8 μ g/L) was also reported in that sample, well below SWPC and Residential-Groundwater Volatilization Criteria (R-GWVC). GZA notes that, due to the very low rate of recharge of groundwater to that well during sampling, low flow sampling could not be completed without incurring excessive drawdown at that well. A grab sample was

therefore obtained and tested from AM-7. Based on this circumstance, concentrations may be biased upward due to elevated turbidity in that sample.



Similar to the analyses of soils sampled from within Building 11, elevated concentrations of PCE and its breakdown products were detected within groundwater sampled from wells within this area. PCE was detected at concentrations ranging from 1.8 μ g/L in AM-7 to 5,900 μ g/L in GZ-4. The concentration of PCE reported in GZ-4 is greater than the SWPC and the I/C-GWVC. In addition, the concentration of vinyl chloride was reported above the I/C-GWVC in groundwater from ME-6, located just outside Building 11. Based upon our groundwater sample results, it appears a groundwater plume with concentrations of metals, SVOCs and VOCs above SWPPC and VOCs at concentrations greater than I/C-GWVCs is present in this area, apparently due to releases identified in Buildings 11 and 8.

As the direction of groundwater flow in the area of Buildings 8 and 11 is inferred to be to the northeast, well ME-6 is inferred to be downgradient of Building 8 and concentrations of COCs in the groundwater plume downgradient of the Site has not been assessed under this program.

Wells AM-1 – Building 7 Loading Dock Area

Concentrations of ammonia, metals, and SVOCs were detected in groundwater sampled from AM-1. The concentration of lead, at 0.031 mg/L was reported in exceedance of the numeric SWPC of 13 mg/L. Other constituents tested were reported at concentrations below SWPC. GZA notes that, due to a very poor recharge of groundwater to AM-1, low flow groundwater sampling could not be completed at this well without excessive drawdown. As such, a grab groundwater sample was collected from that well. Therefore, this sample could be subject to upward bias do to elevated turbidity within that sample. Based upon our groundwater sample results, it appears a potential release has occurred in Building 7.

Based on our review of the most recent groundwater conditions at the Site, it is recommended that an additional bedrock well be installed offsite and downgradient of Building 8 and 11 to assess potential off Site impacts to groundwater quality in bedrock downgradient of the Site and refine groundwater flow patterns within that area. After completion of remedial actions at the site, additional testing of the existing monitoring well network should also be conducted to assess seasonal variation in constituent concentrations. Wells AM-1 and AM-7, should be redeveloped and a low-flow sample collected. If the wells cannot be sampled by low-flow, an additional well should be installed to further assess groundwater in this area and confirm a release.

5.27 AOC 24: RACEWAY



The Hockanum River is channeled through a stone-lined raceway that flows from southeast to northwest through the site below the eastern corner of Building 14, Brooklyn Street, Building 7, Building 5 and discharges to American Mill Pond to the north.

Due to the long history of operation of the site as an industrial mill facility, there is some potential that wastes or wastewaters may have been discharged to the raceway as part of historical operations. However, as the gradient of the raceway is quite steep, flow through the raceway is rapid and with high energy. Such conditions are contrary to a depositional environment wherein contaminant constituents might be expected to accumulate. Instead dissolved and particulate contaminant constituents would be expected to be flushed away to American Mill Pond where the relatively quiescent environment is more amenable to the deposition of contaminants.

Based on these conditions, no sampling and analysis of sediments or surface water from the raceway was conducted.

5.28 AOC 25: AMERICAN MILL POND

The American Mill Pond and the Hockanum River which feeds it are located within a heavily industrial and urbanized area within the village of Rockville and have a long history of urban and industrial uses. From the late eighteenth century through to the mid-twentieth century, numerous mills, primarily associated with textile, cotton-wool and paper industries, operated along the river. Historic discharges from these industries, as well as other impairments from urban sources (including landfills and wastewater treatment plants, urban and agriculture runoff and storm sewer discharges), have resulted in the degradation of this surface water body both upgradient and downgradient of the Amerbelle site.

Both the American Mill Pond and the Hockanum River are classified by the State of Connecticut as B (CTECO, 20131993), which indicates that the quality of the river and pond have been degraded. Designated uses include, recreational use (e.g., fishing, swimming, boating), fish and wildlife habitat, agricultural and industrial supply, and other legitimate uses.

Reports completed by CTDEEP and USGS indicate that the water quality of the Hockanum River is degraded and the River is recognized under Connecticut's Unified Watershed Assessment as a category 1 (impaired) watershed and is on the CTDEEP's 2004 List of Connecticut Waterbodies Not Meeting Water Quality Standards. Impairments are recognized as effecting habitat, aquatic life support and primary contact recreation. Primary sources of impairment identified include high turbidity, organic enrichment, and elevated concentrations of bacteria and algal growth from municipal point sources, channelization, habitat modification and erosion and sedimentation.



It was previously reported that as part of the operation of the Amerbelle Mill, treated dyeing and finishing wastewaters were discharged under permit to the sanitary sewer. In addition, non-contact cooling water was discharged to the sewer under a State Pollution Discharge Elimination Systems (SPDES) permit. Previous reports made available to GZA did not indicate investigations had been conducted to assess potential impacts to the Hockanum River or American Mill Pond.

To assess impacts to the American Mill Pond from potential discharges from the Site, potential risks to sensitive ecologic receptors within the pond were evaluated through the completion of sampling and analysis of sediments and surface water from American Mill Pond. Samples of sediment and surface water were collected at three locations (AOC-25 SW/SED-1, AOC-25 SW/SED-2, AOC-25 SW/SED-3), downgradient of the former permitted cooling water discharge, adjacent to the raceway outfall and downgradient of Building 1, respectively. In addition, samples of sediment and surface water were collected from three locations within the upgradient Paper Mill Pond (AOC-25 SW/SED-4, AOC-25 SW/SED-5, AOC-25 SW/SED-6) to provide a baseline data set against which potential impacts to the surface water system from upgradient sources, as opposed to those from historical site operations, may be compared. Details regarding sample collection procedures employed, sample observations field screening parameters recorded and selected laboratory analyses are summarized in Section 4.7. Sediment and surface water sample locations are shown on Figure 4. Laboratory analytical results of the sediment and surface water samples are summarized in Tables 6 and 7.

Surface Water

Laboratory analyses of the above surface water indicate ammonia, SVOCs, and aniline were not detected in the surface water samples from both upgradient and downgradient of the Site. Metals were also not detected within these samples, with the exception of barium, which was reported to range in concentrations from 0.022 to 0.024 mg/l in upgradient Paper Mill Pond samples and from 0.022 to 0.023 mg/l in American Mill Pond. The reported hardness of the surface water samples were similarly close, ranging from 24.5 to 25.5 mg/l in upstream Paper Mill Pond and from 24 to 24.6 mg/l in downstream American Mill Pond samples. Phenolics were detected above the laboratory MRL in one sample (AOC-25 SW-4) from the upstream Paper Mill Pond at 0.022 mg/l.

There are no Connecticut Freshwater Chronic Aquatic Life Criteria currently established for barium, hardness, or phenolics. The differences in concentrations of barium and hardness in the upstream and downstream samples are inferred to be within the range of variation in accuracy of the laboratory method and so no difference between upstream and downstream concentrations of these constituents are inferred by these data. Similarly, no impacts from phenolics from historical Site operations were indicated this data set.

Based upon the sampling results, it appears there are no surface water impacts from the Site to American Mill Pond.



Sediment

Laboratory analyses indicate ammonia and phenolics were not detected in either the upstream or downstream sediment samples. Several metals (arsenic, barium, cadmium, chromium, lead, and mercury) were detected in samples from both Paper Mill Pond and American Mill Pond. Based on the current data set, it appears concentrations of cadmium, chromium, lead, and mercury are elevated in downstream samples in comparison to the sediment samples collected upstream of the Site. Concentrations of these metals were also at levels greater than screening level benchmark criteria. The highest concentrations of metals were reported in sample AOC-25 SED-2, collected in front of the former turbine in American Mill Pond. Lead was particularly elevated within this sample at 1,200 mg/kg versus a range of 61 to 171 mg/kg in the offsite sample. We note, however, that lead and mercury are not metals that were identified as being used in former processes at the Site. In addition, reported concentrations exceeding benchmark screening criteria were reported in upstream samples from Paper Mill Pond as well as in the downstream sample from American Mill Pond. Therefore, it is not clear from this data set that impacts are due to former Site operations or were carried down from some offsite source upstream of the facility.

Several PAHs were detected at concentrations exceeding benchmark screening levels in both upstream and downstream samples. The concentrations of PAHs were generally reported at higher concentrations within the upstream samples, with the highest PAH concentrations reported in sample AOC-15 SED-4 obtained from the north side of Paper Mill Pond, indicating these impacts are likely from a source upstream of the property.

Based upon the sampling results, it appears that impacts to sediments from metals are somewhat higher in downstream samples as opposed to upstream samples, however, testing shows that the quality of sediments are degraded at levels above benchmark threshold levels both upstream and downstream of the Site. Elevated concentrations of certain metals in the sediments are associated with Site fill (particularly lead and arsenic). Investigations conducted at the Site did not identify any direct release or the migration of these constituents from the Site to the pond. The Connecticut Water Company annually discharges high volumes of water from upstream Shenipsit Lake to the Hockanum River to flush there drainage channels of sediments during high water periods. Therefore, there is a strong possibility that metals in American Mill Pond could have been transported from upstream sources, given the rapid flow through the raceway during those periods and the significant elevation drop into American Mill Pond.

Additionally, the number of samples in this data set population (three upstream and three downstream) is very small and contaminants in sediments are often heterogeneously distributed in shifting fluvial aquatic system. Therefore, any conclusions drawn from this

data set can only be very limited. Additional sampling at more widely distributed locations under a formal Screening Level Ecological Risk Assessment could result in a different depiction of stream conditions.



6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 SUMMARY OF SITE AND WORK PERFORMED

Phase III Data Gap investigations were completed at eighteen of twenty-five AOCs identified where previous Phase II/III investigations had confirmed a release of hazardous substances or there was insufficient information to determine whether or not a release was present. This included investigations of American Mill Pond, not previously identified as an AOC at the Site. No investigations were completed of the Site Raceway (a second potential AOC, not previously identified at the Site) as the gradient of the raceway is quite steep, flow through the raceway was rapid and with high energy. Such conditions are contrary to a depositional environment wherein contaminant constituents might be expected to accumulate. Instead dissolved and particulate contaminant constituents would be expected to be flushed away to American Mill Pond where the relatively quiescent environment is more amenable to the deposition of contaminants (see Table 1). This is also true for any sediments flushed from Paper Mill Pond.

The Phase III Data Gap investigations were completed during the period from March 30 through April 30 and included the advancement of 47 soil borings and the collection and laboratory analysis of 60 soil samples; construction of five additional groundwater monitoring wells (two within the overburden and three within the bedrock aquifer at the Site) and sampling and analysis of groundwater sampled from four recently installed wells (GZ-5 was found dry) and eight previously installed wells; collection and analysis of 14 soil vapor samples and the collection and analysis of six surface water and sediment samples from impounded portions of the Hockanum River upstream (Paper Mill Pond) and downstream (American Mill Pond) of the Site.

The results of these soil and groundwater analyses, combined with data collected earlier as part of Phase II/III investigations at the Site, were compared to the remedial criteria established within the Remediation Standards Regulations. Based on our assessment of that data, GZA formulated opinions with regard to the need for additional investigations and/or remedial actions where a release of COCs was found at levels exceeding criteria. Our conclusions were in some instances based on comparisons to proposed draft remedial criteria published by CTDEEP in 2008. We did so with the understanding that CTDEEP regularly grants approvals for requests for the site-specific use of these criteria, where no standards have yet been established under the RSRs, revised as of June 27, 2013.

These regulations provide risk-based standards for common contaminants based on site setting, and groundwater classification (Class GB in this case). The applicable CTDEEP remediation criteria, given the Site setting, are Residential Direct Exposure Criteria,



Industrial/Commercial Exposure Criteria (the use of which would require recording an Environmental Land Use Restriction on the property records) and GB Pollutant Mobility Criteria for contaminants in soils; and Residential and Industrial/Commercial Groundwater Volatilization Criteria and Surface Water Protection Criteria for contaminants in groundwater.

Surface water and sediment samples collected from upstream and downstream of the Site were compared to Connecticut Water Quality Criteria and accepted EPA screening benchmark values to aid in evaluation of potential impacts to the Hockanum River and not for a definitive determination of compliance with standards established under the RSRs. To do so would require a fuller assessment of the aquatic system in the form of an Ecological Risk Assessment, which is beyond the scope of this investigation, and may not be required due to upstream sources.

6.2 UPDATED CONCEPTUAL SITE MODEL

Subsurface investigations completed at the Site as part of the Phase III Data Assessment indicated unconsolidated materials underlying the site generally consist of sand with varying degrees of gravel, cobbles and silt. The thickness of overburden materials was found to range from less than 3 feet to 27 feet below ground (boring AOC-20-2, located within the Building 8 loading dock area). The thickness of soils over much of the Site is less than 10 feet and appears to thicken toward the northern most boundary of the Site.

The depth to groundwater was measured to range from 4.5 feet bgs at well ME-1 to 18.5 feet bgs at well MW-02 and appears to drop off sharply near the northern boundary of the site. The water table was encountered below the bedrock surface at most monitoring wells constructed at the Site. Groundwater was only encountered within the overburden soils at monitoring wells AM-7 and GZ-4, located within Building 11. Overburden monitoring well GZ-5, located to the north of Building 11, was found dry when gauged on April 30 and May 7, 2015.

Based on depth to groundwater measurements made at Site wells during groundwater sampling on April 30, 2015, groundwater flow at the Site is inferred to generally to be to the north-northwest and apparently discharging to American Mill Pond in the western portion of the Site and to the northeast toward East Main Street in the eastern and central portion of the Site. The more eastward groundwater flow direction in the eastern portion of the site differs from what was depicted in previous investigations. Gauging of Site wells a second time on May 7, 2015 confirmed this more easterly flow direction. Based on measurements taken through the floor of Building 7 to the raceway below, it appears that the groundwater table is below the base of the raceway, at least within the northern portion of the Site and inferred groundwater flow patterns don't appear to be affected by that hydraulic feature.

Based on our review of available previous reports and our Site observations, two additional potential AOCs were identified at the Site:



AOC 24: Raceway; and

AOC 25: American Mill Pond.

As the gradient of the raceway is quite steep and flow through the raceway is rapid and with high energy it was inferred that conditions there would not constitute a depositional environment wherein contaminant constituents might be expected to accumulate. Instead potential impacts to the river system were assessed at the downstream American Mill Pond where dissolved and particulate contaminant constituents released from the Site would more likely be expected to be present.

Results of this current round of Site investigations support our original CSM that soils below the northern building complex are widely impacted by metals (chiefly arsenic and lead), PAHs and ETPH at concentrations greater than DECs primarily from coal ash in fill, and incidental releases of petroleum from historical operations. We anticipate these soils can be managed by application of institutional controls at the site and either allowing impacted soils to remain below buildings that will be left standing or by capping these areas with new buildings, paved parking areas, planned landscaped areas, etc. as part of the reconstruction of the Site.

Data indicate there are two areas in the northern section of the Site where elevated concentrations of constituents of COCs appear to be the results of separate releases and not related to fill: The release of petroleum apparently associated with the former 18,000-gallon fuel oil USTs at AOC 15 and a release of CVOCs, primarily PCE, below Buildings 8 and 11. Concentrations of constituents within these areas are above both I/C-DECs and GB-PMCs and will require some form of active remedial effort to reduce constituent concentrations and/or potential threats of exposure to levels that comply with the remedial standards established within the RSRs.

Soils within the southern parcel have only indicated minor impacts and data from that area do not indicate that management or exposure from these soils would pose a concern.

Sampling and analysis of Site groundwater indicated three areas where concentrations of COCs in groundwater were elevated to levels exceeding RSR numeric criteria:

- An apparent dye release downgradient of the northwestern corner of the Building 14 where blue tinged groundwater was observed and aniline was reported above SWPC in groundwater from ME-2;
- Building 7 loading dock area where lead was reported above the SWPC in groundwater at well AM-1; and

 Building 11 area where concentrations of metals and PAHs were reported above SWPCs (AM-7) and CVOCs (PCE and vinyl chloride) were reported above I/C-GWVCs.



GZA notes that multiple alternatives are allowed under the RSRs to determine compliance with the SWPCs. Additional rounds of ground monitoring will be necessary to allow such a determination to be made.

Sampling and analysis of surface water and sediment from the Hockanum River, upstream and downstream of the Site, indicated concentrations of metals (chromium, lead, and mercury) and PAHs were higher in downstream samples than in upstream samples relative to the site. Concentrations of these constituents were also at levels above screening benchmark criteria.

These data indicate that potential of impacts to sediments within the downstream portion of the Hockanum River may be present either as a result of historical Site operations or from upstream sources. Further evaluation of sediment conditions through a formal Ecological Risk Assessment is needed to reach any definitive conclusions as to whether the presence of those constituents pose a significant risk of impacts to the ecology of that aquatic system that would require a remedial action.

6.3 CONCLUSIONS AND RECOMMENDATIONS

GZA has made the following findings based on the completion Phase III Data Gap investigations at the Site:

 A release of petroleum hydrocarbons is present in soils at three AOCs where no investigations had previously been performed:

AOC-1 Former Solvent USTs;

AOC-4 Former Dye Mixing Room; and

AOC-7 Former Maintenance / Machine Shop.

Concentrations of COCs in AOCs 1 and 4 were detected at concentrations below applicable RSR remedial criteria. Additional investigations of these areas (recommended during the remedial phase of operations) is needed to more fully assess degree of impacts and whether a remedial response may be required.

The concentration of petroleum hydrocarbons in soils at AOC-7 (Maintenance Machine Shop) exceed the I/C-DEC and GB-PMC, indicating a need for a remedial response. As Building 12 is designated to be preserved under future development plans, we anticipate this condition can be addressed through the placement of institutional controls on that structure.



- Analysis of soils below Building 14 supported data derived from previous investigations that soil there exhibit low levels of degradation from COCs (VOCs, metals, ETPH, PAHs and aniline dye) at concentrations below RSR remedial criteria. Groundwater sampled in wells GZ-2 and GZ-3 also supported that finding.
- Higher levels of COCs (PAHs, ETPH and metals) are present in soils below the complex of Site buildings north of Brooklyn Street at levels exceeding R-DECs, I/C-DECs and GB-PMCs.
- A release of petroleum hydrocarbons is confirmed in the area east and north of the 18,000-gallon No. 2 Fuel oil tanks storage building (AOC-14) at concentrations exceeding I/C-DECs and GB-PMCs. It inferred this release is related to an historical release from 20,000-gallon USTs removed from that location in 1989.
- The current data set supports previous data indicating that a release of metals, ETPH and PCE is present in soils below Building 11 (AOC-19) at concentrations exceeding I/C-DECs and GB-PMCs. In addition, sampling and analysis of groundwater from newly installed well GZ-4 indicates PCE is present in groundwater below the floor slab at concentrations exceeding the SWPC and I/C-GWVC.
- The current data set indicates concentrations of COCs are present above SWPC in groundwater at wells AM-1 (lead) and ME-2 (aniline). Further monitoring may be required to determine if an actual exceedance of the SWPC by those constituents may be present.
- Sediment samples from American Mill Pond, downstream of the facility, indicate
 potential impacts from COCs released as a result of historical Site activities may be
 present there. No impacts to the quality of the Hockanum River were indicated by
 analyses of surface water samples.

A summary of the findings of the Supplemental Phase III environmental assessment of the twenty AOCs investigated at the Site is provided in Table 1.

GZA understands that the property owner is contemplating implementation of environmental land use restrictions or other mechanisms that would allow contaminated soil to remain in place. In addition, plans for future site renovations anticipate the demolition of many of the existing structures, leaving some existing buildings in place and the construction of new structures. Future planned use of the property will be limited to commercial retail and office space. Unless environmental land use restrictions (ELURs) are imposed on some portion or all of the property and site-specific approval (from CTDEEP) for alternative remedial criteria are obtained, soils impacted above June 27, 2013 RSR Residential Direct Exposure Criteria and/or Class GB Pollutant Mobility Criteria would require remediation. In order to do so, partial building demolition may be required to access some of that soil.



Based on your understanding of future intended use of the Site, GZA offers the following recommendations for remedial actions (and additional investigations, where necessary) at the eight AOCs at the Site where the need for potential remedial actions was identified based on the findings of the Supplemental Phase III investigations:

AOC 1: FORMER SOLVENT USTS

ETPH was reported at 74 and 340 mg/K in the samples from AOC-1-1 and AOC-1-2, respectively, from 8 to 10 feet of bgs. The samples were obtained within the inferred footprint of where two former xylene USTs had been located prior to removal in 1989, at a depth judged to be just below the base of the excavation. Although the concentration of ETPH reported in the sample is below the R-DECs and GB-PMCs, the concentration indicates a release of petroleum hydrocarbons is present at this AOC and the full extent and magnitude of the release has not been characterized by the current data set. Therefore, additional sampling of soils within this AOC is recommended to more fully characterize the extent of the release of petroleum hydrocarbons there and ensure concentrations present do not exceed applicable remedial criteria.

Recommended Explorations

It is recommended that six borings be advanced within the area of the tank graves, two to the north, southeast and west of AOC-1-1 and AOC-1-2, respectively, at about 10 feet from those borings. Based on the inferred depth of the excavation, soils sampled from approximately 8 to 10 feet bgs should be submitted for laboratory analysis of ETPH. It is anticipated that the recommended additional sampling can be incorporated within the remedial phase of operations at the Site. These data will indicate whether soil requires remediation for compliance.

AOC 4: NORTWEST CORNER OF BUILDING 14

Moderately elevated concentrations of ETPH, below the DEC and PMC, were detected in soils sampled from 4 to 6 feet bgs outside the building at Brooklyn Street at AOC-4-1 (230 mg/Kg) and from shallow soils sampled within the former Dye Mixing Room at AOC-4-3 (470 mg/Kg). While not above remedial criteria, the concentrations indicate that a release of petroleum hydrocarbons is present at those locations. Additional sampling is recommended to more fully define these release areas and to resolve whether concentrations of the petroleum released there exceed remedial criteria.

Recommended Explorations



It is recommended that four borings be advanced within the area of AOC-4-1 and AOC-4-3, respectively. At each location, three borings should be advanced surrounding the borings at approximately 10 feet away to better define the horizontal extent of impacts there, and a fourth boring would be advanced at the original boring location to provide data regarding vertical depth of impacts. Soils within the borings will be sampled continuously to the bedrock surface (estimated to be approximately 3 to 5 feet below the concrete floor slab), observed for evidence of a release and field screened for VOCs. Dependent upon sample observations and field screening results, up to 10 samples will be collected and submitted for laboratory analyses petroleum hydrocarbons by ETPH. It is anticipated that the recommended additional sampling can be incorporated within the remedial phase of operations at the Site. If the RSRs are exceeded, the soils can be remediated after building 14 is demolished.

AOC 7: FORMER MAINTENANCE / MACHINE SHOP

ETPH was reported in excess of I/C-DEC and GB-PMC at 8,000 mg/Kg in soils sampled at boring AOC-7-2, located within the western portion of the Maintenance/Machine on the lower floor of Building 12. Concentrations of other COCs were reported below RSR criteria. Under the current redevelopment plans, Building 12 is to be left standing, no further investigation of this release is recommended. Instead, it is recommended that institutional controls in the form of an ELUR be established over the entire footprint of the building to preclude the potential threat of exposure to the release or the mobilization of petroleum hydrocarbons there to the underlying groundwater. Additionally, GZA recommends the exploration and analyses of soils from one boring to the north and outside of the building on Brooklyn Street to determine if ETPH impacts extend outside the building foundation there.

Recommended Remedial Approach

Under the current redevelopment plans, Building 12 is to be left standing, therefore, the recommended remedial approach to address the release of petroleum hydrocarbons present in soils below the lower concrete floor slab of the building is the application of an ELUR on the entire footprint of the building which prohibits the disturbance of the floor slab or the soils below and prohibits the demolition of the building and the infiltration of precipitation through the soils underlying the building.

AOC 13: BUILDING 7



Concentrations of certain PAHs were reported above the I/C-DEC and GB-PMCs in shallow soils sampled from below the floor slab of Building 7 at boring AOC-13-3 sample. In addition, ETPH above the R-DEC and PAHs above the I/C-DECs and GB-PMCs were reported in shallow soils at boring SB-103.

The impacts reported in sample location AOC-13-3 are generally consistent with conditions reported in the degraded fill below the floor slabs of the northern complex of buildings. However, under current redevelopment plans for the Site, Building 7 is to be demolished. Therefore a direct remedial response is recommended for the degraded soils present there.

Recommended Remedial Approach

The direct excavation of shallow degraded soils below the floor slab of Building 7 north of the raceway is recommended. As remedial excavation of petroleum impacted soils is recommended at AOC 15 directly to the south, it is inferred that remedial actions can be extended to this location after the demolition of Building 7 can be completed with little additional burden to the remedial operation.

AOC 14 and 15: FORMER 18,000-GALLON FUEL OIL STORAGE TANKS AND ELECTRICAL TRANSFORMERS

No direct investigations of soils was conducted below the tanks as the tanks and containment structure the area inaccessible to sampling.

Analysis of soils from borings SB-111 and AOC-15-2, located just outside the northeast corner of the containment structure for AOC-14, reported ETPH at 3,900 mg/Kg and 3,300 mg/Kg, respectively, at concentrations greater than the I/C-DEC and GB-PMCs. As no stains were reported on or near the adjacent former electrical transformer concrete pad, it is inferred that the elevated ETPH is related to the release from the adjacent petroleum storage area at AOC-14, reported when underground storage tanks and impacted soils were removed from the area in 1989. It is our understanding that the containment structure and the tanks at AOC-14 will be removed as part of the planned restoration of the Site. We therefore recommend that soils within the footprint of the tank containment structure be sampled after the tanks and structure have been removed to define the full degree and extent of the release there and soils with petroleum impacts exceeding applicable RSR criteria be remediated.

Recommended Remedial Approach



Once the tanks and containment structure are removed and the additional sampling is preformed, excavation of contaminated soils above applicable remedial criteria is recommended.

AOC 16: BUILDING 7 LOADING DOCKS

Previous and current investigations have indicated shallow soils sampled from within the parking area outside (to the south) of the loading dock contain elevated concentrations of arsenic and PAHs at concentrations greater than the I/C-DECs. Results of SPLP analysis of Site soils indicated all metals and PAHs tested leached at concentrations below GB-PMCs. Reported detected constituents are inferred likely to be representative of impacts associated with the fill material which underlies the majority of building complex north of Brooklyn Street.

Recommended Remedial Approach

As the impacts to these soils appear limited to soil concentrations of contaminants exceeding the DECs, GZA recommends taking some action to render these soils inaccessible, to limit the threat of potential contact or direct exposure to the soils, and implementation of an environmental land use restriction that would allow contaminated soil to remain in place. Options permitted under the RSRs to render soils inaccessible isolated include:

- Covering the soils to a depth of 4 feet or greater with clean fill;
- Covering soils with at least a 3-inch thickness of asphalt pavement and underlying clean soils to a thickness equal or greater than 2 feet;
- Covering the soils with a building or other permanent structure approved by the Commissioner.

It is GZA's assessment that actions to mitigate potential hazards or threats of exposure may be addressed through establishment of institutional controls and other actions incorporated into future redevelopment plans either through construction of new buildings over these soils or to cap areas of degraded soils with clean soils, paved parking areas or planned landscaped areas.

AOC 19: BUILDING 11

Former and current investigations have indicated that soils below the floor slab of Building 11 are impacted from the release of metals (primarily arsenic) at concentrations above I/C-DECs and ETPH and VOCs (primarily PCE) at concentrations greater than the I/C-DEC and GB-PMC. In addition, groundwater

sampled from shallow overburden well GZ-4, located in the northeastern portion of the building, contained PCE at concentrations exceeding the SWPC and I/C-GWVCs.



Recommended Remedial Approach

It is recommended that the exceedance of the I/C-DECs and GB/PMCs by PCE and ETPH in soils below the floor slab of Building 11 be address through the implementation of an environmental land use restriction over the footprint of the building that would prohibit the disturbance of the floor slab or underlying impacted soils, the demolition of the building and the infiltration of precipitation through the impacted soils below.

Other active and more direct measures are required to mitigate the threat from the potential exposure to VOC vapors migrating into the building space from VOCs in soils and groundwater below the building floor slab. Remediation of the VOC release will likely require some form of active remediation, such as vacuum extraction or chemical oxidation, to profoundly reduce the concentrations of VOCs present in soils and groundwater below the floor slab there, followed by some form of active or passive sub-floor ventilation system to preclude potential exposures from vapors emanating upward into the inhabitable building space above.

Elevated concentrations of PCE, and to a lesser extent, TCE in groundwater at GZ-4, indicates that the PCE plume in groundwater is likely migrating offsite to the northeast. Therefore, installation of a shallow bedrock well and maybe an overburden well outside the northeast corner of Building 11 is recommended to better define the degree and extent of impacts to groundwater from that plume.

AOC 22: SITE FILL

Results of past and a current investigation indicates urban fill material underlying the majority of the buildings of the complex of Site buildings north of Brooklyn Street contain elevated concentrations of metals (particularly arsenic and lead), PAHs and occasionally ETPH at concentrations greater than R-DECs or I/C-DECs. It is GZA's opinion that potential hazards or threats of exposure can be adequately mitigated through actions incorporated under current redevelopment plans to render these soils inaccessible.

Recommended Remedial Approach

It is our opinion that the most practical response with respect to the soils would be to manage potential risks through development and implementation of a soils management plan and meet RSR remedial requirements by rendering the soils "inaccessible" under current regulations by allowing soils to remain below buildings that will be left standing under proposed redevelopment plans, construction of new



buildings over these soils or to cap areas of degraded soils with clean soils, paved parking areas or planned landscaped areas. These actions will be combined with the application of an environmental land use restriction that would prohibit the disturbance of the overlying cap and the impacted soils below.

Investigations have shown that soils at locations across the Site exhibit low grade impacts from COCs (VOC, PAHs, metals, petroleum hydrocarbons, formaldehyde, aniline dye, etc.). As we understand the intended future use of the property is to be limited to commercial office and retail operations, we recommend implementation of an environmental land use restriction prohibiting residential usage of the entire property.

AOC 25: AMERICAN MILL POND

Studies by CTDEP and USGS have identified the American Mill Pond and Hockanum River as impaired and the water quality of the river no longer supports one or more designated uses (including recreation, habitat and aquatic life support) due to its history of heavy industrial use, urbanized setting and impacts due to historical point and nonpoint source discharges.

Sampling of sediments from impounded portions of the Hockanum River upstream and downstream of the Site indicated that both metals and PAHs are present at concentrations above threshold effect screening level benchmarks. Certain metal concentrations (cadmium, chromium, lead, and mercury) were found to be elevated in downstream samples in comparison to samples collected upstream of the Site, however, (other than elevated concentrations being associated with Site fill) no direct release or direct migration of these constituents from the Site to the pond were identified as part of the Site investigations.

The impacts to sediments both upstream and downstream of the Site are reflective of the degraded quality of the river due to its urban setting and historical industrial usage. As the data set population generated through this study is very small and contaminants in sediments are typically heterogeneously distributed, any conclusions drawn from this data set regarding impacts from the Site can only be very limited. Additional sampling at more widely distributed locations, both upstream and downstream of the Site, under a formal Screening Level Ecological Risk Assessment would be required to derive a more definitive determination as to whether sediment conditions may have been impacted from historical Site operations.

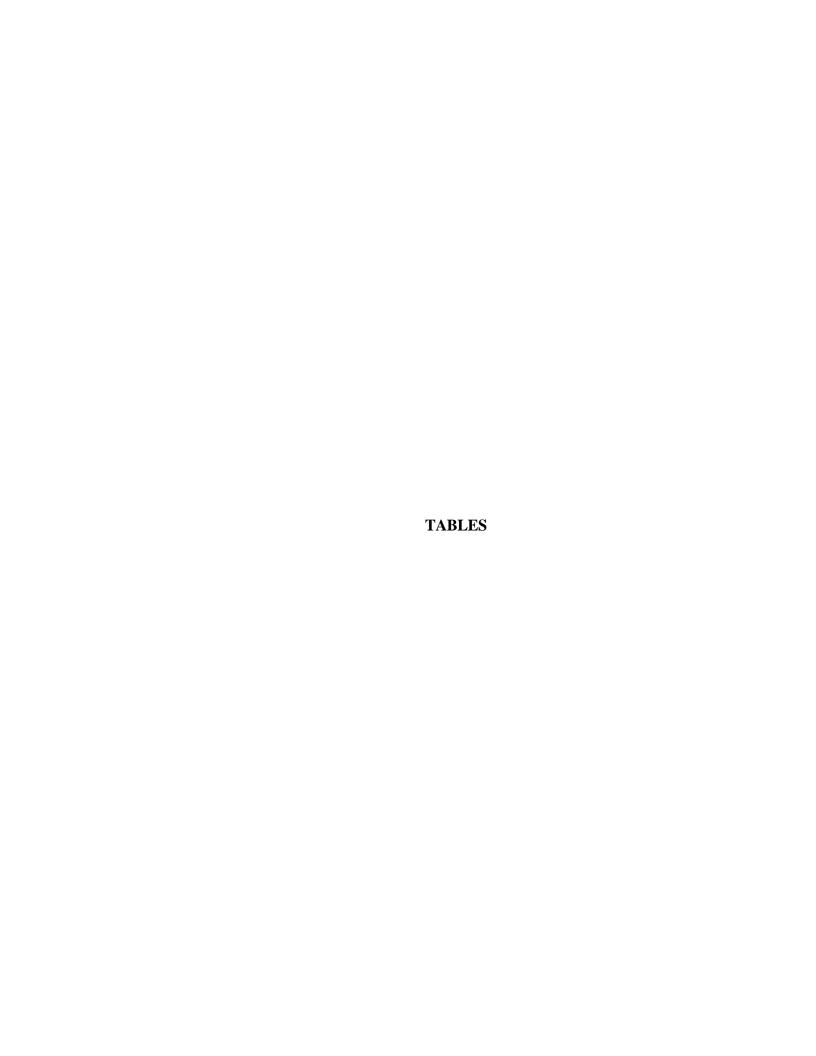


Table 1 Data Gap Assessment Summary

Amerbelle Mills Rockville, Connecticut

			GZAs Data Gap Investigation Laboratory Analysis Performed														
Area Of Concern (AOC)	AOC Description	Condition Summary/Data Gap Analysis	Number of Borings (shallow <4 feet; deep >4 feet)	Samples collected	VOC-8020 (aromatics) VOC-8010 (halogenated)	ЕТРН	○ ∞	SPLP RCRA-8 Metals	ratory Methanol Formaldehyde	Ammonia	s rerfor Glycols	PCBs	Aniline	Grain Size Analysis	Hardness Total Organic Carbon	Findings/Conclusions	Recommendations
AOC 1 - Former Solvent USTs	Location of former 5,000 and 3,000-gallon xylene steel USTs which were removed in 1989. Historical Site map indicates 5,000-gallon Stoddard solvent and 3,000-gallon Xylene USTs were also formerly located at this AOC.	Prior reports indicate one tank to have failed a tank tightness tests conducted and prior to the UST removals. No post-excavation confirmation soils samples were obtained. Analysis of groundwater from downggradient well AM-3 in January 2004 showed no evidence of a release. No direct investigations of soils had been conducted at this AOC. The status of soils at this AOC was identified as a data gap.	2 deep	AOC-1-1 (8-10), AOC-1-2 (8-10)	х	X	х									Soil samples collected below inferred bottom of UST excavations reported ETPH at concentrations of 74 and 330 mg/kg, indicating the presence of a release of petroleum hydrocarbons. Concentrations of ETPH are below R-DEC and GB-PMC.	Additional exploration of soils in area of AOC-1-2 where ETPH reported at 340 mg/kg to determine need for remediation there.
AOC 2 - Bldg. 14 South Loading Dock	Three loading docks located on the south side of Building 14. These loading docks may have been used to service the former dye operations, chemical finish storage and former textile finishing areas.		3 shallow	AOC-2-1 (0.5-2), AOC-2-2 (0.5-2), AOC-2-3 (0.5-2)	;	X	x x		x x	XXX	х					No COCs were detected in soil samples from borings AOC-2-1 and AOC-2-3. Several metals were detected at AOC-2-2 at concentrations below R-DECs, similar to those found Site wide, and are inferred likely associated with fill. Methanol was detected at 20 mg/kg in AOC-2-2, significantly below R-DEC and GB-PMC and is inferred to represent a minor release related to transfer and handling of textile finishing chemicals at the loading dock.	No further action
Loading Dock	There are three loading docks located on the west side of Building 14. These loading docks are near and may have been used to service the former dye operations, chemical finish storage and former textile finishing areas.	Investigations of this AOC were limited to boring/wells AM-2 and ME-1. Low reoncentrations of ETPH, PAHs and metals were reported in soils at ME-1; potentially due to be concentrations. No soil analyses was performed at AM-2. Insufficient investigations have been completed to	1 shallow/ 1 deep	AOC-3-1 (0.5-2), AOC-3-2 (4-6)	x	X	x x		X X	(х					Metals were reported in soils at AOC-3-1 and AOC-3-2 at concentrations below R-DEC at concentrations similar to Site-wide soils and are inferred related to fill. Trace concentrations of methanol and formaldehyde reported in shallow soils at AOC-3-2 well below the R-DEC and GB-PMC is inferred as representative of minor incidental release related to transfer and handling of textile finishing chemicals at the loading dock.	No further action
AOC 4 - Northwest Corner of Bldg. 14. Finishing Department	The northwest corner of Building 14 was formerly used for textile dyeing operations and consists of dyeing areas and a former Dye/Mixing Room. Several wastewater conveyance trenches were observed in the AOC. Seeps of dye from cracks in foundation and around exhaust vents have been reported and in 1997, dye-impacted water was observed infiltrating a sewer line excavation near this AOC.		3 shallow/ 2 deep	AOC-4-1 (4-6), AOC-4-2 (0.5-2), AOC-4-3 (0.5-2), AOC-4-4 (2-4), AOC-4-5 (4-6)	X	x	x x		x x	ζ.	х					Several metals were detected in AOC-4 soil samples similar to those found Site wide and are likely from poor quality fill. ETPH and trace VOCs were detected in soils in the dye mixing room and downgradient of AOC-4 in Brooklyn Street. ETPH and VOCs were below criteria. Formaldehyde was detected east of dye mixing room in soil sample AOC-4-5 at 9 mg/kg well below RSR criteria. Based on our findings a minor release of ETPH has occurred.	Additional explorations and analysis of soils is recommended in area of AOC-
AOC 5 - Wastewater Conveyance Trenches	dye and finishing process wastewater to the former onsite wastewater treatment system located on the west side of building. Seepage	Explorations were limited to soils at borings AM-8, AM-9 AM-10 AM-11. Low concentrations of VOCs (xylenes, ethylbenzene and formaldehyde) and metals were reported in soils at AM-8 and AM-11. Investigations were found insufficient to adequately demonstrate the presence or absence of a release of chemical dye and/or finishing process wastewaters from the conveyance trenches beneath Building 14. This conditions was identified as a data gap.	2 shallow/ 4 deep	AOC-5-2 (5-7), AOC-5-3 (2-3.25), AOC-5-4 (6-8), AOC-5-5 (4-5.5), AOC-5-6 (4.5-6.5)	х	x	x x		X X	x x	X					Several metals were detected in AOC-5 soil samples similar to those found Site wide and are inferred related to fill. Trace concentration of formaldehyde was detected in soil at AOC-5-5, well below RSR criteria. VOCs were not detected in groundwater sampled from downgradient wells in Brooklyn Street. Therefore, only minor release of formaldehyde is inferred.	No further action
Bldg. 14. Finishing/Chemical	The southwest interior of Bldg. 14 was formerly used for treatment and finishing of textile products prior to dyeing.	Explorations in this AOC were limited to boring AM-9 where low concentrations of VOCs, ETPH, metals and PAHs reported in deeper soil from 7 to 9 ft. bgs. Analysis of shallow soils was not completed. Investigations were found insufficient to adequately characterize releases to sub-slab soils from former operations within the area and to constitute a data gap.	2 shallow	AOC-6-1 (0.5-2), AOC-6-2 (0.5-2)	X	X	х									Several metals were detected in soil AOC-6 at concentrations similar to those found Site wide and are inferred to be a product of poor quality fill.	No further action
AOC 7 - Bldg. 12 Maintenance/Machine Shop		No investigations were completed within this area. The presence or absence of a potential release of oils and/or solvents to the soils below the floor slab has not been assessed and remains a data gap.	2 shallow	AOC-7-1 (0.5-2), AOC-7-2 (0.5-2)	X	X	х									ETPH was detected in soil boring AOC-7-2 at 8,000 mg/kg in exceedance of R-DEC and GB-PMC. This boring is located downgradient of a pit observed in the floor.	Ruilding 17 rendering soils
AOC 8 - Wooded Slope West of Bldgs. 1 and 2	There is an undeveloped wooded area on the Site west of Buildings 1 and 2. This wooded area slopes steeply to American Mill Pond. Solid waste was reported to be observed in this area and dye impacted water was reported to be seeping from face of slope.	This area has a very steep slope which is unsafe to perform investigations on. Impacts from dye to groundwater within the area are to be assessed through sampling and analysis of groundwater in upgradient wells (see AOC-23).		No Samples Collected												Sampling of groundwater at upgradient well MW-02 detected Aniline at a concentration slightly exceeding SWPCC, inferred as likely related to dye release reported downgradient of Bldg. 14. Additional groundwater monitoring required to determine if an actual exceedance is present.	of recommendations for
	Water based latex coatings were formerly applied to textile products in Building 13.	Shallow soils borings SB-101 and SB-102 were advanced within this AOC. Low concentrations of PAHs were detected in a shallow soil sample collected from SB-102. The presence of PAHs in SB-102 is inferred likely related to degraded fill and not indicative of a release. As such, no data gaps were identified with respect to this AOC.	No Borings Performed	No Samples Collected												No investigation conducted	No further action

Table 1 Data Gap Assessment Summary

Amerbelle Mills Rockville, Connecticut

				GZAs Data Gap Investigation Laboratory Analysis Performed												
Area Of Concern (AOC)	AOC Description	Condition Summary/Data Gap Analysis	Number of Borings (shallow <4 feet; deep >4 feet)	Samples collected	VOC-8020 (aromatics) VOC-8010 (halogenated)	PAH/SVOCs ETPH	Total RCRA-8 Metals	Formaldeh SPLP RCRA-8	ry Anal Methanol	ysis Peri Glycols Ammonia	PCBs	Aniline	Grain Size Analysis	Hardness Total Organic Carbon	Findings/Conclusions	Recommendations
AOC 10 - Building 2 Loading Dock	The loading dock is located on the west side of Building 2 and was likely used to service Buildings 1 and 2. Building 2 was formerly used for storage of organic coatings and chemicals and Building 1 formerly contained a hazardous waste storage area.	Three borings were advanced outside of the loading dock area (SB-112, SB-113, and SB-114) and shallow soil samples collected. The three soil samples submitted contained low concentrations of metals and SB-112 contained PAHs below applicable criteria, and inferred related to ash in fill. No indication of a release due to former site operations was reported and no data gaps identified.	No Borings Performed	No Samples Collected											No investigation conducted	No further action
AOC 11 - Buildings 1 and 2	Building 2 was formerly used for storage of organic coatings and chemicals and Building 1 formerly contained a hazardous waste storage area in the lower area.	Sub-slab sampling in sub-basement area was reported as not possible as the concrete slab directly overlies bedrock. Bis(2-ethylhexyl)phthalate and ammonia were detected in groundwater at MW-2, at lower concentrations than the up gradient well. No stains or other indications of a release were observed within the building. No data gaps were identified with respect to this AOC.	No Borings Performed	No Samples Collected											No investigation conducted	No further action
AOC 12 - Building 3 General Storage	Building 3 was formerly used for general storage of textiles and other materials.	Soil at two borings completed in this AOC (SB-104 and AM-6) were reported to contain low concentrations of metals and PAHs at concentrations below I/C-DECs and GB-PMCs. ETPH at AM-6 also below I/C-DEC and GB-PMC. The detected metals, ETPH, and PAHs are inferred to be from poor quality fill and minor incidental releases. As Bldg. 3 is to remain in place under current development plans, the current data set was inferred as adequate to address Site fill and actions to mitigate potential hazards and threats of exposure through application of an ELUR. No data gaps were inferred for this AOC.	No Borings Performed	No Samples Collected											No investigation conducted	No further action
Solvent Coating Lines	Building 7 formerly contained the solvent coating operations. The raceway passes under the eastern portion of the former location of the coating lines. The solvent coating operation primarily used toluene, isopropyl alcohol and methyl ethyl ketone (MEK)) in its process.	A shallow soil sample was collected from to the north of the western end of this AOC. Low concentrations of metals, PAHs, and ammonia were detected in the sample. ETPH was detected at 600 mg/kg, below I/C-DECs and GB-PMCs. No investigation of soils were completed directly within the area of the former coating lines. Therefore, a potential for a release from this area was not inferred to have been adequately characterized by the former data set.	3 shallow	AOC-13-1 (0.5-2), AOC-13-2 (0.5-2), AOC- 13-3 (0.5-2)	x x	x x									PAHs detected in boring AOC-13-1 and AOC-13-2, coincident with fill. Trace ETPH, and 1,1,1-trichloroethane detected in AOC-13-3 below applicable criteria. PAHs in AOC-13-3 exceed R-DEC and PMC. However, based upon prior SPLP analysis by former consultants, PAHS do not exceed PMC.	Application of an FLUR to
AOC 14 - 18,000-Gallon Fuel Oil ASTs	are within a concrete containment area. Prior to the installation of these two 18,000-gallon ASTs, it was reported there were two 20,000-gallon oil USTs present from 1949 to 1989.	Prior to removal of the USTs, it was reported one of the tanks failed a tightness test and no post-excavation confirmation soil samples were obtained after removal of the USTs. A composite sample collected at the time of tank removal had a reported concentration of 150 mg/kg of ETPH. No additional soil sampling is proposed due to access limitations within building. However, the potential for a release will be assessed remotely through sampling and analysis of groundwater from a bedrock well (GZ-3) which was installed north of the area (see AOC-23).	No Borings Performed	No Samples Collected											No investigation conducted. This AOC was investigated indirectly through evaluation of groundwater. See AOC-23 for a discussion of groundwater sampling results.	
AOC 15 - Former PCB Transformer Area	Four oil-cooled electrical transformers were formerly located on concrete pad within fenced enclosed area. Three of the transformer reportedly contained PCB dielectric fluid.	One shallow soil sample (SB-111) collected adjacent to northwest corner of the pad reported ETPH (3,900 mg/Kg) and PAHs (as high as 12 mg/kg) above the I/C-DECs and GB-PMCs, indicating a release. The vertical and horizontal extent of the release of the release of petroleum constituents has not been adequately characterized by the single shallow soil sample and PCBs have not been assessed.	3 shallow	AOC-15-1 (0.25-2), AOC-15-2 (0.25-2), AOC 15-3 (0.5-2.5)	`	x					х				PAHs were detected in boring AOC-15-1 and AOC-15-3 below applicable criteria. ETPH was detected in AOC-15-2 at 3,300 mg/kg in exceedance of R-DEC and GB-PMC. Based on proximity, AOC-14 (the two 18,000-gallon ASTs) is inferred likely the source of ETPH in soils at this AOC.	
AOC 16 - Building 7 Loading Dock	coating of textiles prior to dyeing. The loading	Analysis of soils at borings AM-1, ME-5, SB-117, and SB-118 reported elevated concentrations of several metals and arsenic at concentrations up to 122 mg/kg (AM-1), exceeding I/C-DECs PAHs were also detected in exceedance of R-DEC and GB-PMC. ETPH was detected at 920 mg/kg in AM-1. At SB-117, ETPH was reported at 58 mg/kg and ammonia was reported at 140 mg/kg. ETPH was detected in groundwater at well AM-1. Elevated metals and PAH concentrations are inferred to be associated with ash in fill reported in shallow soils. ETPH was inferred as associated with incidental release for trucks and vehicles. Additional investigations of ETPH and ammonia recommended to better define degree and extent of those releases.	I deep	AOC-16-1 (9-11)		X	X	X		х					Soils found to contain metals (primarily arsenic) exceeding I/C-DECs. PAHs and arsenic PM may be considered exempt from PMCs as exceedances appear to be associated with coal ash present in shallow soils there. Release of ammonia and ETPH found to be limited and inferred related to incidental releases at loading dock.	
AOC 17 - Building 9	Building 9 was formerly used for general storage and dye storage prior to 1927. In 1989, a survey of the site reported storage of miscellaneous chemicals on the ground floor of the building.	Soils from boring SB-107 (0.5-2') were reported to contain ETPH at concentration of 680 mg/kg and metals (arsenic, barium, cadmium, chromium, copper, lead, and mercury) above background. Arsenic was reported in exceedance of R-DEC. Reported metal concentrations area inferred to be associated with impacted fill and not indicative of a release from former facility operations. The vertical extent of the ETPH impacted soils within this area was not assessed by this investigation and identified as a data gap.	1 shallow	AOC-17-1 (2-4)	х	X									No COCs detected in soil boring AOC-17-1.	No further action

Table 1 Data Gap Assessment Summary

Amerbelle Mills Rockville, Connecticut

				T									ıvestiga	tion			
Area Of Concern (AOC)	AOC Description	Condition Summary/Data Gap Analysis	Number of Borings (shallow <4 feet; deep >4 feet)	Samples collected	VOC-8020 (aromatics) VOC-8010 (halogenated)	ETPH	PAH/SVOCs	SPLP RCRA-8 Metals	ratory A Methanol Formaldehyde	Ammonia	erforn Glycols	PCBs	Phenol	Grain Size Analysis	Hardness Total Organic Carbon	Findings/Conclusions	Recommendations
AOC 18 - Building 8	Prior to 1927, it was reported the building was a dye house and test dry cleaning was performed on the upper stories of the building and the waste tetrachloroethene (PCE) was stored within the building. More recently, the building was used to filter water pumped from the Hockanum River prior to its use as process water. Several sand filters in poor condition were observed within this building. Process wastewater was discharged to the sanitary sewer from the building. Floor drains present in the basement of the buildings also discharge to the sanitary sewer.	Two shallow soil samples were collected (SB-105 and SB-106). Low concentrations of metals were detected in both samples. Several PAHs in exceedance of R-DEC were detected in SB-106. Concentrations of metals and PAHs are likely from Site wide poor quality fill and not indicative of a release from former facility operations. Shallow soils from SB-105 were reported to contain low concentrations of PCE (at 41 ug/kg), ammonia (at 74 mg/kg). ETPH reported at 130 mg/kg in SB-106. The concentrations are below applicable R-DEC and GB-PMC. Additional investigation of PCE and ETPH was recommended to better characterize degree and extent of those constituents in fill below the building.	5 deep	AOC-18-1 (0.8-2.8), AOC-18-1 (7-9), AOC- 18-2 (0.5-2.5), AOC-18-2 (5.5-7.5), AOC-18-3 (0.5-2.5), AOC-18-3 (8-10), AOC-18-4 (0.5-2), AOC-18-4 (8-10), AOC-18-5 (0.5-2), AOC-18-5 (14-16)	x	x										Soils underlying building found to be degraded urban fill containing coal ash. Soils contain low levels of CVOCs and ammonia, with ETPH and PAHs at concentration exceeding R-DECs, interpreted as artifact of fil material. Soils will be addressed as part of Site-wide ELUR restricting residential use.	i l No further action
AOC 19 - Building 11	for the storage of equipment and drums of oils and other chemicals. The building has a concrete trench system at grade level which was reported to convey infiltration groundwater out of the building. However, the trench may have been used for the conveyance of waste	Three shallow borings (SB-108, SB-109, and SB-110) and one deep boring (AM-7) were advanced within this AOC. A soil sample from boring SB-109 contained TCE at 2 mg/kg, PCE at 36 mg/kg, ETPH at 4,700 mg/kg, arsenic at 10.8 mg/kg, lead at 6030 mg/kg, and ammonia at 190 mg/kg. Low concentrations of VOCs were reported at SB-110. At SB-108, ETPH was also detected at 230 mg/kg and ETPH at AM-7 was reported at 83 mg/kg. The detection of VOCs and ETPH is indicative of a release. Concentrations of metals were reported in the four borings and is inferred indicative of coal ash in fill and not indicative of a release from former facility operations. The full lateral and vertical extent of the release of ETPH and CVOCs was not fully characterized and was considered a data gap.	2 shallow/ 7 deep	AOC-19-1 (0.5-2), AOC-19-1 (8-10), AOC-19-2 (0.5-2), AOC-19-2 (6-7.5), AOC-19-3 (5-7), AOC-19-4 (10-12), AOC-19-5 (8-10), AOC-19-5 (13.5-15.5), AOC-19-6 (0.5-2), AOC-19-6 (4.5-6.5), AOC-19-7 (2-4), AOC-19-7 (6-8), AOC-19-8 (0.5-2.5), AOC-19-9 (0.5-2.5)	x	X										Arsenic and lead at concentrations exceeding I/C-DECs were reported in soil at SB-109. ETPH and VOCs were detected in several shallow and deep soil borings. ETPH concentrations ranging from non-detect to 33,000 mg/kg and PCE detections range from non-detect to 1,700 mg/kg were detected. ETPH and PCE exceeded R-DECs and GB-PMCs at several locations in soils below northern portion of building.	air sparging/SVE and sub- slab venting system, application of ELUR to
	The loading dock for Building 11 is located on the north side of the building.	One boring was advanced (SB-119) and two wells installed (AM-5 and ME-6) to assess this AOC. Analysis of shallow soils at boring SB-119 (0.5-2.0 ft. bgs) indicate low concentrations of metals and ETPH, consistent with those found Site wide, and PCE at 0.0072 mg/kg. Groundwater from bedrock well ME-6 was reported to contain PCE at 0.21 mg/l and TCE at 0.22 mg/l, below applicable criteria. Based upon the reported findings, it appears a release has occurred in the AOC. Additional investigations were recommended to better defined vertical and lateral extent of the release of PCE.	1 shallow/ 2 deep	AOC-20-1 (9-11), AOC-20-2 (0.5-2), AOC-20-2 (24-27), AOC-20-3 (0.5-2)	x x	х х	х									PAHs detected in boring AOC-20-1 and AOC-20-2were inferred as related to poor quality fill. Several VOCs, including PCE, were detected in three of the four soil samples. PCE and ETPH reported in sample AOC-20-2 from 24-27 feet bgs was below seasonal high water table and therefore exempt from GB-PMC. Based upon the findings of our investigation, in appears impacts at AOC-20-2 from a release to groundwater from upgradient AOC-19.	e 2 e No further action t
AOC 21 - Former Gasoline Station	A former gasoline service station was located east of Building 14 in an area that is currently a park.	Sampling of groundwater from onsite wells was completed in 2006. No indications of a release from the former gasoline station was observed in Site wells. Based upon groundwater elevation contours it appears the former gasoline station is downgradient of the Site. The potential for the migration of petroleum constituents from a potential offsite release downgradient of the Site was adequately characterized through previous groundwater sampling events and no data gaps remain.	No Borings Performed	No Samples Collected												No investigation conducted	No further action
AOC 22 - Site Fill	ash brick and other miscellaneous materials has	Impacts typically include elevated concentrations of metals (particularly arsenic and lead), PAHs and occasionally ETPH. Arsenic and PAHs are often reported above DECs. It is GZA's opinion that sufficient data is available from investigations completed to date to adequately address site fill and actions to mitigate potential threats from hazards from exposure through application of a Site-wide ELUR restricting residential development and use and other measures incorporated under current redevelopment plans.	No Borings Performed	No Samples Collected												No investigation conducted	Seek exemption for PMC due to coal ash, Site-wide ELUR to restrict against use of property for residential purposes
AOC-23 Site Groundwater	Analysis of site groundwater has indicated the presence of chlorinated VOCs in groundwater the northeast portion of the site, presumably from the release of those constituents identified within Building 11. In addition, concentrations of metals (copper, lead and zinc) were reported at concentrations above respective SWPC in groundwater at well AM-7, located within Building 11, presumably from the release of dye and process water from operations at Bldg. 14.	Previous investigations indicated ETPH was detected at trace concentrations in groundwater at the Site and at 11,000 ug/L at well W-1. PCE was detected at 210 ug/L at well ME-6, in exceedance of the GWPC and SWPC and TCE was detected at 220 ug/L in exceedance of the	GZA installed 3 bedrock wells and 2 overburden wells. In addition, GZA sampled 8 existing wells	GZ-1, GZ-2, GZ-3, GZ-4, AM-1 (grab), AM-7 (grab), ME-1, ME-2, ME-6, MW-01, MW-02, MW-03	x x	x	хх	Κ	x x	X		2	x x	x	x x	Sampling and analysis of Site groundwater indicated three areas where concentrations of COCs in groundwater were elevated to levels exceeding RSR numeric criteria: An apparent dye release downgradient of the northwestern corner of the Building 11 where blue tinged groundwater was observed and aniline was reported above SWPC in groundwater from ME-2; Building 7 loading dock area where lead was reported above the SWPC in groundwater at well AM-1; and Building 11 area where concentrations of metals and PAHs were reported above SWPCs (AM-7) and CVOCs (PCE and vinyl chloride) were reported above I/C-GWVCs.	GZA notes that multiple alternatives are allowed under the RSRs to determine compliance with the SWPCs. Additional rounds of ground monitoring necessary to allow such a determination to be made.

Table 1 Data Gap Assessment Summary

Amerbelle Mills Rockville, Connecticut

		T	<u> </u>						G.	ZAs Data	Gap Inv	estigation	ı		
Area Of Concern (AOC)	AOC Description	Condition Summary/Data Gap Analysis	Number of Borings (shallow <4 feet; deep >4 feet)	Samples collected	VOC-8020 (aromatics) VOC-8010 (halogenated)	Total RCRA-8 Metals PAH/SVOCs	SPLP RCRA-8	E .	Analysi	s Perform		Phenol	Lotal O	Hardness	Findings/Conclusions Recommendations
AOC 24 - Raceway	through the Site and discharges to American	The steep gradient of the raceway and high energy flow are not conducive to reliably assess if a release to this feature may have occurred. Instead, potential impacts from historical discharges will be evaluated through sampling of sediment and surface water from American Mill Pond (see AOC-25).	No Borings Performed	No Samples Collected											No investigation conducted No further action
				American Mill Pond: AOC-25 SW-1, AOC 25 SW-2, AOC-25 SW-3, AOC-25 SED-1, AOC-25 SED-2, AOC-25 SED-3		x x			X		x	x x	х	х	Ammonia, SVOCs, and aniline were not detected in the surface water samples both upgradient and downgradient of the Site. Metals were also not detected, with the exception of barium, which was reported to range in concentrations from 0.022 to 0.024 mg/l in upgradient Paper Mill Pond samples and from 0.022 to 0.023 mg/l in American Mill Pond. The reported hardness of the surface water samples were similarly close, ranging from 24.5 to 25.5 mg/l in upstream Paper Mill Pond and from 24 to 24.6 mg/l in downstream American Mill Pond samples. Phenolic were detected above the laboratory MRL in one sample (AOC-25 SW-4) from the upstream Paper Mill Pond at 0.022 mg/l.
AOC 25 - American Mill Pond	American Mill Pond is located in the northern portion of the site. It is suspected that process waste waters may have been discharged to the pond prior to institution of wastewater treatment operations at the Site.	No investigations have been completed within this area. Potential impacts from historical discharges had not been defined.	6 surface water and 6 sediment samples	Paper Mill Pond: AOC-25 SW-4, AOC-25 SW-5, AOC-25 SW-6, AOC-25 SED-4, AOC 25 SED-5, AOC-25 SED-6		x x			x		x	x x	x	x	Concentrations of and metals (cadmium, chromium, lead, and mercury) were found elevated in downstream sediment samples in comparison to upstream sample and at concentrations exceeding benchmark screening criteria. PAHs also detected at concentrations exceeding screening level benchmark criteria, but were reported at equivalent or higher concentrations in upstream samples. Therefore, not inferred to result from a release from the site.

Table 2 Monitoring Well Construction Summary and Groundwater Elevation Measurements

Amerbelle Mills Rockville, Connecticut

		PVC	Borehole	Depth to	Bedrock		Screen	Screen	Screened	Nominal Well	Screen	April 3	0, 2015	May 7	7, 2015
Monitoring Well No.	Installation Date	Elevation (feet)	Depth (feet)	Bedrock (feet)	Elevation (feet)	Screened Medium	Length (feet)	Interval (feet)	Elevation Interval	Diameter (inches)	Slot Size (inches)	Depth To Water (feet)	Groundwater Elevation (feet)	Depth To Water (feet)	Groundwater Elevation (feet)
GZ-1	4/7/15	120.19	18.08	4.22	115.97	BR	10	8.08-18.08	92.11-102.11	2	0.010	8.59	111.6	8.83	111.4
GZ-2	4/7 to 4/8/14	121	24.33	5.17	115.83	BR	15	9.33-24.33	84.67-96.67	2	0.010	6.48	114.5	5.78	115.2
GZ-3	4/8 to 4/9/15	119.02	20.2	7.19	111.83	BR	10	10.2-20.2	88.82-98.82	2	0.010	11.89	107.1	11.93	107.1
GZ-4	4/24/15	103.31	10.54	10.54	92.77	OB	8	2.54-10.54	84.77-92.77	2	0.010	9.14	94.2	9.44	93.9
GZ-5	4/24/15	100.55	16.2	16.2	84.35	OB	10	6.2-16.2	74.35-84.35	2	0.010	>16.2	>84.4	>16.2	>84.4
AM-1	1/22/04	115.59	12.5	10.30	105.29	OB	5	7.5-12.5	98.09-103.09	2	Not Reported	10.72	104.9	10.59	105.0
AM-7	1/23/04	103.33	11	>11	NE	OB	5	4.5-9.5	88.93-93.83	2	Not Reported	8.62	94.7	8.69	94.6
ME-1	11/29/05	122.65	15.8	2.8	119.85	BR	10	4.9-14.9	97.75-107.75	2	0.010	4.51	118.1	4.63	118.0
ME-2	11/29/05	121.53	18	5.1	116.43	BR	10	8-18	93.53-103.53	2	0.010	5.38	116.2	9.42	112.1
ME-6	11/30/05	100	25.5	13.2	86.80	BR	10	15.5-25.5	64.5-74.5	2	0.010	18.33	81.7	18.38	81.6
MW-01	6/26/09	99.68	49.4	13.4	86.28	BR	10	39.4-49.4	40.28-50.28	2	0.010	7.43	92.3	7.48	92.2
MW-02	6/29/09	114.06	32.6	18.6	95.46	BR	10	22.6-32.6	71.46-81.46	2	0.010	18.53	95.5	18.70	95.4
MW-03	6/29/09	122.25	36.7	23.2	99.05	BR	10	26.7-36.7	75.55-85.55	2	0.010	10.32	111.9	10.53	111.7

- 1. OB indicates well screen is installed in overburden material.
- BR indicates well screen is installed in bedrock.
- 2. NE indicates bedrock was not encountered in the test boring.
- 3. Top of PVC riser pipe elevations were surveyed by GZA relative to a benchmark at ME-6 which was assigned an arbitrary elevation of 100 feet.
- 4. Measurements are from the top of the PVC riser pipe.
- 5. Depth to bedrock and screened interval elevations are based on field observations and measurements made during well construction.
- 6. GZ-1 through GZ-5 were installed by GZA, MW-01 to MW-03 was installed by Fuss&O'Neill, ME-1, ME-2 and ME-6 were installed by Metcalf and Eddy and AM-1 and AM-7 were installed by GeoDesign

Table 3A

Summary of Soil Analytical Data For AOC-1

Amerbelle Mills

Rockville, Connecticut

Client Id:	AOC 1-1 (8-10) AOC 1-2 (8-10)	AOC 1-2 (8-10)		CT RSR Criteria	Criteria	
Depth (feet):	8-10	8-10	טבע מ	030 0/1	OF DIACO	CD DMC
Date:	3/30/2015	3/30/2015	N-DEC	I/C DEC	UA LIMIC	UD LIVIC
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)	Hydrocarbons (E'	TPH) (mg/kg)				
ЕТРН	74	340	500	2,500	500	2,500
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)	carbons (PAHs) (1	mg/kg)				
PAHs	< 0.25	< 0.24	Varies	Varies	Varies	Varies
Aromatic Volatiles Organic Compounds (AVOCs) (mg/kg)	OMP) (AVO	Cs) (mg/kg)				
AVOCs	< 0.0052	< 0.0045	Varies	Varies	Varies	Varies
N (2+0.0.)						

- 1. Bolded values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- DEC = Direct Exposure Criteria 3. R = Residential I/C = Industrial/Commercial
- 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 = Sample was not detected above the laboratory detection limits. 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.

Summary of Soil Analytical Data For AOC-2

Amerbelle Mills Rockville, Connecticut

Client Id:	AOC 2-1 (0.5-2)	AOC 2-2 (0.5-2)	AOC 2-3 (0.5-2)		CT RSF	CT RSR Criteria	
Depth (feet):	0.5-2	0.5-2	0.5-2	D DEC	1/C DEC	CA BMC	CD DMC
Date:	3/30/2015	3/30/2015	3/30/2015	N-DEC	IVC DEC	GA FINIC	OD LINIC
Miscellaneous/Inorganics (mg/kg)							
	t	< 2.2		1,000^	2,500^	2.8^	2,000^
Methanol	ı	20	1	√000,1	2,500^	20^	√099
Ammonia as Nitrogen	2 ¶	<27	¥ :	1,354.8^	40,880^	1>	100^
Metals, Total (mg/kg)							
Arsenic	1	2.8	4	10	10	0.05	NA
Barium	1	120	ī	4,700	140,000	1	NA
Cadmium	1,	< 0.36	ľ	34	1,000	0.005	NA
Chromium	1	14.8	1	100*	100*	0.5	NA
Lead	1	90.4	*	400	1,000	0.015	NA
Mercury	ŧ	0.12	-	20	610	0.002	NA
Selenium		< 1.4	•	340	10,000	0.05	NA
Silver	*	< 0.36	<u>0.</u>	340	10,000	0.036	NA
table Total Petroleu	m Hydrocarbons (ETPH) (mg/kg)	(
ETPH	> >6	< 54	< 56	200	2,500	200	2,500
Semi Volatiles Organic Compounds (SVOCs) (mg/kg)	Cs) (mg/kg)						
SVOCs	1	< 0.26 to < 1.1	ť	Varies	Varies	Varies	Varies
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)	Hs) (mg/kg)						
PAHs	ND < 0.25		ND < 0.26	Varies	Varies	Varies	Varies
Glycols (mg/kg)							
Ethylene glycol		< 11	-	√000,1	2,500^	20~	2,000^
Propylene glycol	1	<11	Ť.	1,000^	2,500^	20~	142^
Aromatic Volatiles Organic Compounds (AVOCs) (mg/kg)	AVOCs) (mg/kg)						
AVOCs	< 0.0053	< 0.0056	< 0.0047	Varies	Varies	Varies	Varies

- 1. Bolded values detected above laboratory detection limits.
 - 2.. CT RSR = Connectiut Remediation Standard Regulations
- - 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 = Sample was not detected above the laboratory detection limits.
 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report,
 - 7. "--" = Sample was not tested for this parameter
 - 8. * = criteria is for hexavalent chromium
- 9. ^ = Criteria are from the 2008 Draft RSR Criteria, not promulgated. In order to use these criteria, permission must be granted by the CT DEEP. 10. NA = Not applicable

Summary of Soil Analytical Data For AOC-3 Amerbelle Mills Rockville, Connecticut

	Chent Id:	Chent Id: AOC 3-1 (0.5-2)	AOC 3-2 (4-6)		CT RSF	CT RSR Criteria	
	Depth (feet):	0.5-2	4-6	D DEC	I/C DEC	CA DMC	CB DMC
	Date:	3/30/2015	3/30/2015	N-DEC	IN DEC	ONLING	OD I MIC
Miscellaneous/Inorganics (mg/kg)							
Formaldehyde		1	6.1	1,000^	2,500^	2.8^	2,000^
Methanol		ij	18	1,000^	2,500^	20~	√099
Metals, Total (mg/kg)							
Arsenic		1.7	8.0	10	10	0.05	NA
Barium		39.9	614	4,700	140,000	-	NA
Cadmium		< 0.34	< 0.41	34	1,000	0.005	NA
Chromium		11.1	44.4	100*	100*	0.5	NA
Lead		11	3.94	400	1,000	0.015	NA
Mercury		< 0.03	< 0.03	20	610	0.002	NA
Selenium		< 1.4	< 1.6	340	10,000	0.05	NA
Silver		< 0.34	< 0.41	340	10,000	0.036	NA
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)	rocarbons (E	(mg/kg)					
ЕТРН		<57	> 56	200	2,500	200	2,500
Semi Volatiles Organic Compounds (SVOCs) (mg/kg)	ds (SVOCs) (i	mg/kg)					
SVOCs		1	ND < 0.26 to < 1.1	Varies	Varies	Varies	Varies
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)	ons (PAHs) (ng/kg)					
PAHs		ND < 0.26	1	Varies	Varies	Varies	Varies
Glycols (mg/kg)							
Ethylene glycol		1	<11	√000*1	2,500^	20~	2,000^
Propylene glycol		į.	<11	1,000^	2,500^	20~	142^
Aromatic Volatiles Organic Compounds (AVOCs) (mg/kg)	OAV) spunoc	Cs) (mg/kg)					
AVOCs		< 0.0051	< 0.0048	Varies	Varies	Varies	Varies

1. Bolded values detected above laboratory detection limits.

- 2. CT RSR = Connectiut Remediation Standard Regulations
- - 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 = Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
 - 7. "--" = Sample was not tested for this parameter
- 8. * = criteria is for hexavalent chromium 9. $^{\wedge}$ = Criteria are from the 2008 Draft RSR Criteria, not promulgated. In order to use these criteria, permission must be granted by by the CT DEEP.
- NA = Not applicable

Amerbelle Mills Rockville, Connecticut

Client Id:	AOC-4-1 (4-6)	Client Id: AOC-4-1 (4-6) AOC 4-2 (0.5-2)	AOC 4-3 (0.5-2) AOC 4-4 (2-4)	AOC 4-4 (2-4)	AOC 4-5 (4-6)		CT RSR	CT RSR Criteria	
Depth (feet):	v. Š	0.5-2	0.5-2	2-4	4-6	P-DEC	TIC DEC	GA PMC	GR PMC
Date:	4/8/2015	4/16/2015	4/16/2015	4/16/2015	4/16/2015	N-DEC	777	ONLINE	
Miscellaneous/Inorganics (mg/kg	(те/ке)								
Formaldehyde	-		< 2.2		6	1,000^	2,500^	2.8^	2,000^
Methanol			< 5.0		< 5.0	1,000^	2,500^	20^	660^
Metals, Total (mg/kg)									
Arsenic	7	0.7	1.6	2.1	7	10	10	0.05	NA
Barium	83	56.6	37.8	57.1	62.3	4,700	140,000	1	NA
Cadmium	< 0.34	< 0,35	< 0.39	< 0.38	< 0.38	34	1,000	0.005	NA
Chromium	14.8	54.2	67.4	17.1	19.9	*001	*001	0.5	NA
Lead	113	9.63	11.3	18.5	13.3	400	1,000	0.015	NA
Mercury	0.12	0.09	0.07	0.05	< 0.03	20	610	0.002	NA
Selenium	< 1.4	< 1.4	< 1.6	< 1.5	<1.5	340	10,000	0.05	NA
Silver	< 0.34	< 0.35	< 0.39	6.0	9.0	340	10,000	0.036	NA
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)	um Hydrocarbou	ns (ETPH) (mg/kg)							
ЕТРН	230	< 55	470	< 57	< 54	500	2,500	200	2,500
Aromatic Volatiles Organic Com	ic Compounds (pounds (AVOCs) (mg/kg)							
1,2,4-Trichlorobenzene	< 0.0041	< 0.0054	0.017	< 6.7	<7.5	116.2	1,000	1.4	2.4
Ethylbenzene	< 0.0041	< 0.0054	0.03	< 6.7	< 7.5	500	1,000	10.1	10.1
Naphthalene	0.042	< 0.0054	< 0.005	L*9>	<7.5	1,000	2,500	5.6	56
Total Xylenes	< 0.0041	0.038	0.197	< 6.7	< 7.5	500	1,000	19,5	19.5
Semi Volatiles Organic Compounds (SVOCs) (mg/kg)	OAS) spunoduo	Cs) (mg/kg)							
SVOCs	-22		< 0.5 to < 2.1	1	< 0.26 to < 1.1	Varies	Varies	Varies	Varies
Glycols (mg/kg)									
Ethylene glycol	ī	440	< 11	1	<11	1,000^	2,500^	70√	2,000^
Propylene glycol	1	3	<11	1	<11	1,000^	2,500^	707	142^

- 1. Bolded values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- 3. R = Residential 1/C = Industrial/Commercial DEC = Direct Exposure Criteria
 - 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 =Sample was not detected above the laboratory detection limits,
- 6. Only those compounds detected are shown, For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report,
 - 7. "--" = Sample was not tested for this parameter
 - 8. * = criteria is for hexavalent chromium
- 9. ^ = Criteria are from the 2008 Draft RSR Criteria, not promulgated. In order to use these criteria, permission must be granted by the CT DEEP
 - 10. NA = Not applicable

Summary of Soil Analytical Data For AOC-5

Rockville, Connecticut Amerbelle Mills

Client Id:	AOC-5-2 (5-7)	AOC-5-3 (2-3 FT 3 INCHES)	AOC-5-4 (6-8)	AOC-5-5 (4-5.5)	AOC-5-6 (4.5-6.5)	CT	CT RSR Criteria	rria
Depth (feet):	5-7	2-3.25	8-9	4-5.5	4.5-6.5	p DEC	DEC 1/C DEC GB BMC	GP DMC
Date:	4/15/2015	4/17/2015	4/20/2015	4/17/2015	4/20/2015	K-DEC	IV DEC	GD FINE
Miscellaneous/Inorganics (mg/kg)						180		
Formaldehyde	1	:	< 2.4	6.3	1	1,000^	2,500^	2,000^
Methanol	34	3	< 5.0	< 5.0	(300)	1,000^	2,500^	√099
Ammonia as Nitrogen	1	3	< 44	<25	*	1,354.8^	40,880^	√001
Metals, Total (mg/kg)								
Arsenic	6.0	1.1	2.8	2	1.3	10	10	NA
Barium	76.5	50.2	107	36.1	9.79	4,700	140,000	NA
Cadmium	< 0.32	< 0.36	< 0.42	< 0.39	< 0.38	34	1,000	NA
Chromium	13.9	13.5	21	27	26.1	*001	100*	NA
Lead	5.66	11	8.96	11.9	6.21	400	1,000	NA
Mercury	< 0.02	< 0.03	0.05	< 0.03	< 0.03	20	610	NA
Selenium	<1.3	< 1.4	< 1.7	< 1.6	< 1.5	340	10,000	NA
Silver	< 0.32	< 0.36	< 0,42	< 0.39	< 0.38	340	10,000	NA
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)	irbons (ETPH) (mg/kg	g)						
ЕТРН	<51	< 54	09>	< 56	< 53	200	2,500	2,500
Aromatic Volatiles Organic Compounds (AVOCs) (mg/kg)	nds (AVOCs) (mg/kg)							
AVOCs	< 0.0052 to < 0.01	< 0.0049	< 0.0027 to < 0.022	< 0.0057	< 0.0035 to 0.035	Varies	Varies	Varies
Semi Volatiles Organic Compounds (SVOCs) (mg/kg)	SVOCs) (mg/kg)							
SVOCs	1	•	< 0.28 to < 1.1	< 0.27 to < 1.1		Varies	Varies	Varies
Glycols By SW8015D GLY								
Ethylene glycol	•	3.55	< 12	< 12		1,000^		$2,000^{\wedge}$
Dropylana glycol	1		< 12	<12	•	1 000	2.500^	142°

- 1. Bolded values detected above laboratory detection limits.
 - 2. CT RSR = Connectiut Remediation Standard Regulations
- - 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 = Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
 - 7. "--" = Sample was not tested for this parameter
 - 8. * = criteria is for hexavalent chromium
- 9. ^ = Criteria are from the 2008 Draft RSR Criteria, not promulgated. In order to use these criteria, permission must be granted by the CT DEEP
 - 10. NA = Not applicable

Summary of Soil Analytical Data For AOC-6

Rockville, Connecticut Amerbelle Mills

Client Id:	Client Id: AOC-6-1 (0.5-2) AOC-6-2 (0.5-2)	AOC-6-2 (0.5-2)		CT RSR Criteria	a
Depth (feet):	0.5-2	0.5-2	D DEC	790 J/1	CD DMC
Date:	4/14/2015	4/14/2015	N-DEC	VC DEC	OD FINIC
Metals, Total (mg/kg)					
Arsenic	2.1	3	10	10	NA
Barium	51.9	89.7	4,700	140,000	NA
Cadmium	< 0.33	< 0.31	34	1,000	NA
Chromium	14	16.7	100*	100*	NA
Lead	12.6	68.7	400	1,000	NA
Mercury	< 0.03	90.0	20	610	NA
Selenium	< 1.3	< 1.2	340	10,000	NA
Silver	< 0.33	< 0.31	340	10,000	NA
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)	I) (mg/kg)				
ЕТРН	< 52	< 49	500	2,500	2,500
Aromatic Volatiles Organic Compounds (AVOCs) (mg/kg)	(mg/kg)				
AVOCs	< 0.0062	< 0.005	Varies	Varies	Varies

- 1. Bolded values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- DEC = Direct Exposure Criteria 3. R = Residential I/C = Industrial/Commercial
- 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 = Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
- 7. * = criteria is for hexavalent chromium
- 8. NA = Not applicable

Table 3G

Summary of Soil Analytical Data For AOC-7 Amerbelle Mills

Rockville, Connecticut

Client Id:	Client Id: AOC-7-1 (0.5-2) AOC-7-2 (0.5-2) CT RSR Criteria	AOC-7-2 (0.5-2)	CT RSR Criter	ia	
Depth (feet):	0.5-2	0.5-2	Dau a	720 2/1	DING and
Date:	3/31/2015	3/31/2015	N-DEC	VC DEC	OD LIMO
Extractable Total Petroleum H	eum Hydrocarbons (ETPH) (mg/kg)	H) (mg/kg)			
ЕТРН	< 54	8,000	500	2,500	2,500
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)	rbons (PAHs) (mg	(kg)			
PAHs	< 0.25	< 2.5	Varies	Varies	Varies
Aromatic Volatiles Organic Compounds (AVOCs) (mg/kg)	mpounds (AVOCs) (mg/kg)			
AVOCs	< 0.0046	< 0.26	Varies	Varies	Varies

- 1. **Bolded** values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- DEC = Direct Exposure Criteria 3. R = Residential I/C = Industrial/Commercial
- 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 =Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
- 7. Yellow highlighted values exceed one or more CT RSR Criteria.

Table 3H

Summary of Soil Analytical Data For AOC-13

Rockville, Connecticut Amerbelle Mills

GB PMC 2,500 29.6 Varies 9.4 400 99 56 < 40 40 CT RSR Criteria I/C DEC 2,500^ Varies 2,500 2,500 2,500 2,500 1,000 2,500 2,500 √087 7.8^ 7.8 7.8 78 R-DEC ^000,1 Varies 1,000 1,000 000,1 1,000 1,000 500 84^ 500 8.4 < < 0.0045 to < 0.27 AOC-13-3 (0.5-2) 4/3/2015 0.0051< 0.25 0.5-2 0.73 0.59 0.662.9 1.6 1.4 2.4 83 7 < 0.0087 to <0.28 AOC-13-2 (0.5-2) 4/3/2015 < 0.0087 < 0.25 < 0.25 < 0.25 < 0.25 < 0.25 0.5-2 < 55 0.28 0.43 0.44 0.42 0.26 0.45 Halogenated Volatiles Organic Compounds (HVOCs) (mg/kg) Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg) Aromatic Volatiles Organic Compounds (AVOCs) (mg/kg) Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg) AOC-13-1 (0.5-2) < 0.0048 < 0.0048 4/3/2015 < 0.26 < 0.26 < 0.26 0.5-2 0.45 99.0 0.75 0.75 < 55 0.46 0.34 0.28 0.42 9.0 Date: Depth (feet): Indeno(1,2,3-cd)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene 1,1,1-Trichloroethane Benzo(ghi)perylene Benz(a)anthracene Benzo(a)pyrene Phenanthrene Fluoranthene Anthracene Chrysene Fluorene AVOCs Pyrene ETPH

- 1. Bolded values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 = Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
- 7. ^ = Criteria are from the 2008 Draft RSR Criteria, not promulgated. In order to use these criteria, permission must be granted by the CT DEEP.

 8. Yellow highlighted values exceed one or more CT RSR Criteria.

Table 3I

Summary of Soil Analytical Data For AOC-15 Amerbelle Mills

Rockville, Connecticut

Client Id:	Client Id: AOC-15-1 (0.25-2)	AOC-15-2 (0.25-2)	AOC-15-3 (0.5-2.5)		CT RSR Criteria	а
Depth (feet):	0.25-2	0.25-2	0.5-2.5	טבומ מ	030 0/1	Day and
Date:	3/31/2015	3/31/2015	3/31/2015	K-DEC	I/C DEC	UB PINC
Extractable Total Petroleum Hydrocarbons		(ETPH) (mg/kg)				
ETPH	1	3,300	< 59	500	2,500	2,500
Polynuclear Aromatic Hydrocarbons (PAHs) (mg/kg)	ydrocarbons (PAHs)	(mg/kg)				
Benzo(a)pyrene	< 0.3	< 1.4	0.28	1	1	1
Benzo(b)fluoranthene	0.36	< 1.4	0.44	1	7.8	1
Chrysene	< 0.3	< 1.4	0.33	84^	√08∠	9.4^
Dibenz(a,h)anthracene	< 0.3	< 1.4	< 0.28	1>	1>	1>
Fluoranthene	0.48	< 1.4	9.0	1,000	2,500	56
Pyrene	0.47	< 1.4	0.54	1,000	2,500	40
Polychlorinated Biphenyls (PCBs) (mg/kg)	yls (PCBs) (mg/kg)					
PCBs	< 0.42	< 0.4	< 0.4	1	10	NA

- 1. Bolded values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- - 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 = Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report. 7. ^ = Criteria are from the 2008 Draft RSR Criteria, not promulgated. In order to use these criteria, permission must be granted by the CT DEEP.
- Yellow highlighted values exceed one or more CT RSR Criteria.

Table 3J Summary of Soil Analytical Data For AOC-16

Rockville, Connecticut Amerbelle Mills

Client Id:	Client Id: AOC-16-1 (0.5-2)	AOC-16-1 (9-11)		CT RSR Criteria	
Depth (feet):		9-11	R-DEC	I/C DEC	GB PMC
Date:	3/31/2015	3/31/2015			
Miscellaneous/Inorganics (mg/kg)					
Ammonia as Nitrogen	ß	< 30	NE	NE	NE
Metals, Total (mg/kg)					
Arsenic	11.7	2.5	10	10	NA
Barium	81.8	129	4,700	140,000	NA
Cadmium	< 0.38	< 0.45	34	1,000	NA
Chromium	11	22.6	*001	100*	NA
Lead	55.8	33.2	400	1,000	NA
Mercury	0.03	0.21	20	610	NA
Selenium	< 1.5	< 1.8	340	10,000	NA
Silver	< 0.38	< 0.45	340	10,000	ŅĀ
Metals, Synthetic Precipitate Leaching Procedure (SPL.P) (mg/L)	ning Procedure (SPI	LP) (mg/L)			
Arsenic	0.025		NA	NA	0.5
Barium	0.035		NA	NA	10
Cadmium	< 0.005	- The state of the	NA	NA	0.05
Chromium	< 0.010	ŧij.	NA	NA	1
Lead	0.047	*	NA	NA	0.15
Mercury	< 0.0005		NA	NA	0.02
Selenium	< 0.020	10	NA	NA	0.50
Silver	< 0.010		NA	NA	0.36
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)	ocarbons (ETPH) (1	ng/kg)			
ЕТРН	1	< 62	500	2,500	2,500

- 1. Bolded values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- - 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 =Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
 - 7. * = criteria is for hexavalent chromium
- 8. Yellow highlighted values exceed one or more CT RSR Criteria.
 - 9. "--" = Sample was not tested for this parameter 10. NA = Not Applicable

Table 3K

Summary of Soil Analytical Data For AOC-17

Amerbelle Mills Rockville, Connecticut

Client Id:	Client Id: A0C-17-1 2-4 FT		CT RSR Criteria	
Depth (feet):	2-4	טבע מ	044.0/1	Op to do
Date:	4/6/2015	K-DEC	I/C DEC	GB PMC
Extractable Total Petroleum Hydrocarbons (ETPH) (mg/kg)	carbons (ETPH) (mg/kg	(S		
ЕТРН	<55	500	2,500	2,500
Halogenated Volatiles Organic Com	ganic Compounds (HVOCs) (mg/kg)	kg)		
HVOCs	< 0.0057 to < 0.011	Varies	Varies	Varies

- 1. CT RSR = Connectiut Remediation Standard Regulations
- DEC = Direct Exposure Criteria 2. R = Residential I/C = Industrial/Commercial
 - 3. GB PMC = GB Pollutant Mobility Criteria
- 4. < 0.005 = Sample was not detected above the laboratory detection limits.
- 5. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.

Table 3LSummary of Soil Analytical Data For AOC-18

Amerbelle Mills Rockville, Connecticut

Client Id:	AOC-18-1 (0.8-2.8)	AOC-18-1 (7-9)	AOC-18-2 (0.5-2.5)	AOC-18-2 (5.5-7.5)	AOC-18-3 (0.5-2.5)	AOC-18-3 (8-10)	AOC-18-4 (0.5-2)	AOC-18-4 (10-12)	A0C-18-5 (0.5-2)	A0C-18-5 (14-16)	СТ	RSR Crite	eria
Depth (feet):	0.8-2.8	7-9	0.5-2.5	5.5-7.5	0.5-2.5	8-10	0.5-2	10-12	0.5-2	14-16	D DEC	I/C DEC	GB PMC
Date:	4/3/2015	4/3/2015	4/3/2015	4/3/2015	4/3/2015	4/3/2015	4/3/2015	4/3/2015	4/6/2015	4/6/2015	K-DEC	I/C DEC	GB FIVIC
	Petroleum Hydrocarbo										500	2.500	2.500
ETPH	< 53	< 52	110	< 53	< 55	150	1,800	< 54	< 54	< 53	500	2,500	2,500
Halogenated Volati	iles Organic Compoun	ds (HVOCs) (mg/kg)											
HVOCs	< 0.0046 to < 0.0096	< 0.0044 to < 0.0088	< 0.0047 to < 0.0093	< 0.0057 to < 0.011	< 0.0056 to < 0.011	< 0.0053 to < 0.011	< 0.0062 to < 0.012	<0.0047 to <0.0095	<0.0045 to <0.009	< 0.0051 to < 0.01	Varies	Varies	Varies

- 1. **Bolded** values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- 3. R = Residential I/C = Industrial/Commercial DEC = Direct Exposure Criteria
- 4. GB PMC = GB Pollutant Mobility Criteria
- 5. < 0.005 =Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
- 7. Yellow highlighted values exceed one or more CT RSR Criteria.

Table 3MSummary of Soil Analytical Data For AOC-19

Amerbelle Mills Rockville, Connecticut

Client Id:	A0C-19-1 0.5-2 FT	A0C-19-1 8-10 FT	A0C-19-2 0.5-2 FT	C-19-2 0.5-2 FT A0C-19-2 6-7.5 FT A0C-19-3 5-7 FT A0C-19-4 0.5-2 FT A0C-19-4 10-12 FT A0C-19-5 8-10 FT		СТ	RSR Crite	eria			
Depth (feet):	0.5-2	8-10	0.5-2	6-7.5	5-7	0.5-2	10-12	8-10	D DEC	L/C DEC	CD DMC
Date:	4/6/2015	4/6/2015	4/6/2015	4/6/2015	4/6/2015	4/6/2015	4/6/2015	4/6/2015	R-DEC	I/C DEC	GB PMC
Extractable Total Petroleum Hydrocarbons (ETPH) (mg	/kg)										
ЕТРН	< 54	1,200	410	2,200		3,200	1,000	10,000	500	2,500	2,500
Halogenated Volatiles Organic Compounds (HVOCs) (m 1,2-Dichlorobenzene	eg/kg) < 0.0048	< 0.0054	< 0.0053	< 0.29	< 0.0043	< 0.26	< 0.33	< 0.27	500	1,000	3.1
Chloroform	< 0.0048	< 0.0054	< 0.0053	< 0.0045	< 0.0043	< 0.0061	< 0.0056	< 0.27	100	940	1.2
cis-1,2-Dichloroethene	< 0.0048	< 0.0054	< 0.0053	< 0.0045	< 0.0043	< 0.0061	< 0.0056	< 0.27	500	1,000	14
Tetrachloroethene	< 0.0048	< 0.0054	< 0.0053	0.029	< 0.0043	1.1	0.0078	5.6	12	110	1
Trichloroethene	< 0.0048	< 0.0054	< 0.0053	< 0.0045	< 0.0043	0.0064	< 0.0056	< 0.27	56	520	1
Vinyl chloride	< 0.0048	< 0.0054	< 0.0053	< 0.0045	< 0.0043	< 0.0061	< 0.0056	< 0.27	0.32	3	0.4

Client Id:	A0C-19-5 13.5-15.5 FT	A0C-19-6 0.5-2 FT	A0C-19-6 4.5-6.5 FT	A0C-19-7 2-4 FT	A0C-19-7 6-8 FT	AOC-19-8 (0.5-2.5)	AOC-19-9 (0.5-2.5)	CT R	SR Criteria	THE WILLIAM
Depth (feet):	13.5-15.5	0.5-2	4.5-6.5	2-4	6-8	0.5-2.5	0.5-2.5	D DEC	L/C DEC	CD DMC
Date:	4/6/2015	4/6/2015	4/6/2015	4/6/2015	4/6/2015	4/9/2015	4/9/2015	R-DEC	I/C DEC	GB PMC
Extractable Total Petroleum Hydrocarbons (ETPH) (m	g/kg)									
ЕТРН	7,900	33,000	1,300	4,000	< 76	< 53	< 53	500	2,500	2,500
Halogenated Volatiles Organic Compounds (HVOCs) (1	mg/kg)									
1,2-Dichlorobenzene	< 0.29	0.38	< 0.3	< 0.28	< 0.4	< 0.0052	< 0.0068	500	1,000	3.1
Chloroform	< 0.0047	0.33	< 0.0064	< 0.28	< 0.4	< 0.0052	< 0.0068	100	940	1.2
cis-1,2-Dichloroethene	0.067	< 0.014	< 0.0064	< 0.28	< 0.4	< 0.0052	< 0.0068	500	1,000	14
Tetrachloroethene	0.077	13	2.5	1,700	1,200	0.39	4.4	12	110	1
Trichloroethene	0.051	0.28	0.0079	< 0.28	< 0.4	< 0.0052	< 0.0068	56	520	1
Vinyl chloride	0.0059	< 0.014	< 0.0064	< 0.28	< 0.4	< 0.0052	< 0.0068	0.32	3	0.4

- 1. **Bolded** values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- 3. R = Residential I/C = Industrial/Commercial DEC = Direct Exposure Criteria
- 4. GB PMC = GB Pollutant Mobility Criteria
- 5. ND < 0.005 = Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
- 7. Yellow highlighted values exceed one or more CT RSR Criteria.

Table 3NSummary of Soil Analytical Data For AOC-20

Amerbelle Mills Rockville, Connecticut

Client Id:	AOC-20-1 (9-11)	AOC-20-2 (0.5-2)	AOC-20-2 (24-27)	AOC-20-3 (0.5-2)	СТ	RSR Crit	eria
Depth (feet):	9-11	0.5-2	24-27	0.5-2			
Date:	3/31/2015	3/31/2015	4/3/2015	3/31/2015	R-DEC	I/C DEC	GB PMC
F-4							
Extractable Total Petroleum			0.000				
ЕТРН	< 57	< 52	2,200	< 55	500	2,500	2,500
Polynuclear Aromatic Hydro	carbons (PAHs) (n	ng/kg)					
Anthracene	0.52	< 0.25		< 250	1,000	2,500	400
Benz(a)anthracene	11	0.38		< 250	1	7.8	1
Benzo(a)pyrene	0.58	0.38	=# 0	< 250	1	1	1
Benzo(b)fluoranthene	0.83	0.51	22 1	< 250	1	7.8	1
Benzo(ghi)perylene	< 0.27	0.26		< 250	1,000^	2,500^	29.6^
Benzo(k)fluoranthene	0.28	< 0.25		< 250	8.4	78	1
Chrysene	0.92	0.38		< 250	84^	780^	9.4^
Fluoranthene	1.7	0.69		< 250	1,000	2,500	56
Phenanthrene	2.7	0.43		< 250	1,000	2,500	40
Pyrene	1.2	0.61		< 250	1,000	2,500	40
Aromatic Volatiles Organic (Compounds (AVOC	Cs) (mg/kg)					
AVOCs	##8	755	ND < 0.0083 to < 0.36		Varies	Varies	Varies
Halogenated Volatiles Organ	ic Compounds (HV	OCs) (mg/kg)					
1,2-Dichloroethane	< 0.0035	0.024	< 0.0083	< 0.0049	6.7	63	0.2
cis-1,2-Dichloroethene	0.0042	< 0.0045	< 0.0083	< 0.0049	500	1,000	14
Tetrachloroethene	0.019	0.022	1.1	< 0.0049	12	110	1
Trichloroethene	< 0.0035	0.0045	0.016	< 0.0049	56	520	1

- 1. **Bolded** values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- 3. R = Residential I/C = Industrial/Commercial DEC = Direct Exposure Criteria
- 4. GB PMC = GB Pollutant Mobility Criteria
- 5. ND < 0.005 = Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
- 7. "--" = Sample was not tested for this parameter
- 8. ^ = Criteria are from the 2008 Draft RSR Criteria, not promulgated. In order to use these criteria, permission must be granted by the CT DEEP.

Table 30Summary of Site SPLP Data

Amerbelle Mills Rockville, Connecticut

	For Samples V	Vhere Total And SPLP Were	Laboratory Analyzed	Maximum Site		CT RSR Criteria
Analyte	Number Of Samples Where Total And	Total Concentration Range	SPLP Concentration Range	Concentration Observed In Soil Borings	Maximum Site Concentration Within Range Analyzed By	GB PMC
	SPLP Analyzed	(mg/kg)	(mg/L)	(mg/kg)	SPLP	GBTMC
Metals						ing and then
Antimony	7	ND	ND	ND	Yes	0.06
Arsenic	10	ND - 54.4	ND-0.0686	122	No	0.5
Barium	9	58-2,310	0.0271-0.138	2,310	Yes	10
Beryllium	7	ND-0.32	ND-0.048	0.32	Yes	0.04
Cadmium	9	ND-3.66	ND	3.66	Yes	0.05
Chromium	11	9.4-77.8	0.0053-0.136	77.8	Yes	50
Copper	8	12.6-304	ND-0.0855	304	Yes	13
Lead	14	5-6,030	ND-0.127	6,030	Yes	0.15
Mercury	4	1.13-1.36	ND	1.36	Yes	0.02
Nickel	8	5-42	ND-0.0115	42	Yes	1
Selenium	9	ND-26	ND-0.0087	26	Yes	0.5
Silver	8	ND	ND	0.9	No	0.36
Thallium	7	ND-1.9	ND	1.9	Yes	0.05
Vanadium	7	21.5-34.9	0.0059-0.142	34.9	Yes	0.5
Zinc	7	24.7-66.8	ND	66.8	Yes	50
Extractable Total Petr	oleum Hydrocarbons (E	TPHO				THE RESIDENCE
ЕТРН	2	2,400-3,900	ND	33,000	No	2,500
Polynuclear Aromatic	Hydrocarbons (PAHs)					L AVE
2-Methylnaphthalene	4	ND	ND	ND	Yes	5.5^
Acenaphthene	4	ND-3.2	ND	3.2	Yes	30^
Acenaphthylene	4	ND	ND	ND	Yes	84
Anthracene	4	ND-3.5	ND	3.5	Yes	400
Benz(a)anthracene	4	1.6-11	ND	11	Yes	1
Benzo(a)pyrene	4	1.6-10	ND	10	Yes	1
Benzo(b)fluoranthene	4	2.4-12	ND	12	Yes	1
Benzo(ghi)perylene	4	1.2-8.7	ND	8.7	Yes	29.6^
Benzo(k)fluoranthene	4	1.4-5.9	ND	5.9	Yes	1
Chrysene	4	1.5-11	ND	11	Yes	9.4^
Dibenz(a,h)anthracene	4	ND-2.1	ND	2.1	Yes	1^
Fluoranthene	4	2.9-16	ND	16	Yes	56
Fluorene	4	ND-2.1	ND	2.1	Yes	56
Indeno(1,2,3-cd)pyrene	4	1-6.7	ND	6.7	Yes	3^
Naphthalene	4	ND	ND	ND	Yes	56
Phenanthrene	4	ND-14	ND-0.0011	14	Yes	40
Pyrene	4	2.8-12	ND	ND	Yes	40

- 1. Samples collected by GZA in 2015 and by others prior to 2015
- 2. NA = Not Applicable ND = Not Detect
- 3. SPLP = Synthetic Precipitation Leaching Procedure
- 4. ^ = Criteria are from the 2008 Draft RSR Criteria, not promulgated. In order to use these criteria, permission must be granted by the CT DEEP.
- 5. CT RSR = Connectiut Remediation Standard Regulations
- 6. GB PMC = GB Pollutant Mobility Criteria

Table 4Soil Vapor Summary Table

Amerbelle Mills Vernon, Connecticut

Location				a di cas		AOC-	19 Building	No. 11			1000	THE ASSESSMENT			AOC-	-18 Building	No. 8		2013	RSRs
Client Id	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	SV-7	SV-8	SV-9	SV-9	SV-9	SV-15	SV-16	SV-10	SV-11	SV-12	SV-13	SV-14	R-SVVC	I/C-SVVC
Collection Date	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/26/2015	3/27/2015	3/27/2015	3/26/2015	3/26/2015	3/27/2015	3/27/2015	3/27/2015	K-SVVC	1/0-3440
Method TO-15 Volatiles Orga	nic Compou	nds (ppbv)								5 3 3 37			1 11		7-7					
1,1,1-Trichloroethane	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	0.652	1.07	0.67	0.615	< 0.500	1,310,000	4,520,000
1,2,4-Trimethylbenzene	2.83	2.9	0.858	0.841	1.45	1.47	0.702	1.15	0.712	0.675	0.732	1.61	1.17	0.574	0.618	2.52	1.13	1.28	NE	NE
1,3,5-Trimethylbenzene	0.76	0.782	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	0.514	< 0.500	< 0.500	< 0.500	0.862	< 0.500	< 0.500	NE	NE
4-Ethyltoluene	0.854	0.866	< 0.500	< 0.500	0.51	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	0.52	< 0.500	< 0.500	< 0.500	0.814	< 0.500	< 0.500	NE	NE
4-Methyl-2-pentanone(MIBK)	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	0.656	< 0.500	0.712	< 0.500	< 0.500	< 0.500	< 0.500	1.35	< 0.500	0.531	0.776	0.608	0.724	140,000	480,000
Acetone	28	31.5	36.9	46.9	113	99.1	25.8	67.6	38.1	38.2	50.8	15.8	35.8	19.5	36.1	74.8	80.2	60.8	2,400,000	8,250,000
Benzene	0.662	< 0.500	< 0.500	< 0.500	< 0.500	0.501	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	1.8	1.16	< 0.500	0.902	3.46	3.15	2.62	1,000	113,000
Bromodichloromethane	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	0.622	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	NE	NE
Carbon Disulfide	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	0.608	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	1.68	0.869	0.5	< 0.500	< 0.500	NE	NE
Chloroform	1.19	0.758	< 0.500	0.785	< 0.500	< 0.500	4.31	0.756	0.691	0.651	0.789	12.2	< 0.500	1.28	0.572	< 0.500	1.52	< 0.500	4,500	10,400
Cis-1,2-Dichloroethene	5.56	1.96	2.49	0.912	3.53	3.06	5.57	15.8	8.94	8.84	10.3	4.66	6.85	0.56	< 0.500	< 0.500	< 0.500	< 0.500	NE	NE
Cyclohexane	0.795	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	0.913	< 0.500	< 0.500	< 0.500	1.17	1.49	0.753	NE	NE
Dichlorodifluoromethane	< 0.500	0.514	0.53	< 0.500	0.546	< 0.500	< 0.500	0.555	0.5	0.51	0.532	0.678	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	NE	NE
Ethanol	10.2	42.8	71.3	150	234	150	75.7	96.3	127	147	105	31.1	48.5	39.3	53.5	33.2	26.2	33.7	NE	NE
Ethylbenzene	2.38	2.04	7.81	0.512	1.84	1.86	< 0.500	1.11	< 0.500	< 0.500	< 0.500	2.52	1.53	< 0.500	< 0.500	4.57	1.92	1.91	1,650,000	5,672,000
Heptane	0.879	0.68	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	1.64	0.949	< 0.500	1.03	3.14	2.89	1.88	NE	NE
Hexane	0.839	0.598	0.725	< 0.500	< 0.500	< 0.500	< 0.500	0.58	0.635	< 0.500	< 0.500	2.03	1.22	< 0.500	2.01	3.85	3.81	3.17	NE	NE
Isopropylalcohol	15.6	4.54	15.8	16.7	147	31.8	46.4	243	385	350	406	98.6	630	179	146	282	154	247	NE	NE
Methyl Ethyl Ketone	7.68	32.5	38.2	43.4	118	77.7	14.9	61.3	24.5	23.1	29.5	1.35	3.38	0.803	2.66	10.5	11.8	1.7	2,400,000	8,285,000
Methylene Chloride	< 0.500	< 0.500	0.549	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	1,200,000	2,907,000
Propylene	1.73	< 0.500	1.35	5.61	0.533	1.66	4.22	1.25	1.29	1.34	1.45	4.84	3.64	7.65	7.48	13.5	14	9.74	NE	NE
Tetrachloroethene	15.6	7.5	11.7	75.5	14.1	135	711	469	205	161	343	756	70.7	3.73	1.77	2.15	5.48	4.07	11,000	27,000
Tetrahydrofuran	3.64	9.3	6.7	10.4	33.8	18	3.05	19.7	5.3	4.72	7.09	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	NE	NE
Toluene	7.72	6.29	6.9	1.43	5.07	5.58	0.873	2.83	1.26	1.33	1.4	15.5	8.35	1.17	1.96	25.5	15.9	15	760,000	2,615,000
Trans-1,2-Dichloroethene	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	0.739	1.28	0.927	0.942	1.06	0.698	0.605	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	NE	NE
Trichloroethene	2.97	0.742	0.782	2.52	1.65	12.9	32.2	79.7	42.5	41.3	54.9	28.8	14.8	< 0.500	< 0.500	< 0.500	0.636	< 0.500	7,000	16,000
Xylenes	11.81	10.48	42.7	2.969	8.91	8.6	2.109	5.61	2.317	2.256	2.381	12.37	8.63	2.484	2.984	21.53	9.37	9.76	500,000	1,702,000
Total VOCs	121.70	156.75	245.29	358.48	683.94	548.50	927.57	1068.86	844.67	781.86	1014.93	994.14	838.63	258.38	260.06	485.51	334.72	394.11	NA	NA

- 1. Soil vapor results in parts per billion by volume (ppbv)
- 2. 2013 RSRs = 2013 Connecticut Remediation Standard Regulations
- 3. R-SVVC = Residential Soil Vapor Volatilization Criteria I/C-SVVC = Industrial/Commercial Soil Vapor Volatilization Criteria
- 4. NA = Not Applicable
- 5. NE = Not Established
- 6. **Bolded** cells were detected above laboratory reporting limits
- 7. < 0.500 = Results are non-detect above the laboratory minimum reporting limit.

Table 5 Summary of Groundwater Analytical Data AOC-23

Amerbelle Mills Rockville, Connecticut

Client Id	AM-1	AM-7	ME-1	ME-2	ME-6	5 (12)	MW-01	MW-02	MW-03	GZ-1	1 (12)	GZ-2		GZ-3	GZ-4	C	T RSR Criter	ia
Collection Date	4/30/2015	4/30/2015	4/30/2015	4/30/2015	4/30/2015	5/18/2015	4/30/2015	4/30/2015	4/30/2015	4/30/2015	5/18/2015	4/30/2015	5/18/2015	4/30/2015	4/30/2015	SWPC	R-GWVC	I/C-GWVC
		4/30/2013	1/30/2013	1130/2010	113012015	0/10/2010												
Miscellaneous/Inorganics	Y-10		< 0.01	0.047				< 0.01	< 0.01	< 0.01	T	< 0.01			I 1	0.013^	NE	NE
Aniline			< 0.01	< 0.05				V 0.01			-	20.07	722			10^	NE	NE
Formaldehyde			< 1.0	< 0.03			22	100	222				**	**		3.3^	NE	NE
Methanol	0,21	5555 1953	< 0.05	4.8				0.13	< 0.05	0.06	**	0.27		(122)		10^	NE	NE
Ammonia as Nitrogen	-	<u> </u>	< 0.03	0.027			**	< 0.015	< 0.03	< 0.015		< 0.015	440			10^	NE	NE
Phenolics		##S	0.013	0.027		7.5	775	V 0,015	V 0.015	10.015		1 0.015						
Metals, Total (mg/L)	I 0.01	0.000	L < 0.004	< 0.004	< 0.004		< 0.004	< 0.004	< 0.004	< 0.004		< 0.004		< 0.004	< 0.004	0.004	NE	NE
Arsenic	0.01	0.009	< 0.004	< 0.004 0.027	0.004		0.004	0.036	0.232	0.113		0.338		0.113	0.765	2.2^	NE	NE
Barium	0.076	1.13	0.307				< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	**	< 0.001	0.001	0.006	NE	NE
Cadmium	< 0.001	0.005	< 0.001	< 0.001	< 0.001		< 0.001	0.001	0.003	< 0.001		0.006	-	< 0.001	0.001	0.110*	NE	NE
Chromium	0.004	0.035	0.002	0.046	0.002				0.003	< 0.001		0.014		< 0.001	0.005	0.048	NE	NE
Copper	0.016	1.1	0.009	0.016	0.005	- 55	< 0.005	0.005 < 0.002	< 0.002	< 0.003		< 0.002		0.003	< 0.002	0.013	NE	NE
Lead	0.031	0.835	< 0.002	< 0.002	< 0.002		< 0.002				-	< 0.002	375	< 0.002	< 0.002	0.0004	NE	NE
Mercury	< 0.0002	0.0016	< 0.0002	< 0.0004	< 0.0002	***	< 0.0002	< 0.0002	< 0.0002	< 0.0002 < 0.010		< 0.0002		< 0.0002	< 0.0002	0.000	NE	NE
Selenium	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010		< 0.010	< 0.010	< 0.010			< 0.010		< 0.010	< 0.010	0.012	NE NE	NE
Silver	< 0.001	0.005	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001	< 0.001		0.018	77. 92:	0.001	0.068	0.123	NE	NE
Zinc	0.062	2.98	0.097	0.071	0.004		0.005	0.015	0.037	< 0.002		0.018		0.002	0.000	0.123	NE	IVE
Volatiles Organic Compou	inds (VOCs										_				24	1,260	8,000	19,600
1,1,2-Trichloroethane		< 1.0	220	7257	< 1.0		< 1.0	4#	2.000		3-6		***	***		1,200 NE	NE	19,000 NE
1,2,3-Trichlorobenzene		< 1.0	**	**	1.6	< 5.0	< 1.0	575	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	50^	122^	1.485^
1,2,4-Trichlorobenzene		< 1.0	550	0.77	19	< 5.0	< 1.0		< 1.0	322	< 1.0	••	< 1.0	< 1.0	< 1.0			50,000
1,3-Dichlorobenzene		< 1.0	##:		3.6	< 5.0	< 1.0	:	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	26,000	24,200 928^	11,472^
cis-1,2-Dichloroethene	-	< 1.0	##E		160		< 1.0				722			25	< 1.0	6,200^		3,820
Tetrachloroethene		1.8		(22)	29	32	< 1.0		••	1000				55	5,900	88	1,500	
trans-1,2-Dichloroethene		< 1.0	441		1.9	199	< 1.0	1776). *** /	155			- 12	< 1.0	5,600^	536^	6,673^ 540
Trichloroethene	155	< 1.0	22.0	0. 5 0	15	24	< 1.0			700		-	**	**	< 1.0	2,340	219	2
Vinyl chloride		< 1.0	£23		41	**	< 1.0	**	FF:	(990)	255				< 1.0	15,750		
Semi Volatiles Organic Co	ompounds (SVOCs) (u												1 0.10	1 .0.10	0.2	10.0254	50,000^
Acenaphthylene	< 0.10	0.66	< 0.05	< 0.05	< 0.10	- 44	< 0.10	< 0.05	< 0.05	< 0.05		< 0.05	**	< 0.10	< 0.10	0.3	48,935^	
Acenaphthene	< 0.05	0.13	< 0.05	< 0.05	< 0.05	:##	<0.05	< 0.05	< 0.05	< 0.05	1.55	< 0.05		< 0.05	<0.05	150^	33,383^	50,000^
Anthracene	< 0.10	1.2	0.04	0.08	< 0.10		< 0.10	< 0.02	0.02	0.09	344	0.05		< 0.10	< 0.10	1,100,000	50,000^	50,000^
Benzo(a)anthracene	0.06	5.9	0.08	0.06	0.02	:**	< 0.02	0.03	0.04	0.04	(m)	0.03	-55	0.02	0.02	0.3	NE	NE NE
Benzo(a)pyrene	0.06	5.4	0.07	< 0.02	< 0.02	127	< 0.02	< 0.02	< 0.02	< 0.02	722	< 0.02	22	< 0.02	< 0.02	0.3	NE	
Benzo(b)fluoranthene	0.09	8	0.13	< 0.02	< 0.02	~	< 0.02	< 0.02	0.04	0.02	: ***	< 0.02		< 0.02	< 0.02	0.3	NE NE	NE NE
Benzo(ghi)perylene	< 0.10	4.1	< 0.50	< 0.50	< 0.10		< 0.10	< 0.50	< 0.50	< 0.50	15777.7	< 0.50		< 0.10	< 0.10	4.92^		
Benzo(k)fluoranthene	0.03	2.8	0.04	< 0.02	< 0.02		< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.02		< 0.02	< 0.02	0.3	NE NE	NE
Chrysene	0.06	6.3	0.07	0.03	< 0.02	**	< 0.02	< 0.02	0.02	0.02	**	< 0.02	***	< 0.02	< 0.02	47^	NE	NE
Fluoranthene	0.11	13	0.2	0.05	< 0.10		< 0.10	< 0.04	< 0.04	< 0.04	7220	< 0.04		< 0.10	< 0.10	3,700	NE 27.6424	NE
Fluorene	< 0.10	0.27	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10		< 0.10		< 0.10	< 0.10	140,000	37,642^	50,000^
Indeno(1,2,3-cd)pyrene	0.04	3.5	0.06	< 0.02	< 0.02	2	< 0.02	< 0.02	0.03	< 0.02	1550	< 0.02		< 0.02	< 0.02	14.8^	NE 2504	NE 2 0000
Naphthalene	< 0.10	0.15	< 0.10	0.21	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10	-	< 0.10		< 0.10	< 0.10	210^	259^	3,099^
Phenanthrene	< 0.07	5.1	0.06	< 0.05	< 0.07	544	< 0.07	< 0.05	< 0.05	< 0.05	5 48 8	< 0.05	125	< 0.07	< 0.07	0.077	50,000^	50,000^
Рутепе	0.11	9.8	0.17	0.04	< 0.10	3#5	< 0.10	< 0.02	< 0.02	< 0.02	77220	0.03	122	< 0.10	< 0.10	110,000	NE	NE
2-Methylphenol (o-cresol)			< 1.0	2	/ ##	744	(22	< 1.0	< 1.0	< 1.0	(**)	< 1.0	2 98		255	670^	NE	NE
Dimethylphthalate	144	**	< 5.0	9.9	HE:	· ***	1.77	< 5.0	< 5.0	< 5.0	-77	< 5.0				3,100^	NE	NE

- 1. Bolded values detected above laboratory detection limits.
- 2. CT RSR = Connectiut Remediation Standard Regulations
- 3. R = Residential I/C = Industrial/Commercial GWVC = Groundwater Volatilization Criteria
- 4. SWPC = Surface Water Protection Criteria
- 5. < 0.005 =Sample was not detected above the laboratory detection limits.
- 6. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
- 7. "--" = Sample was not tested for this parameter
- 8. * = criteria is for hexavalent chromium. There is no SWPC for total chromium.
- 9. ^ = Criteria are from the 2008 Draft RSR Criteria, not promulgated. In order to use these criteria, permission must be granted by the CT DEEP
- 10. NE = Non Existent
- 11. Yellow highlighted values exceed one or more CT RSR Criteria.
- 12. Groundwater from these 3 wells was sampled for aromatic VOCs on 5/18/15.

Table 6 Summary of Sediment Analytical Data AOC-25

Amerbelle Mills Rockville, Connecticut

	Sediment		A	merican Mill Por	ıd		Paper Mill Pon	d
Sample ID	Sampling		AOC-25 SED-1	AOC-25 SED-2	AOC-25 SED-3	AOC-25 SED-4		
Sample Interval	Benchmark	Units	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft	0-0.5 ft
Sample Date	(mg/kg)		04/22/15	04/22/15	04/22/15	04/22/15	04/22/15	04/22/15
Lab Sample ID			BJ06364	BJ06365	BJ06366	BJ06367	BJ06368	BJ06369
3050B/6000/7000 Total M	letals							
Arsenic	9.79	mg/kg	1,7	2.8	2.4	1	3.4	5.6
Barium	NE	mg/kg	46.2	303	83.3	47.5	62.8	72.5
Cadmium	0.99	mg/kg	1.14	3.41	0.93	< 0.42	< 0.52	< 0.99
Chromium	43.4	mg/kg	24.4	38.8	45.7	8.49	19.7	24.5
Lead	35.8	mg/kg	67.4	1,200	294	95.4	61	171
Mercury	0.18	mg/kg	0.26	12.6	0.16	< 0.04	0.13	0.26
Selenium	NA	mg/kg	< 1.7	< 2.4	< 2.7	< 1.7	< 2.1	< 4.0
Silver	NA	mg/kg	< 0.42	< 0.59	< 0.68	< 0.42	< 0.52	< 0.99
8270C(SIM) Polynuclear	Aromatic Hyd	lrocarbon	s					
Anthracene	0.0572	mg/kg	0.021	1.1	0.2	9,3	0.091	2.3
Benz(a)anthracene	0.108	mg/kg	0.046	4.5	0.65	21	0.26	4.6
Benzo(a)pyrene	0.15	mg/kg	0.062	4.1	0.75	19	0.37	4
Benzo(b)fluoranthene	10.4	mg/kg	0.088	6.4	1	25	0.54	5.5
Benzo(ghi)perylene	0.17	mg/kg	0.06	1.6	0.53	5.7	0.2	1.9
Benzo(k)fluoranthene	0.24	mg/kg	0.033	2.2	0.38	8.5	0.2	1.5
Bis(2-ethylhexyl)phthalate	182	mg/kg	0.039	2.3	0.28	< 3.2	0.021	0.13
Chrysene	0.166	mg/kg	0.058	4.8	0.74	18	0.34	4.2
Fluoranthene	0.423	mg/kg	0.15	10	1.3	43	0.75	9.2
Indeno(1,2,3-cd)pyrene	0.2	mg/kg	0.047	1.5	0.46	5.4	0.18	1.8
Phenanthrene	0.204	mg/kg	0.065	7.8	0.82	28	0.38	9.1
Pyrene	0.195	mg/kg	0.13	7.5	1.1	37	0.77	7.1
2-Methylnaphthalene	0.0202 ⁽⁵⁾	mg/kg	< 0.0079	0.077	< 0.012	< 3.2	0.018	0.23
Acenaphthene	0.00671	mg/kg	0.014	0.64	0.067	3.2	0.023	0.99
Acenaphthylene	0.00587	mg/kg	0.01	0.11	0.062	4.8	0.08	0.5
Dibenz(a,h)anthracene	0.033	mg/kg	0.012	0.65	0.13	< 3.2	0.049	0.53
Fluorene	0.0774	mg/kg	0.013	0.48	0.062	5	0.041	1.5
Naphthalene	0.176	mg/kg	0.037	0.09	0.022	< 3.2	0.042	0.42
Classical Chemistry				7. 7				
Ammonia as Nitrogen	NA	mg/kg	< 4.7	< 20	< 35	< 17	< 40	< 39
Phenolics	NA	mg/kg	< 0.90	< 1.5	< 1.4	< 1.0	< 1.3	< 2.1
Total Organic Carbon	NE	mg/kg	18,000	48,000	68,000	30,000	52,000	140,000

Blue The compound is undetected, however the Method Reporting limit is greater than the Laboratory Reporting Limit Result exceeds sediment benchmark

Bolded

The compound was detected above laboratory detection limits.

NOTES:

NE = Criteria is has not been established.

NA = Not Applicable

Detection limits for soil/sediment samples are variable depending on percent solid results.

- 1. Sediment samples were collected by GZA on April 22, 2015
- 2. Sediment benchmark reference value sources are as follows:

Jones, D.S., G.W. Suter II, and R.N. Hull, 1997. Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment-Association. MacDonald, D.D., C.G. Ingersoll, and T.A. Berger, 2000. Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ec United Staes Environmental Protection Ageny, 2003. U.S. EPA, Region 5, RCRA, Ecological Screening Levels, available at: http://www.epa.gov/reg5rcra/ca Sediment sampling benchmark reference values are the Threshold Effect values or the lowest of reported values provide by the sources listed above.

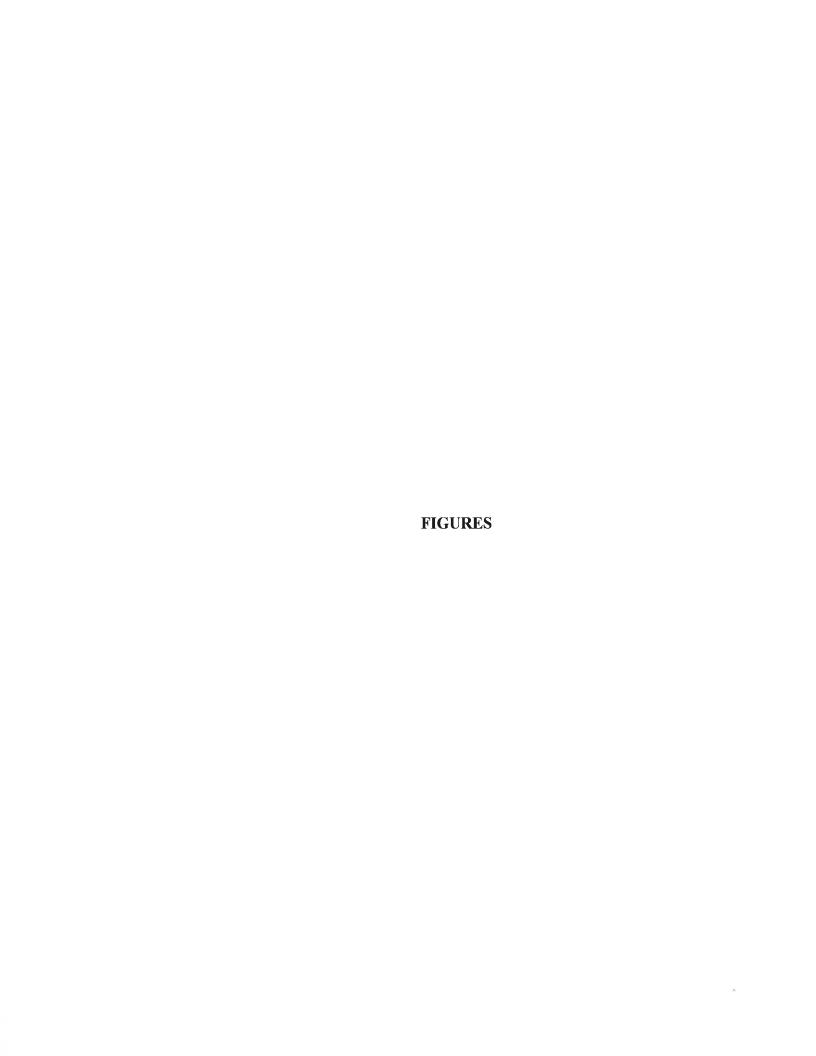
- (a) Oak Ridge National Laboratories Tier II Chronic Freshwater value.
- (b) USEPA Natatioanally Recommended Water Quality Criteria (NRWQC).
- 3. EPA Region 5 Ecological Screening Levels used where no benchmark were established.

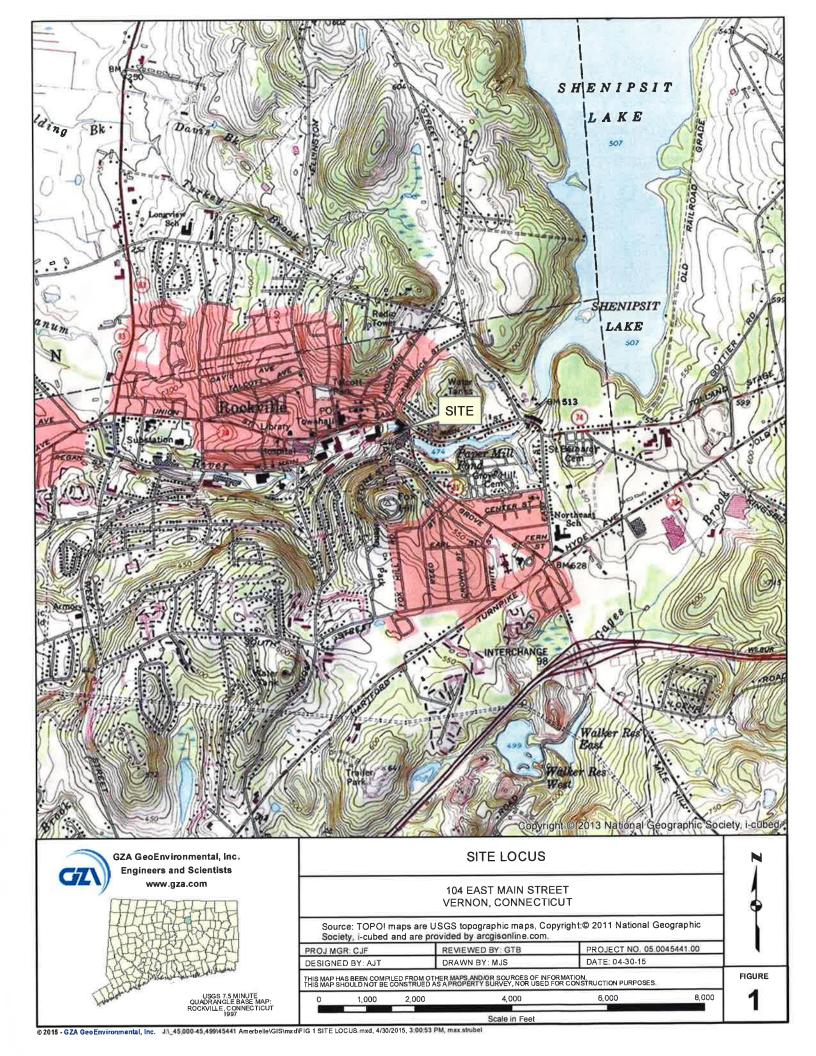
Table 7Summary of Surface Water Analytical Data AOC-25

Amerbelle Mills Rockville, Connecticut

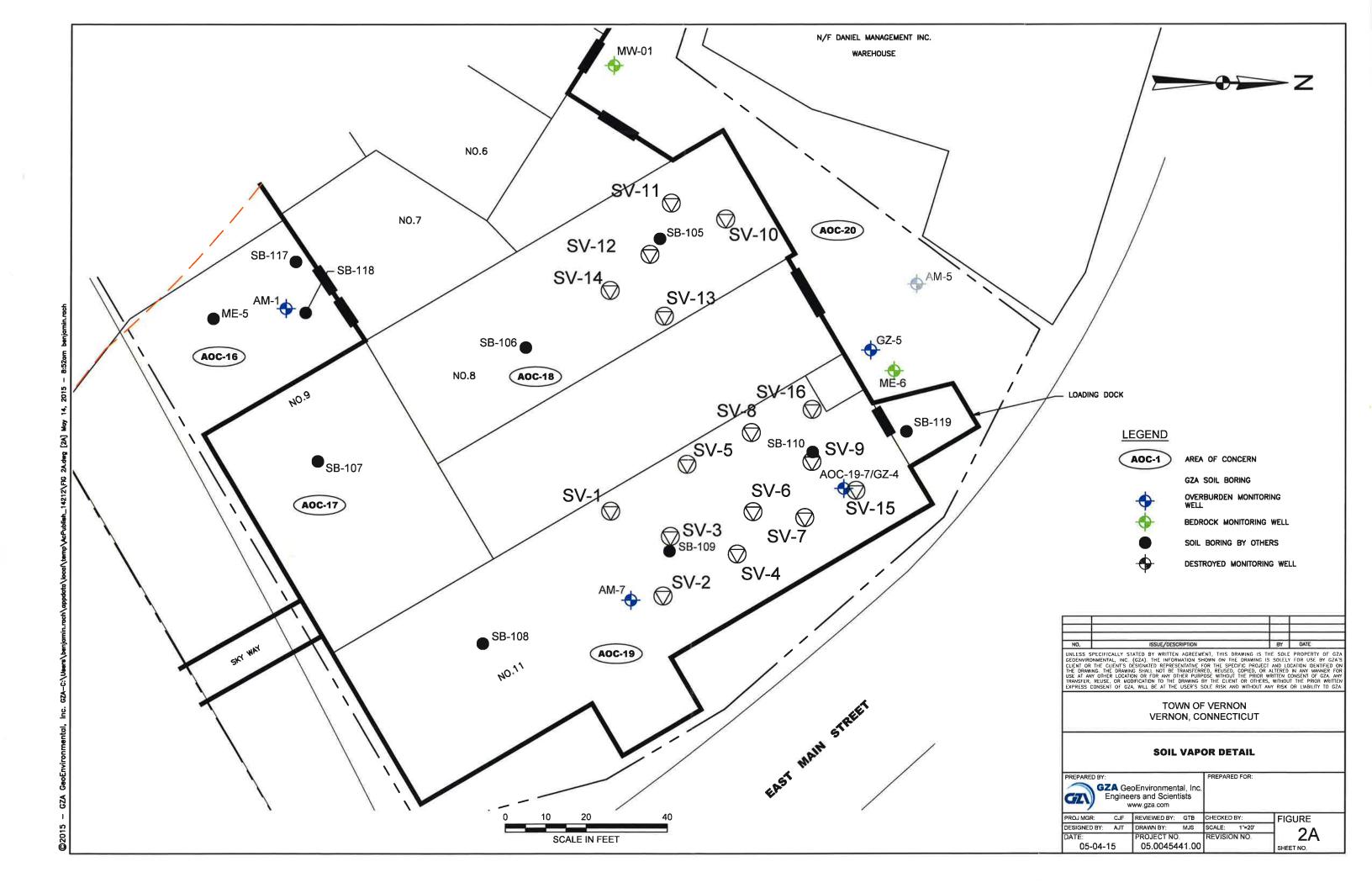
Client Id:	AOC-2S SW-1	AOC-2S SW-2	AOC-2S SW-3	AOC-2S SW-4	AOC-2S SW-5	AOC-2S SW-6	OT Englished Change
Date:	4/22/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015	4/22/2015	CT Freshwater Chronic
Location:		American Mill Pond			Paper Mill Pond		Aquatic Life Criteria
Miscellaneous/Inorganics (mg/L)							2)343
Hardness (CaCO3)	24	24.6	24.1	24.5	25.2	25.5	NE
Ammonia as Nitrogen	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	NE
Phenolics	< 0.015	< 0.015	< 0.015	0.022	< 0.015	< 0.015	NE
Metals, Total (mg/L) Arsenic	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.15
Barium	0.022	0.023	0.022	0.022	0.023	0.024	NE
Cadmium	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00135
Chromium	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.011*
Lead	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0012
Mercury	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.00077
Selenium	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005
Silver	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.00102 ⁽⁷⁾
Semi Volatiles Organic Compoun	nds (SVOCs) (ug/L)						
SVOCs	ND < 0.01 to < 10	ND < 0.01 to < 10	ND < 0.01 to < 10	ND < 0.01 to < 10	ND < 0.01 to < 10	ND < 0.01 to < 10	Varies
Aniline	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NE

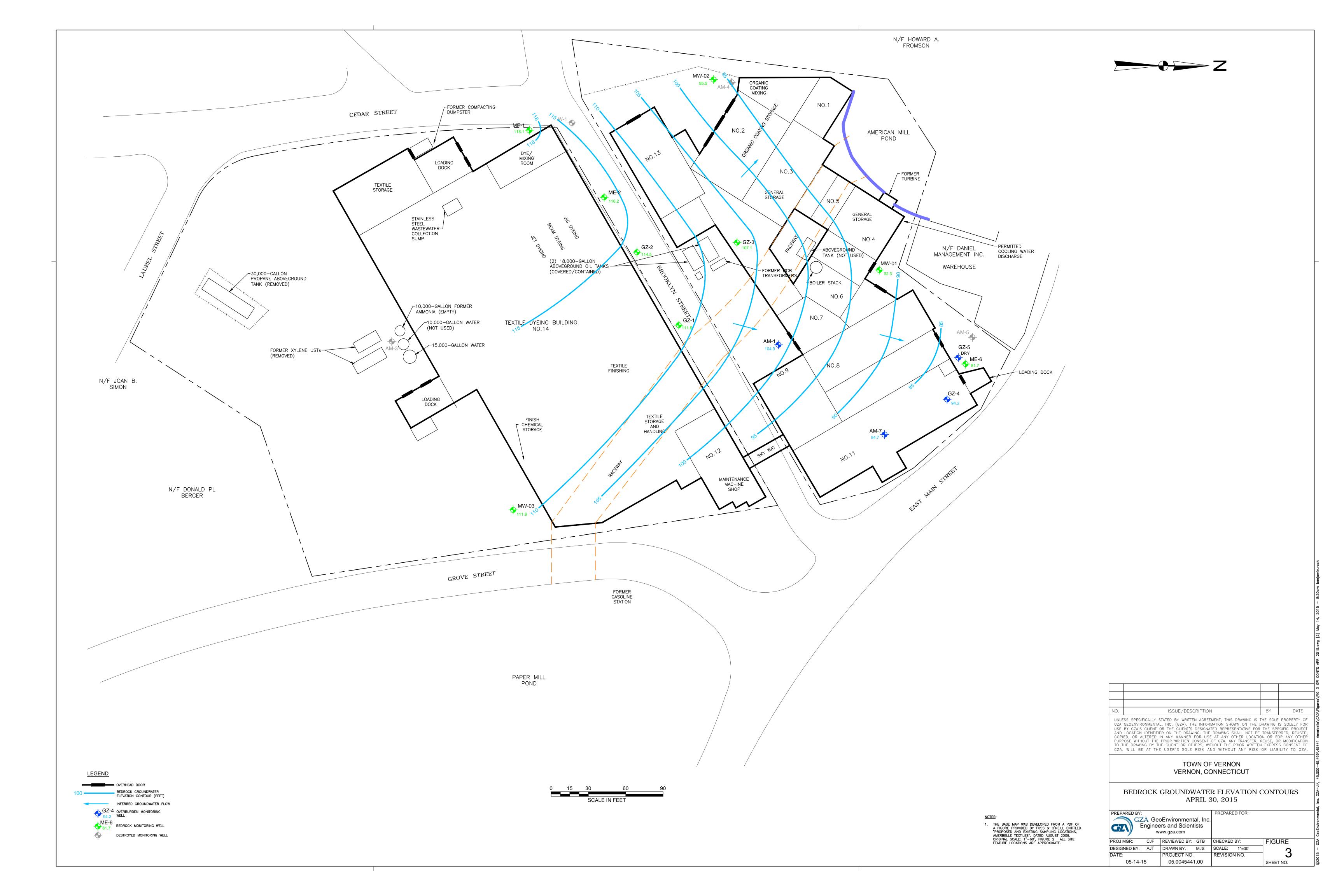
- 1. **Bolded** values detected above laboratory detection limits.
- 2. CT Freshwater Aquatic Life Criteria are from the 2011 Connecticut Water Quality Standards
- 3. NE = Criteria are non-existent for this analyte
- 4. ND < 0.005 = Sample was not detected above the laboratory detection limits.
- 5. Only those compounds detected are shown. For a full list of analytes tested for, refer to the Phoenix Laboratories analytical report.
- 6. * = criteria is for hexavalent chromium
- 7. No chronic criteria established. Acute criteria shown.

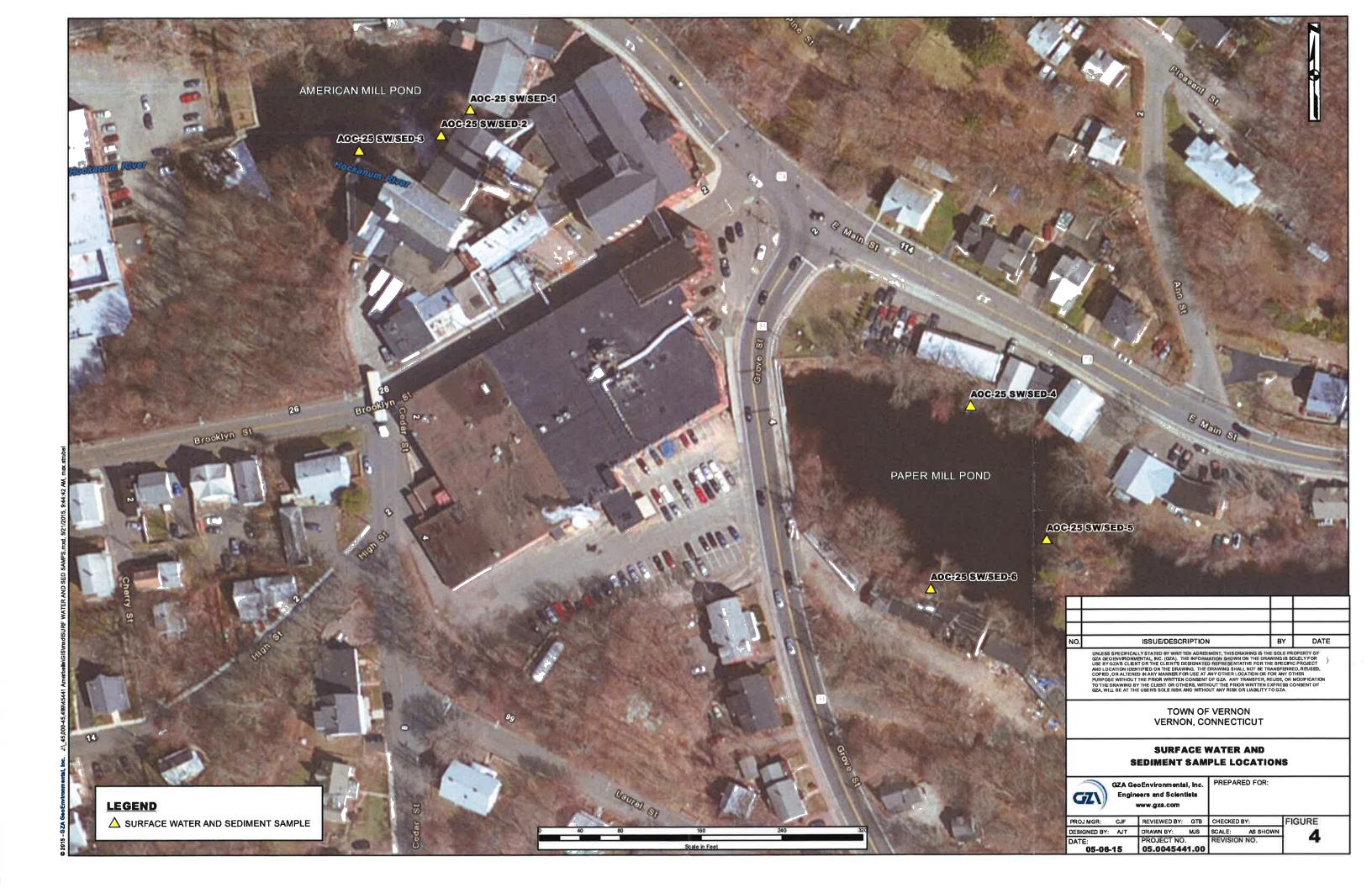












APPENDIX A LIMITATIONS



GEOHYDROLOGICAL 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.

April 2012 PAGE 1

6. Water level readings have been made in test holes (as described in the Report) 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 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.

April 2012 PAGE 2

Conceptual Site Model

14. Our opinions were developed, in part, based upon a comparison of site data to conditions anticipated within our Conceptual Site Model (CSM). The CSM is based on available information, and professional judgment. There are rarely sufficient data to develop a unique CSM. Therefore observations over time, and/or space, may vary from those depicted in the CSM provided in this report. In addition, the CSM should be evaluated and refined (as appropriate) whenever significant new information and/or data is obtained.

April 2012 PAGE 3

APPENDIX B PREVIOUS ENVIRONMENTAL INVESTIGATION REPORTS



PHASE I ENVIRONMENTAL SITE ASSESSMENT AMERBELLE CORPORATION 104 EAST MAIN STREET VERNON, CONNECTICUT

Prepared for:

Murtha Cullina LLP CityPlace I - 185 Asylum Street Hartford, Connecticut 06103

> Prepared By: GeoDesign, Inc. 984 Southford Road Middlebury, CT 06762

> > File No. 553-003 March 2004



March 8, 2004 File No. 553-003

Mr. Mark R. Sussman Murtha Cullina LLP CityPlace I - 185 Asylum Street Hartford, Connecticut 06103

Re: Phase I Environmental Site Assessment

Amerbelle Corporation 104 East Main Street Vernon, Connecticut

Dear Mr. Sussman:

We are pleased to submit this Phase I Environmental Site Assessment of the Amerbelle Corporation property located at 104 East Main Street in Vernon, Connecticut. This site assessment was performed in general accordance with ASTM E 1527-00, Standard Practice for Phase I Environmental Site Assessments and the Connecticut Department of Environmental Protection's "Transfer Act Site Assessment Guidance Document" (June 1989).

The attached Executive Summary provides a brief description of the findings of our environmental assessment. We recommend reviewing the report in its entirety for all pertinent information obtained.

We appreciate the opportunity to work with you. Please contact the undersigned if you have any questions.

Very truly yours,

GeoDesign, Inc.

Alan F. Colwell

Environmental Scientist

Timothy Carr, LEP

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TABLE OF CONTENTS

Page Page
EXECUTIVE SUMMARYi
1.0 INTRODUCTION
1.1 BACKGROUND
1.2 PURPOSE
1.3 SCOPE OF SERVICES
1.4 PREVIOUS REPORTS REVIEWED
2.0 SITE SETTING
2.1 GENERAL DESCRIPTION
2.2 ENVIRONMENTAL & HYDROGEOLOGIC SETTING
2.3 CURRENT PROPERTY USES4
2.4 SURROUNDING LAND USE
3.0 SITE OWNERSHIP & HISTORY
3.1 SUMMARY
3.2 SANBORN FIRE INSURANCE MAPS
3.3 REVIEW OF HISTORIC FACILITY MAP9
3.4 REVIEW OF AERIAL PHOTOGRAPHS9
4.0 RECORDS REVIEW
4.1 FACILITY FILE INFORMATION
4.1.1 Former Underground Fuel Oil Storage Tanks
4.2 LOCAL TOWN INFORMATION
4.2.1 Tax Assessor's Office
4.2.2 Clerk's Office
4.2.3 Health Department12
4.2.4 Building and Zoning Department13
4.2.5 Sewer Department
4.2.6 Fire Department 14
4.3 FEDERAL & STATE REGULATORY FILE REVIEWS
4.3.1 Well Locations 18
4.3.2 Department of Environmental Protection (DEP) File Review
4.3.2.1 Oil and Chemical Spills
4.3.2.2 Waste Management Bureau
4.3.2.3 Water Management Bureau
4.3.2.4 Air Management Management Bureau 20
5.0 SITE RECONNAISSANCE 20
5.1 EXTERIOR OBSERVATIONS
5.2 INTERIOR OBSERVATIONS
6.0 RECOGNIZED ENVIRONMENTAL CONDITIONS 23
7 0 LIMITATIONS



TABLE OF CONTENTS (Continued)

Á	D	D	F	N	ID	T		U	C
A	r	Г	r.	1	ш	1	۱.	r.	

APPENDIX 1 FIGURES, TABLE 1 & PHOTOGRAPHS

APPENDIX 2 SANBORN FIRE INSURANCE MAPS

FACILITY MAP DATED 1956

APPENDIX 3 MISCELLANEOUS REGULATORY COMPLIANCE INFORMATION

APPENDIX 4 ENVIRONMENTAL DATA RESOURCES REPORT

APPENDIX 5 LIMITATIONS



EXECUTIVE SUMMARY

This report was prepared by GeoDesign, Inc. (GeoDesign) to summarize the results of a Phase I Environmental Site Assessment (ESA) of the Amerbelle Corporation facility located at 104 East Main Street in Vernon, Connecticut (site). This environmental site assessment was conducted in general accordance with ASTM E 1527-00 and the Connecticut Department of Environmental Protection's "Transfer Act Site Assessment Guidance Document" (June 1989) and is subject to the Limitations of this report. No previous Environmental Assessments have reportedly been completed for the site.

This Executive Summary provides a brief description of the findings of our environmental assessment. We recommend reviewing the report in its entirety for all pertinent information obtained. A Site Plan is provided as Figure 2 in Appendix 1.

Site Description

The site consists of two separate parcels of land which are occupied by the Amerbelle Corporation and are separated by Brooklyn Street. The property south of Brooklyn Street consists of 2.7-acres of land occupied by an approximately 57,500 square foot two-story brick building which houses Amerbelle's textile dyeing and finishing operations. The property north of Brooklyn Street consists of approximately 1.5-acres of land which is occupied by an approximately 42,700 square foot mill complex which houses Amerbelle's textile coating operations and industrial boiler systems.

The facility is supplied with heat from two large industrial boilers located in the north-central portion of the property. Fuel oil is stored in two 18,000-gallon aboveground tanks located in a concrete containment structure that is fully-enclosed by a prefabricated metal building. These tanks are located in the central portion of the site. Four oil-filled transformers are located outdoors in a fenced enclosure, just east of the fuel oil tank farm. One large transformer is marked as non-PCB containing. Three smaller transformers are indicated to contain PCBs.

The Hockanum River flows through Amerbelle's site, in a raceway constructed beneath several of the mill buildings. The river flows from the southeast corner to the north-central portion of the site. The raceway was constructed years ago when the Hockanum River was first used to supply power to the textile mills.

The ground surface of the site slopes downwards from the south to the north with an overall topographic relief of approximately 80 feet. Based on regional topography, geology and drainage considerations, the migration of groundwater beneath the site is expected to be towards the northwest and controlled by the elevation of the bedrock surface, the presence of the historic raceway, and other historic drainage features. The bedrock surface is anticipated to be irregular but to generally slope downward towards the north/northwest.



Groundwater underlying the site is classified as GB. This indicates an area in which groundwater is known to be, or presumed to have been, affected in quality by historic intense urban commercial and industrial development. The site and properties in the vicinity are served by municipal water supplies.

Current Operations

Amerbelle operates at the site as a "commission dye house". The company performs dyeing, coating and finishing of synthetic and blend fabrics for textile converters. Bales of nylon or polyester fabrics, typically linen-white in appearance, are received into the facility from the Greige Mills that weave the fabric. Within Amerbelle's facility, the fabric is typically scoured, bleached and dyed. Following the dyeing process, the fabric is typically processed through calendars to tighten the weave. The fabric is then further processed by application of latex or solvent-based coating and/or a water-based finish solution. Following lay-up and inspection, the fabric is packaged and shipped either to the customer or to the next step in the textile converting process.

Amerbelle's dyeing and finishing operations are conducted inside Building No. 14. Dye chemicals and dye stuffs are measured out and prepared for use in an area of the "Dye House" located in the northwest corner of Building No. 14. The dye chemicals and dye stuffs are then delivered out to the Dye House floor for use in three different types of dyeing processes: beam dyeing, jig dyeing and jet dyeing. Finishes are applied to fabrics in the "Finish Department" located at the eastern end of Building No. 14. Finishes are applied by whole fabric immersion in a water-based finish solution. Finishes impart physical attributes to the fabric such as water-repellency or flame retardance. Finishes can also be applied to provide anti-microbial or anti-static properties to a fabric. Finish chemicals are measured out and prepared for use in an area in the southeast portion of Building No. 14. Finish chemicals are then applied to fabric at the feed ends of five finish "tenter frame" machines. The fabric is then dried in gas-fired drying ovens.

Amerbelle's dyeing and finishing operations consume large quantities of water, for process use and for non-contact cooling. Amerbelle's water needs are largely met by withdrawing water on-site from the Hockanum River. Hockanum River water is pumped from the raceway and then processed through bag filters for use as non-contact cooling water, and through a combination of sand filters and bag filters for use as process water. Filtered water for process use is stored in several aboveground tanks and then pumped to the various dyeing and finishing machines. The water is batch mixed with dye chemicals, dye stuffs and finish chemicals at the individual dyeing machines and finishing frames and applied to the fabric. Significant amounts of water are also used to rinse the fabric.

After processing, batches of dye, finish and rinse wastewaters are discharged to a network of floor trenches and sumps in Building No. 14. All of the wastewater is eventually conveyed to a stainless



steel in-ground collection sump, located in the western portion of the building. From here, the wastewater is pumped to two 7,500-gallon aboveground stainless steel neutralization tanks for pH adjustment. Approximately 150,000 gallons to 200,000 gallons of dyeing and finishing wastewater is discharged to the sanitary sewer per day, in accordance with a state-issued sewer discharge permit.

Filtered river water is used for non-contact cooling in "cooling cans" located at the ends of the finish tenter frames and at the ends of the coating lines. Non-contact cooling water is also used in five water-cooled air compressors. The non-contact cooling water is discharged back into the Hockanum River at the northwestern portion of the site, in accordance with a National Pollution Discharge Elimination System (NPDES) permit issued by the state. Current flows of non-contact cooling water average about 200,000 gallons per day (gpd).

Much smaller amounts of river water and "city" water are used for contact cooling, for laboratory use, for equipment maintenance, and for sanitary purposes. A total of approximately 2,000 gpd of process and sanitary wastewater is discharged to the sanitary sewer following use as boiler blowdown, floor washing, compressor condensate, quality control laboratory operations, and sanitary use.

Amerbelle's "Coating Department" is located indoors on the north side of Brooklyn Street. Amerbelle operates one coating line for applying water-based "latex" coatings and two coating lines for applying solvent-based coatings. Solvent emissions from the two solvent coating lines are directed to a gas-fired thermal oxidizer or "incinerator" to accomplish destruction of volatile organic compounds (VOC) prior to discharge to the environment, in accordance with a state-issued air emission permit.

Coatings are applied to one side of the fabric using knife-coating operations. The coated fabric then enters drying ovens that are heated by natural gas (for the latex coater) or by air-to-air heat exchangers (for the two solvent coating lines). The air-to-air heat exchangers draw heat from the exhaust gases leaving Amerbelle's gas-fired thermal oxidizer. Amerbelle's coatings are either solvent-based or water-based, and include acrylics, acrylic and urethane blends, urethanes and silicones. Amerbelle's solvent-based coatings typically contain toluene (40 to 45%), isopropyl alcohol (10 to 15%) and methyl ethyl ketone (2 to 3%) as the principal solvents. Coatings are typically applied to impart physical attributes such as custom pigmenting, breathable waterproofing, flame retardance, or anti-microbial or non-ravel properties.

Small amounts of wastewater generated by the clean-out of equipment used to mix and apply the latex coatings are discharged to the sanitary sewer in accordance with a state-issued discharge permit. Small amounts of waste generated by the clean-out of equipment used to mix and apply the solvent coatings are collected and disposed off-site as a hazardous waste.



After dyeing, coating and finishing, fabrics are subjected to inspection on the second floor of Building No. 14. Stains and marks on the fabric are removed by an airbrush applicator using trichloroethylene (TCE). Very small quantities of TCE are used in this process. No waste TCE is generated.

A maintenance shop located within Building No. 12 performs typical maintenance functions including welding, minor machining (turning, milling, grinding), and electrical repair. A small mineral spirits parts cleaner is located here for maintenance department use. A second parts cleaner is located in the boiler department in Building No. 5. This parts cleaner utilizes a citrus-based cleaning fluid. A quality control laboratory is located on the second floor of Building No. 8. This lab conducts a variety of dyeing and finishing tests on fabric samples. The QC lab also performs dry clean testing on fabric samples and employs the chlorinated solvent perchloroethylene (PCE). Very small quantities of PCE are used in this process. Waste PCE is accumulated and shipped off-site as a hazardous waste.

Site History

The first mill buildings at the 104 East Main Street site were constructed between 1865 and 1869. The site became known as Dart's Stone Mill for its stone construction and "solid rock foundation". Textile dyeing and finishing operations by various tenants and owners have been the main industrial activity almost continuously since that time.

Two 20,000-gallon underground storage tanks had been installed at the site sometime in the 1940s. These tanks were used to store No. 6 fuel oil until about 1983. They were then used to store a recycled fuel oil until late in 1989 when the two tanks were removed. Although the documentation is not clear, available data appears to indicate that when the tanks were removed, there was no significant contamination.

Up until 1993, two underground storage tanks (one 3,000-gallon, one 5,000-gallon) were used to store xylene at the site. These tanks were removed in 1993. The tanks had previously passed tightness testing. No information was obtained regarding the physical condition of the tanks at the time of their removal or of post-excavation soil sampling.

Environmental Regulatory Compliance File Information

Geo**Design** was not retained to conduct a regulatory compliance audit of Amerbelle's operations. However, the file review did reveal that, in the past, Amerbelle had been cited for violations of state environmental regulations pertaining to air and water discharges and hazardous waste management. According to Amerbelle personnel, the company does not have pending enforcement actions and all permits are currently in place and being complied with. There is an extensive regulatory history for the site regarding air, water and waste management issues.



Air Management

In July of 1997, Amerbelle operated as a major emission source and submitted an application to CTDEP for a Title V air operating permit. However, in May of 2003, prior to CTDEP issuing the Title V permit, Amerbelle withdrew its permit application and instead applied for coverage under Connecticut's General Permit to Limit Potential to Emit. The company is no longer a major emission source and is currently covered by this latter permit. Amerbelle presently maintains several other CTDEP-issued air permits. The company has an air operating permit for each of its industrial boilers, and it also has a permit authorizing the use of a heat recovery system when operating its boilers. Amerbelle also has an air permit for the thermal oxidizer used to destroy the solvent vapors generated by the two solvent coating lines. Amerbelle has CTDEP registrations for a number of emission sources that were in place prior to 1972 (finish tenter frames, contact heat sets, and latex coater).

Amerbelle has notified CTDEP they are a specification used oil fuel burner. The specification used oil is provided by United Oil Recovery of Meriden, Connecticut, and burned in Amerbelle's two industrial boilers, pursuant to the terms of the boilers' air permits.

Water Management

Amerbelle has registered with the CTDEP Water Management Bureau for the diversion of surface water from the Hockanum River. The company has discharge permits for its various dyeing and finishing wastewaters, for other process contact wastewaters, and for non-contact cooling water used in the various manufacturing operations. Non-contact cooling water is discharged to the Hockanum River at an average rate of about 200,000 gallons per day (gpd). This discharge is authorized by an NPDES permit. This water is principally used in "cooling cans" used to cool the fabric at the ends of the finish frames and coating lines. Non-contact cooling water is also used for five water-cooled air compressors. Contact cooling water, boiler blowdown, compressor condensate, latex coating washwater and sanitary wastewater is currently discharged to the sanitary sewer at an average rate of approximately 2,000 gpd. A separate discharge of pretreated air scrubber wastewater is maintained whenever Amerbelle operates the permitted heat extractor for its two boilers. When operating, this process produces a wastewater discharge that averages anywhere from 6,000 to 18,000 gpd. Dyeing and finishing wastewaters are pH adjusted and discharged to the sanitary sewer at an average rate of 150,000 to 250,000 gpd.

The company has received Notices of Violation in the past for exceeding parameters of its wastewater permits. As recently as December, 2003, the company received a Notice of Violation alleging deficiencies relating to the company's discharges to the sanitary sewer. The company responded to this Notice of Violation in January, 2004, and is said to be presently operating in full compliance with its discharge permits.



Waste Management

Amerbelle notified the CTDEP Waste Management Bureau that the facility was operating as a Large Quantity Generator of hazardous waste on August 13, 1980. The company is reportedly currently operating as a Small Quantity Generator of hazardous waste (EPA ID. No. CTD001139898). As such, the facility meets the definition of an "Establishment", as defined by the Connecticut Transfer Act (CGS 22a-134).

In 1987, the company was cited for violations related to the burning of hazardous waste or offspecification fuel oils in the industrial boiler system. These matters have reportedly been corrected.

Miscellaneous

A total of thirty-two incidents have been documented involving oil or chemical spills/releases. These were reported to have occurred from 1984 through 2002. The information available in many of these cases was not sufficient to determine the potential for impact to site soil or groundwater.

Site Observations

Ice and snow cover at the time of the site inspection prevented GeoDesign from making meaningful observations of surficial soil conditions in areas outside of the buildings. It was noted that the majority of the site is covered by building and paved surfaces. Observations of the site indicated that oil and hazardous materials were being used and stored at many locations. This storage was located within the buildings and/or containment structures designed for chemical storage. No oil or hazardous materials were observed being used or stored in outdoor areas.

The concrete aggregate in some of the observable wastewater conveyance trenches in Building No. 14 was exposed and indicated evidence of surface deterioration due to water and chemical erosion. Cracks on the surface of the concrete floor were also observed. Floor trenches, drains and manholes were observed in other buildings (Buildings Nos. 8, 11, and 13). Facility personnel indicated that many of these drains had been plugged to conform to CTDEP requirements.

An exhaust vent from the dye mixing room in Building No. 14 appeared to be discharging a dark condensate which stained the snow, at the base of the building foundation.

Recognized Environmental Conditions

Based on our review of the information and site observations, we have identified a total of twenty-one Recognized Environmental Conditions (RECs). Surficial or subsurface sampling and analyses would be required to assess potential contaminant concentrations at these locations. Additional information may be available which will eliminate some of these areas from consideration as RECs.



Summary

The information obtained indicated that the property has had a long industrial history related to textile dyeing and finishing operations. Based on historic and on-going manufacturing operations, the site is considered an "Establishment" under Connecticut's Property Transfer Act (22a-134).

Subsurface sampling and analyses would be required to assess soil and groundwater impacts from historical manufacturing operations, including former underground storage tanks, PCB-containing transformers, and oil and chemical spills at the site.



1.0 INTRODUCTION

1.1 BACKGROUND

This report was prepared by GeoDesign, Inc. to present the results of a Phase I Environmental Site Assessment (ESA) completed for the property at 104 East Main Street in Vernon, Connecticut. The property is currently owned and occupied by Amerbelle Corporation. Amerbelle Corporation dyes, finishes and coats textile fabrics to customer specifications.

1.2 PURPOSE

Our site assessment was conducted to provide an opinion as to the presence of existing or potential Recognized Environmental Conditions, as defined by ASTM E 1527-00. This report has been prepared for Murtha Cullina LLP of Hartford, Connecticut.

1.3 SCOPE OF SERVICES

This study included a site reconnaissance and a review of available information regarding the environmental history of the property and adjacent areas. The scope of services was outlined in GeoDesign's proposal, dated January 13, 2004, which was subsequently approved by Attorney Mark Sussman of Murtha Cullina LLP. GeoDesign did not perform an asbestos survey or regulatory compliance evaluation as part of this project. The details and results of this assessment are subject to the appended Limitations.

1.4 PREVIOUS REPORTS REVIEWED

No previous Phase I Environmental Site Assessments have reportedly been completed for the site. Numerous permit and correspondence files are maintained on-site pertaining to regulatory compliance permitting and various water, waste and air discharges from industrial processes. We were provided access to much of the information maintained in company files. The regulatory information obtained is summarized below.

2.0 SITE SETTING

2.1 GENERAL DESCRIPTION

The site consists of two separate parcels of land and building complexes which are occupied by the Amerbelle Corporation and separated by Brooklyn Street. An Area Plan and a Site Plan are provided as Figures 1 and 2 in Appendix 1. Photographs showing specific areas of the site are also included in Appendix 1.



The following provides general site information:

104 East Main Street, Vernon, CT			
Site Location:	Tolland County		
Site Owner:	Amerbelle Corp		
Town Clerk's Reference:	Map 41 Block 117 and 119		
Town Zoning:	Industrial		
USGS Quadrangle:	Rockville, Connecticut		
Utilities:	Electric – Overhead wires to four transformers located in the central portion of the site north of Brooklyn Street Water – Connecticut Water Company Sewer – Town of Vernon municipal sewer Heat – Specification used fuel oil stored in two 18,000-gal. above ground tanks. Propane (stored in a 30,000-gal above ground tank) and natural gas are also used.		

The southern-most parcel consists of 2.7-acres of land occupied by an approximately 54,500 square foot (footprint) two-story brick building (Building No. 14) which houses Amerbelle's textile dyeing and finishing operations. Building No. 14 was constructed in 1956. Building No. 14 adjoins an approximately 3,000 square foot four story building (Building No. 12) that was constructed between 1885 and 1892. Building No. 12 houses the maintenance shop and is used for storage. The parcel is adjoined by residential properties to the south; Grove Street and Paper Mill Pond to the east; Brooklyn Street to the north; and Cedar Street to the west. A small dam of the Hockanum River is on Amerbelle's property and forms Paper Mill Pond across Grove Street to the east of the site. From Grove Street, the Hockanum River flows through into a raceway constructed beneath Building No. 14, Brooklyn Street, and the northern parcel of Amerbelle's site.

The northern parcel consists of approximately 1.5-acres of land which is occupied by an approximately 42,700 square foot mill complex which houses Amerbelle's solvent and latex-based textile coating operations, the company's industrial boiler systems, and storage areas. These buildings are primarily constructed of mortar and stone and brick. The mill complex to the north of Brooklyn Street is comprised of buildings designated Buildings Nos. 1 through 9, 11 and 13 (see Figure 2 in Appendix 1). Buildings Nos. 3 and 11 are approximately five stories tall and Building No. 4 is four stories tall. The remaining buildings are one to two stories. Several locations have crawl spaces and/or half-story areas. In addition to the manufacturing and boiler operations, these latter buildings also house Amerbelle's QC laboratory, various administrative offices, and the operations of Challenge Sailcloth, a tenant at the site.

Amerbelle's property is supplied with heat from two large industrial boilers located in the north-central portion of the property. The boilers are each authorized to burn either natural gas or specification used oil fuel. Natural gas is piped to the facility. The specification used fuel oil is stored in two 18,000-gallon aboveground storage tanks (ASTs) that are located inside a concrete containment structure that is fully-covered by a prefabricated metal building enclosure. Four oil-



filled transformers are located outdoors inside a fenced enclosure, just to the east of the fuel oil tanks. One large transformer is marked as non-PCB containing. Three smaller transformers are indicated to contain PCBs.

The Hockanum River flows through Amerbelle's site, in a raceway constructed beneath Buildings Nos. 14, 7 and 5. The river flows from the southeast corner to the north-central portion of the site. The raceway was constructed years ago when the Hockanum River was first used to supply power to the textile mills.

The ground surface of the site slopes downwards from the south to the north with an overall topographic relief of approximately 80-feet. Based on regional topography, geology and drainage considerations, the migration of groundwater beneath the site is expected to be controlled by the shallow elevation of the bedrock surface, the presence of the historic canal, and other historic drainage features. The bedrock surface is anticipated to be irregular but to generally slope downward towards the northwest.

2.2 ENVIRONMENTAL & HYDROGEOLOGIC SETTING

The Water Quality Classifications Map of Connecticut, Thames River, Pawcatuck River, and Southeast Coastal Basins (CT DEP, 1986), indicated the groundwater underlying the site is classified as GB. This classification indicates an area in which groundwater is known or presumed to be affected in quality by historic intense, urban, commercial and industrial development. Areas having GB groundwater are presumed to be provided with municipal water supply services.

The Surficial Materials Map of Connecticut (USGS, 1992) indicates that the site is underlain by sand and gravel overlying sand. The map stated, "Sand & gravel is generally less than 20-feet thick, horizontally bedded, and overlies thicker inclined layers of sand (deltaic deposits)". Just west of the site, the map indicates "thin till". The thin till was described as generally less than 10-15 feet thick and includes areas of bedrock outcrop where the till is absent.

According to the *Bedrock Geology of the Rockville Quadrangle* (State Geological and Natural History Survey of Connecticut, 1955), the Glastonbury Gneiss underlies the site. The Glastonbury Gneiss is described as a gray, medium to coarse-grained, well-foliated gneiss. The bedrock is exposed in the northwestern portion of the site where the race discharges to the American Mill Pond.

The Atlas of the Public Water Supply Sources & Drainage Basins of Connecticut (1982) Rockville Quadrangle indicates that the site is located within the Connecticut Major Basin, the Hockanum Regional Basin, and the Hockanum River Sub basin. No water supply sources were indicated within a one-half mile radius of the site.



2.3 CURRENT PROPERTY USES

Amerbelle operates at the site as a "commission dye house". The company performs dyeing, coating and finishing of synthetic and blend fabrics for textile converters. Bales of nylon or polyester fabrics, typically linen-white in appearance, are received into the facility from the Greige Mills that weave the fabric. Within Amerbelle's facility, the fabric is typically scoured, bleached and dyed. Following the dyeing process, the fabric is typically processed through calendars to tighten the weave. The fabric is then further processed by application of latex or solvent-based coating and/or a water-based finish solution. Following lay-up and inspection, the fabric is packaged and shipped either to the customer or to the next step in the textile converting process.

Amerbelle's dyeing and finishing operations are conducted inside Building No. 14. Dye chemicals and dye stuffs are measured out and prepared for use in an area of the "Dye House" located in the northwest corner of Building No. 14. The dye chemicals and dye stuffs are then delivered out to the Dye House floor for use in three different types of dyeing processes: beam dyeing, jig dyeing and jet dyeing. Finishes are applied to fabrics in the "Finish Department" located at the eastern end of Building No. 14. Finishes are applied by whole fabric immersion in a water-based finish solution. Finishes impart physical attributes to the fabric such as water-repellency or flame retardance. Finishes can also be applied to impart anti-microbial or anti-static properties to a fabric. Finish chemicals are measured out and prepared for use in an area in the southeast portion of Building No. 14. Finish chemicals are then applied to fabric at the feed ends of five finish "tenter frame" machines. The fabric is then dried in gas-fired drying ovens.

Amerbelle's dyeing and finishing operations consume large quantities of water, for process use and for non-contact cooling. Amerbelle's water needs are largely met by withdrawing water on-site from the Hockanum River. Hockanum River water is pumped from the raceway and then processed through bag filters for use as non-contact cooling water, and through a combination of sand filters and bag filters for use as process water. Filtered water for process use is stored in several aboveground tanks and then pumped to the various dyeing and finishing machines. The water is batch mixed with dye chemicals, dye stuffs and finish chemicals at the individual dyeing machines and finishing frames and applied to the fabric. Significant amounts of water are also used to rinse the fabric.

After processing, batches of dye, finish and rinse wastewaters are discharged to a network of floor trenches and sumps in Building No. 14. All of the wastewater is eventually conveyed to a stainless steel in-ground collection sump, located in the western portion of the building. From here, the wastewater is pumped to two 7,500-gallon aboveground stainless steel neutralization tanks for pH adjustment. Approximately 150,000 gallons to 200,000 gallons of dyeing and finishing wastewater is discharged to the sanitary sewer per day, in accordance with a state-issued sewer discharge permit.



Filtered river water is used for non-contact cooling in "cooling cans" located at the ends of the finish tenter frames and at the ends of the coating lines. Non-contact cooling water is also used in five water-cooled air compressors. The non-contact cooling water is discharged back into the Hockanum River at the northwestern portion of the site, in accordance with a National Pollution Discharge Elimination System (NPDES) permit issued by the state. Current flows of non-contact cooling water average about 200,000 gallons per day (gpd).

Much smaller amounts of river water and "city" water are used for contact cooling, for laboratory use, for equipment maintenance, and for sanitary purposes. A total of approximately 2,000 gpd of process and sanitary wastewater is discharged to the sanitary sewer following use as boiler blowdown, floor washing, compressor condensate, quality control laboratory operations, and sanitary use.

Amerbelle's "Coating Department" is located indoors on the north side of Brooklyn Street. Amerbelle operates one coating line for applying water-based "latex" coatings and two coating lines for applying solvent-based coatings. Solvent emissions from the two solvent coating lines are directed to a gas-fired thermal oxidizer or "incinerator" to accomplish destruction of volatile organic compounds (VOC) prior to discharge to the environment, in accordance with a state-issued air emission permit.

Coatings are applied to one side of the fabric using knife-coating operations. The coated fabrics then enter drying ovens that are heated by natural gas (for the latex coater) or by air-to-air heat exchangers (for the two solvent coating lines). The air-to-air heat exchangers draw heat from the exhaust gases leaving Amerbelle's gas-fired thermal oxidizer. Amerbelle's coatings are either solvent-based or water-based, and include acrylics, acrylic and urethane blends, urethanes and silicones. Amerbelle's solvent-based coatings typically contain toluene (40 to 45%), isopropyl alcohol (10 to 15%) and methyl ethyl ketone (2 to 3%) as the principal solvents. Coatings are typically applied to impart physical attributes such as custom pigmenting, breathable waterproofing, flame retardance, or antimicrobial or non-ravel properties.

Small amounts of wastewater generated by the clean-out of equipment used to mix and apply the latex coatings are discharged to the sanitary sewer in accordance with a state-issued discharge permit. Small amounts of waste generated by the clean-out of equipment used to mix and apply the solvent coatings are collected and disposed off-site as a hazardous waste.

After dyeing, coating and finishing, fabrics are subjected to inspection on the second floor of Building No. 14. Stains and marks on the fabric are removed by an airbrush applicator using trichloroethylene (TCE). Approximately three to nine gallons of TCE are used per month in this process. No waste TCE is generated.



A maintenance shop located within Building No. 12 performs typical maintenance functions including welding, minor machining (turning, milling, grinding), and electrical repair. A small mineral spirits parts cleaner is located here for maintenance department use. A second small parts cleaner is located in the boiler department in Building No. 5. The parts cleaner uses a citrus-based fluid.

A quality control laboratory is located on the second floor of Building No. 8. This lab conducts a variety of dyeing and finishing tests on fabric samples. The QC lab also performs dry clean testing on fabric samples and employs the chlorinated solvent perchloroethylene (PCE). One to three gallons of PCE are used per month in this process. Waste PCE is accumulated and shipped off-site as a hazardous waste.

Challenge Sailcloth is a tenant at the site and occupies portions of Buildings Nos. 8, 9 and 11. Challenge Sailcloth is also a customer of Amerbelle, and markets and distributes sail cloth which has been coated by Amerbelle. According to Mr. Robert Bainbridge, Challenge Sailcloth does not use or store oils or hazardous materials as part of their operation. No such materials were observed during our site visit.

2.4 SURROUNDING LAND USE

Land in the general vicinity of the site currently consists of mostly residential properties. An automobile repair facility is located to the southeast, across Grove Street and East Main. Several light industrial/commercial buildings are located along the eastern side of Paper Mill Pond southeast of the site.

The mill building located at the northeast corner of the site is known as Daniel's Warehouse and is believed to have an industrial history similar to Amerbelle's. The building is believed to be currently used primarily for storage. Anocoil Corporation is located approximately 500-feet to the north and downgradient of the site. Anocoil manufactures lithographic plates for the commercial printing industry.



3.0 SITE OWNERSHIP & HISTORY

Site history information was obtained from a review of two texts and a Ph.D. thesis found in the local library describing the industrial history of Rockville^{1,2,3}. Sanborn Fire Insurance maps and a map provided by facility personnel were also reviewed. Other information was provided by Amerbelle personnel and by Amerbelle's consultant, Mr. John Donlon of Regulatory Compliance Services, L.L.C..

3.1 SUMMARY

The mill buildings were constructed between 1865 and 1869 by Albert Dart, a local blacksmith who developed several mills in the area. The site became known as Dart's Stone Mill for its stone construction and "solid rock foundation". Textile dyeing and finishing operations have been the main activity at the site since that time.

At least two separate companies occupied the original mill buildings which make up the present site. The White Manufacturing Company and then J. J. Regan manufactured cotton yarn and gingham cloth in what is now Buildings Nos. 1, 3, 4 and 5 (see Figure 2 in Appendix 1) until approximately 1909. The Rose Silk Company (for a very short time) and then Belding Brothers Silk Thread Mill occupied Buildings Nos. 8, 9 and 11. Belding Brothers Silk Mill operated at the site from approximately 1868 through 1927 and took over the J. J. Regan portions of the site (northwestern) in 1909. The property was reportedly vacant between 1927 and 1936. From 1936 through the present, the site has been occupied by American Dyeing Corporation, which subsequently changed its name to Amerbelle Corporation.

Present dyeing operations are located in Building No. 14 which was constructed in 1956. Belding Brother's dyeing operations are believed to have been in Building No. 8. The dyeing operations of American Dyeing Corporation and Amerbelle were reported to have been performed in Building No. 11 prior to the construction of Building No. 14.

3.2 SANBORN FIRE INSURANCE MAPS

Sanborn Fire Insurance Maps were obtained through Environmental Data Resources (EDR). Copies of the maps are included in Appendix 2. Sanborn Maps were found for the following years: 1885, 1892, 1897, 1903, 1911, 1921, 1946 and 1961. In general, the print quality of some of the maps is significantly reduced and portions not legible. EDR indicated that they had provided the best quality images that they could.

Abbot, S. Ardis "Building the Loom City: Rockville, CT, 1821-1908", Dissertation for Doctorate Degree in Philosophy, University of Connecticut, Department of Philosophy.

Abbot, S. Ardis and Jean A. Luddy, "Vernon and Historic Rockville", Arcadia Publishing, 1998.

Abbot, S. Ardis and Jean A. Luddy, "Vernon-Rockville in the Twentieth Century", Arcadia Publishing, 2002.



• The 1885 map indicates that White Manufacturing occupied what is now considered Buildings Nos. 1 through 6 for the manufacture of cotton yarn. No detail was provided regarding the location of specific processes in White Mfg.

Belding Bros. & Co Sewing Silk Mill occupied Buildings Nos. 8, 9 and 11. These buildings originally formed a "U" shape. The map shows that Belding Bros. performed dyeing in Building No. 8 and drying and drugs (dyestuffs) were apparently stored in Building No. 9.

The raceway is shown to be in its present general configuration. There is an unspecified structure on the south side of Brooklyn Street.

- The 1892 map shows the same layout of buildings on the north side of Brooklyn Street. Buildings Nos. 1 through 6 are listed as being occupied by J. J. Regan Cotton Yarn. Building No. 12 is shown at its present location and may have been used for packing and storage by Belding Bros.
- The 1897 map shows the same layout and operations as described for 1892 above. Building No. 4 is indicated to have a "picker" on the first floor and a machine shop on the second floor. Belding Bros. was shown to have two dye houses in Building No. 8. Other operations appeared to consist of twisting, spinning and spooling silk.

A dye house is shown downgradient of the site at the S. Fitch & Sons Knitting Mill (current Daniels Warehouse property).

- The 1903 map was similar to the layout and operations described above.
- The 1911 map shows the entire site as being occupied by Belding Bros.. A skyway connects Building No. 12 with Building No. 9 as it does today. Most of the written descriptions on the maps were not legible.
- The 1921 map was similar to that described above for 1911.
- The 1946 map indicated that the site was operated by American Dyeing. The site buildings were similar to the 1921 map. The dye house is not indicated in Building No. 8.
- The 1961 map indicated that site was occupied by American Dyeing Corp. and performed wool dyeing. Building No. 14 is shown on the south side of Brooklyn Street (constructed in 1956). The "U" shape formed by Buildings Nos. 8, 9, and 11 was filled in by a new structure. Building No. 13 is shown as well as the current connection to Building No. 2, and the addition of Building No. 7 (see the Site Plan).



The current Daniel's Mill building is indicated to be occupied by "Double B Products Co. & Albi Mfg. Co. – Mfg. paints, waxes, and insecticides".

3.3 REVIEW OF HISTORIC FACILITY MAP

Amerbelle personnel provided a Site Plan dated 1956 and revised in 1985 which shows details regarding building layout, utilities, and other features. The plan also provided several elevation or cross-sectional views of the buildings and identified the locations of processes in certain buildings by floor. A copy of the plan is included at the end of Appendix 2.

The plan view of the figure (included in Appendix 2) showed:

- The presence of the two former 20,000-gal. fuel oil tanks inside a sand filled enclosure in the central portion of the site, north of Brooklyn Street. These tanks were removed in 1989, as discussed below in Section 4.1.1.
- The locations of a 5,000-gal. underground Stoddard Solvent tank and a 3,000-gal. underground xylene tank on the south side of Building 14. These tanks were reportedly removed in 1993, as discussed below in Section 4.1.2. Amerbelle personnel reported that, although the map indicates that the 5,000-gal tank was for storing Stoddard Solvent, the tank always was used for xylene. This could not be otherwise verified.
- The location of the transformers to the east of the fuel oil tanks.
- The presence of a filling station off-site to the southeast, at the intersection of Grove and East Main Street.

Some of the elevation views on the figure (not all included in Appendix 2) showed the following locations of hazardous materials storage:

- The storage of flammable liquids in Building No. 1 (where presently stored).
- The storage of chemicals/empty containers in the ground floors of Buildings Nos. 8 and 11 (where presently stored).
- The storage of coconut oil in the basement of Building No. 12.

3.4 REVIEW OF AERIAL PHOTOGRAPHS

Aerial photographs were reviewed at the Connecticut State Library in order to obtain historical information about land use. The photograph years that were reviewed were 1934, 1980, 1985, and 1990.



The 1934 photograph indicated that the land had been developed and appeared to be used for manufacturing/industrial uses. In the photograph, the large building that is now located south of Brooklyn Street (new Dye House) is not present. Also, Buildings Nos. 8, 9 and 11 appeared in the "U" configuration, prior to a building being constructed between Buildings Nos. 8 and 11.

The 1980 through 1990 photographs showed the site as it appears today.

4.0 RECORDS REVIEW

An extensive amount of information, documentation and permit records were reviewed at the Amerbelle facility, at Town of Vernon offices, and at the Connecticut Department of Environmental Protection (CTDEP). Geo**Design** also contracted with Environmental Data Resources to perform a search of environmental databases, in accordance with the Phase I Site Assessment requirements in ASTM standard 1527-00.

The following sections summarize the pertinent findings of the records review from these sources.

4.1 FACILITY FILE INFORMATION

The following summarizes pertinent information obtained from facility personnel and a review of facility records. A summary table of the hazardous materials currently used in the textile dyeing, finishing and coating processes is provided in Appendix 3. Regulatory compliance documentation is also provided in Appendix 3, as referenced below.

4.1.1 Former Underground Fuel Oil Storage Tanks

From approximately 1948 through 1989, Amerbelle maintained two 20,000-gallon underground fuel oil storage tanks. The tanks were constructed of steel and located in the central portion of the site at the same location where two above-ground fuel oil tanks are today. The former tanks were reportedly located within the same concrete containment structure as is used today, but the structure had an earthen base. The tanks inside of the containment structure were backfilled with sand. The backfilling with sand resulted in the two tanks being regulated as underground tanks.

From 1948 until the early 1980's, Amerbelle reportedly burned No. 6 fuel oil. Amerbelle then switched to burning re-refined off-specification and specification used oil fuel from 1983 until 1987. Since 1987, Amerbelle has burned only specification used fuel oil. Currently, Amerbelle reportedly purchases its specification used oil from United Oil Recovery of Meriden, Connecticut.

On May 6, 1986, Amerbelle submitted an Underground Storage Facility Notification form to the CT DEP and Vernon Fire Marshal. This form identified the two former 20,000-gallon capacity underground tanks as storing "waste oil" fuel oil. Copies of the underground tank notification forms are included in Appendix 3.



Due to changes regarding the regulation of underground tanks, tightness testing was conducted by Aaron Environmental in April, 1988. Aaron reported that both tanks met the criteria for tightness. In July 1989, C/P Utility Service Company, Inc. performed tightness testing which indicated one of the tanks failed the criteria. Paperwork was found in both company and town files related to a building permit which was issued by the Town of Vernon for the removal of the two tanks on October 10, 1989. The fire marshal's files also contained documentation that relates to the temporary locating of tank trailers to temporarily store oil within a containment structure in the vicinity of the Building No. 2 loading dock. The Fire Marshal approved Amerbelle's plan for the temporary oil storage facility on April 21, 1989.

No information was located during our file reviews that showed that municipal or state representatives oversaw the removal of the tanks. No documentation was found that summarized the condition of the tanks upon removal or the condition of the subgrade. Amerbelle did locate analytical reports dated October 12 and November 9, 1989 from Con-Test, Inc. of East Longmeadow, Massachusetts (attached in Appendix 2). The laboratory tests appear to have been obtained by the contractor and represent tank closure soil samples which were analyzed for total petroleum hydrocarbons (eight samples), Extraction Procedure leachate analyses for metals (one sample), and composite samples analyzed for volatile organic compounds and PCBs. The maximum concentration of petroleum hydrocarbons in the discrete samples was 150 mg/kg, which is below current remedial criteria. The composite sample contained low levels of 1,1,1-trichloroethane, toluene and extractable metals. No PCBs were detected. On April 16, 1990, Amerbelle wrote a letter to CTDEP documenting a telephone conversation which indicated receipt of an approval to dispose of the excavated soil at the Town of Manchester landfill (Appendix 3).

In August 1991, Amerbelle submitted revised Underground Storage Tank Facility Notification forms identifying the two 20,000 gallon underground oil tanks as having been tested in July of 1989, last used in October of 1989, and subsequently removed.

In September 1991, a building permit was obtained to install the two 18,000-gallon aboveground steel tanks which are in use today. A concrete slab was poured inside the existing concrete containment and a metal building was constructed to fully enclose the tank and containment system.

4.1.2 Former Underground Xylene Storage Tanks

The 1956 Site Plan provided by Amerbelle and attached at the end of Appendix 2 of this report indicated the presence of a 5,000-gal. Stoddard Solvent and a 3,000-gal. xylene underground storage tank outdoors below the parking lot off the south side of Building No. 14. Underground tank notification forms (included in Appendix 3) indicated the storage of xylene. The tanks were identified as being of steel construction and having been installed in 1972.



Amerbelle provided file information indicating that tightness testing was performed on the xylene tanks in August 1991 (the 3,000-gallon tank) and in May 1992 (5,000-gallon tank). The results indicated that both of the tanks met the criteria for tightness at that time.

On July 16, 1993, M&G Associates, Inc. of West Willington, CT obtained a Building Permit to remove the tanks (Appendix 3). The work was reportedly completed and documentation was found in company files indicating that the removed tanks were delivered to Shire Corporation in North Franklin, CT for disposal (Appendix 3).

No records were found indicating post-excavation soil sampling or oversight of the tank removal by the local fire marshal or other regulatory agency. In August 1995, a revised Underground Tank Notification Form was submitted to CTDEP indicating that the xylene tanks had been removed. No other underground tanks are listed on the 1995 form. Facility personnel indicated there are no known underground tanks on-site at the present time.

4.2 LOCAL TOWN INFORMATION

4.2.1 Tax Assessor's Office

The Tax Assessor's Office provided the property card for the site which indicated the last ownership transfer occurred on February 3, 1948 (Book 85/Page 104). The property size was listed as 3.1-acres, although property maps showed the two sites combined are 4.68-acres. The reason for this discrepancy is not known.

4.2.2 Clerk's Office

Geo**Design** was not provided with property title information and did not perform a title search as part of this project.

4.2.3 Health Department

Mr. Eugene Orlowski of the North Central District Health Department indicated that he has had limited involvement at the site. He was not aware of any on-going health or odor complaints or of any on-going investigations regarding Amerbelle.

The health department files contained approximately ten odor complaints from local residents and several citations from the Connecticut Department of Environmental Protection for exceeding opacity limits at the boiler smoke stack. The complaints were mostly made in the early to mid-1990s. No recent complaints were found. The file also included some reported oil and chemical spills which are summarized below in Section 4.3.2.1.



4.2.4 Building and Zoning Department

Personnel at the Building and Zoning Departments maintained a file for the site which contained numerous permits for renovations and repairs for various portions of the buildings, including sprinkler renovations and additions.

The file also included information related to the installation of a new wastewater treatment system in 1997 inside Building No. 14. The wastewater treatment system was designed by Fuss & O'Neill and included the installation of a stainless steel collection sump, wastewater transfer pumps, two pH neutralization tanks, and facilities for the dispensing of treatment chemicals and the monitoring of flow and pH. The file contained three boring logs for work performed at the "proposed pit area inside building". The boring logs showed dark brown to red-brown fine to medium sand and silt to the top of bedrock, which was encountered between 9.0 and 10.0 feet below grade (fbg). The maximum depth explored was 14 fbg, which went 4 feet into weathered bedrock. The logs indicate that groundwater was encountered at a depth of 6.0 fbg. No boring location plan was found. The boring logs do not indicate the presence of odors or stained soil.

4.2.5 Sewer Department

A review of facility file information and conversations with Mr. Peter Dureiko of the Vernon Sewer Department indicated that, in approximately 1994, the town was replacing a sewer line within Brooklyn Street near the west-central portion of the site. While excavating the sewer line, the town crew encountered 90 °F colored water and inferred that the source of the water was Amerbelle's dying operations. Mr. Dureiko also reported that he observed water seeping from the steep embankment, located to the northwest. The sewer department notified Amerbelle of the potential release.

The town reportedly installed clay dams within the sewer line excavation to minimize the preferential migration of the water along the coarse backfill of the pipe and placed three 6-inch diameter PVC standpipes within the coarse backfill of the new sewer line. We confirmed the location of two of the standpipes with town representatives and measured approximately 14-inches of water in the bottom of one standpipe.

According to facility records, Mr. David Ignatowicz of the sewer department advised Amerbelle that steps should be taken to contain and correct any seepage during Amerbelle's subsequent installation of the wastewater treatment system. Amerbelle personnel have reported that the company subsequently took steps to re-line the trenching and containment troughs underlying various dyeing machines, on the assumption that these may have been the source of the observed leakage. However, according to Amerbelle personnel, it was never determined with certainty whether the trenching and containment troughs were the source of the observed release.



Mr. Dureiko provided plans of the site dated 1896 showing the locations of historic sewer lines maintained at the time by Belding Bros. Silk Mill. No other features of significant interest are shown on the plans.

Mr. Dureiko provided engineering plans from the sewer line reconstruction in 1994 and the log for a soil boring conducted on Cedar Street in 1993. The boring encountered weathered bedrock at 8 fbg and competent rock at 10.5 fbg. No groundwater was encountered in the boring.

4.2.6 Fire Department

Mr. Anthony Patrizz, Vernon Fire Marshal, provided access to file information maintained by his office. Most of the information obtained from our file review, particularly with respect to underground storage tanks, has been incorporated into other sections of this report.

The fire marshal's file contained information related to a December 1997 investigation of a release of propane from the 30,000-gallon tank located in the southwest portion of the site. Approximately 1,000 gallons of propane was released from the 30,000-gallon aboveground tank. Vandalism was suspected, but not proven.

The files contained a Hazardous Materials Survey dated January 1986 in which the company identified various hazardous materials as being stored at the site, including: propane; dyeing and finishing related chemicals; flammable chemicals (associated with coating operations); used oil; the industrial boiler systems; PCB oils in three electrical transformers; and, miscellaneous chemicals stored on the ground floor of Buildings Nos. 9 and 11.

The files also contained a 1988 Hazardous Materials Survey prepared by Challenge Sailcloth which indicated that hazardous materials were not stored by the company.

4.3 FEDERAL & STATE REGULATORY FILE REVIEWS

A review of Federal and State databases of environmental significance was performed for the site by Environmental Data Resources, Inc. (EDR). The GeoCheck Report is included in Appendix 4 and includes maps depicting search radii and identified sites. The EDR report includes a list of the various environmental databases searched and when the databases were last updated. EDR reported that the site was identified in eight separate state and federal databases including:

- SPILLS (CT Spills)
- ERNS (Emergency Response Notification System)
- UST (Underground Storage Tanks)
- RCRIS (Resource Conservation Recovery Information System)
- FINDS (Facility Index Notification System)
- TRIS (Toxic Release Inventory System)



- LWDS (Connecticut Leachate and Waste Water Discharge Sites)
- FTTS INSP (from a PCB inspection)

The following sections summarize the EDR regulatory database search:

<u>United States Environmental Protection Agency National Priorities List (NPL), Dated April 30, 2003:</u>

These are sites that have high ranking, in terms of being a potential threat to public health due to contamination. No NPL facilities were listed within a one-mile radius of the site.

Comprehensive Environmental Response Compensation And Liability Information Systems (CERCLIS):

These are sites, which may or may not have environmental contamination due to historic site use. No facilities were listed within a half-mile of the site.

CERCLIS No Further Remedial Action Planned List (NFRAP):

The EPA and the DEP have investigated these sites, and plan no further remedial action. No properties were listed within a half-mile of the site.

Resource Conservation and Recovery Information System List (RCRIS):

This is a database of facilities that generate, treat, store or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Inclusion on the list does not indicate that the facility is however a source of contamination. The site was listed as a Small Quantity Generator.

Emergency Response Notification System (ERNS):

This database identifies locations of spills and leaks of hazardous substances regulated by CERCLA and petroleum products regulated by the Clean Water Act. The site was not listed on the ERNS list.

Facility Index System/Facility Identification Initiative Program Summary Report (FINDS):

This database contains both facility information and "pointers" to other sources that contain more detail. The subject site was listed in the FINDS database.



Toxic Chemical Release Inventory System (TRIS):

This database lists facilities which manufacture, process or otherwise use toxic chemicals in reportable quantities under SARA Title III Section 313 and which potentially release toxic chemicals to the air, water or land. The subject site was listed in the TRIS database as having filed under Section 313 of the Emergency Planning and Community Right –To-Know Act.

FIFRA/TSCA Tracking System (FTTS INSP):

This database indicates sites that have undergone an inspection and contain materials regulated by FIFRS or TSCA (PCBs). Amerbelle was listed as having been inspected by regulatory agencies dealing with FIFRA (pesticides) or TSCA (primarily PCB-related) requirements.

Inventory of Hazardous Disposal Sites (SHWS):

This database identifies facilities in Connecticut which may have been used for the disposal of toxic or hazardous waste. The inventory is used to prioritize the sites for implementation of clean-up. The subject site was not listed on the SHWS list. Two unmapped sites were reported as a municipal landfill & Northeast Utilities. Neither of these sites is known to be located near the Amerbelle property.

State Registered Leaking Underground Storage Tank List (LUST):

This database identifies underground storage tanks which have had documented releases. This includes tank failures, test failures and overfills, as reported to the CT DEP.

The subject site was not included on the LUST list. Four properties listed below were identified within approximately one-half mile of the site. Seven unmapped sites were also identified. Due to their distance and/or locations relative to the site and inferred groundwater flow direction, these spills are unlikely to impact subject site groundwater:

- a. Former Drake Sunoco (Rt. 74 & Rt. 31) less then 1/8 mile east, up gradient
- b. 26 Pleasant Street less then 1/8 mile north-northwest, down gradient
- c. 168 East Main Street 1/8 to \(\frac{1}{4} \) mile east-southeast, down gradient
- d. 85 Prospect Street ¼ to 1/8 mile west-northwest, down gradient



CT DEP Registered Underground Storage Tank Facilities (UST):

This database identifies underground storage tanks that either have been or are currently registered with the CT DEP. Amerbelle was reported on this list as having removed the following underground storage tanks: two 20,000-gallon used oil; one 3,000-gallon gasoline; and one 5,000-gallon gasoline. Presumably, the two "gasoline" tanks are actually the two xylene tanks reported on elsewhere in this report.

Three facilities were reportedly located less than one eighth of a mile from the site according to EDR. One unmapped site was also identified (Grove Hill Cemetery).

- a. 1 Grove Street less than 1/8 mile east-northeast, up gradient, 6,000-gallon gasoline tank installed in 1976, currently in-use.
- b. 122 East Main Street less than 1/8 mile east-southeast, up gradient, 3,000-gallon gasoline tank installed in 1960, currently in-use.
- c. 60 East Main Street less than 1/8 mile west-northwest, down gradient, two 25,000-gallon heating oil tanks, removed 1989.

Oil and Chemical Spills Database (SPILLS):

This database includes oil and chemical spills reported to the DEP. EDR indicated the six spills have been reported at the site. However, according to our compilation of reported spills from a review of facility records, files at the CTDEP, local agencies, and the EDR report, there have been 32 oil or chemical spill incidents involving the site. Amerbelle's files contained documentation that the majority of these releases were reported. These spills are summarized on Table 1 in Appendix 1.

Four sites within one-half mile were mapped and listed on the SPILLS databases which are unlikely to impact the site. Two unmapped sites were reported on the list by EDR.

Connecticut Leachate and Waste Water Discharge Sites (LWDS):

This is a list of facilities with surface and groundwater discharges that are permitted by the state, discharges that are currently inactive, and locations of accidental spills, leaks or discharges of liquid or solid waste.

The subject site was on the list because it has a permitted cooling water discharge to the Hockanum River. Nine other properties were identified within one mile of the site as follows:



- a. Roosevelt Mills, Inc., less than 1/8 mile northwest, downgradient
- b. Anocoil, 1/8 to 1/4 mile southwest, downgradient
- c. Rockville Water & Aqueduct Co., 1/4 to 1/2 mile east, downgradient
- d. Rockville Water & Aqueduct Co., ½ to 1 mile east-northeast, upgradient
- e. Mark Metal Finishing Corp, ½ to 1 mile east, upgradient
- f. Town of Vernon Landfill, ½ to 1 mile south, upgradient
- g. Industrial Wastewater, ½ to 1 mile west-southwest, downgradient
- h. New England Woodcrafting, ½ to 1 mile south, upgradient

We note that Roosevelt Mills is actually located approximately 3,000 feet to the east of the site.

List of Landfills/Transfer Stations (SWF/LF):

This database identifies solid waste management facilities and includes the facility location, operator and permit numbers as submitted on the registration forms.

The subject site was not listed. In addition, no properties within a one-mile radius from the site were identified.

Site Discovery and Assessment Database (SDADB):

This is a listing of properties reported to the Permitting, Enforcement and Remediation Division of CTDEP. The site was not listed in this database. The following four properties are either suspected to have had hazardous waste disposed or are eligible to be listed on the State Inventory of Hazardous Waste Disposal Sites:

- a. Anocoil Corporation, less than 1/8 mile west-northwest, down gradient
- b. Tres Bon Drive In Cleaners, ¼ to 1/3 mile west, down gradient
- c. Roosevelt Mills, Inc., 1/4-1/2 mile east, down gradient
- d. Apollo Packaging, ¼ to ½ mile north, up gradient

Three unmapped sites were reported on the list by EDR.

4.3.1 Well Locations

EDR's GeoCheck identified two Federal USGS Wells one-half to one mile upgradient of Amerbelle. EDR also identified one Federal Public Water Supply well one quarter to one-half downgradient of the site. No wells were reported with one-mile of the subject site in the State well database.



4.3.2 Department of Environmental Protection (CTDEP) File Review

Geo**Design** personnel conducted a file review at the CTDEP public file room on January 27, 2004. The following is a summary of additional information found in CTDEP's files. We requested files for the following companies:

- Amerbelle Corporation
- American Dyeing Corp.
- Belding Bros. & Co
- Daniel's Warehouse
- Double B Products
- Albi Mfg. Co.

Much of the information obtained regarding permits, spills and alleged violations of environmental laws was discussed in previous sections of this report. The following is a summary of additional information found in CTDEP's files.

4.3.2.1 Oil and Chemical Spills

Oil and Chemical spill files dating from 1970 to 1999 were reviewed. A total of thirty—two reported oil and chemical spills were identified for the site during the period 1984 through 2002. The spills are summarized on Table 1 in Appendix 1. In many cases, specific descriptions of the releases as summarized on spill reports are missing or vague.

4.3.2.2 Waste Management Bureau

The Waste Management Bureau's file contained reports and correspondence related to the CTDEP inspections, compliance order and related information. Copies of pertinent documents found are attached in Appendix 3.

4.3.2.3 Water Management Bureau

The file contained a significant amount of data regarding various permit applications and registrations for the contact and non-contact cooling water discharges, sanitary sewer discharge of dye water, the installation of the Building No. 14 wastewater treatment system in 1997/1998 and related issues.

No files were located regarding groundwater remediation for the site.

Several Notice of Violations (NOVs) were found in the file pertaining to exceedances of discharge limits and failure to submit stormwater monitoring results. Copies of pertinent documents found are attached in Appendix 3.



Amerbelle has registered the dam impoundment known as the Paper Mill Pond Dam (Dam Number 14606) on the Hockanum River with the CTDEP Water Management Bureau, Inland Water Resources Division.

4.3.2.4 Air Management Bureau

The extensive air permitting file for the site was briefly reviewed. There was a large amount of information related to an initial filing of a Title V permit which was subsequently withdrawn. The company subsequently filed for and is operating under a General Permit to Limit Potential to Emit (GPLPE).

Various Pre-Inspection Questionnaires were located reviewed. Copies of these Pre-Inspection Questionnaires had also been previously reviewed in the facility files.

5.0 SITE RECONNAISSANCE

Timothy Carr of Geo**Design** conducted a site walkover on January 12, 2004. Mr. John Donlon of Regulatory Compliance Services, who has served has Amerbelle's environmental consultant for the past four years, provided information related to the site and industrial processes and procedures. Photographs are included in Appendix 1.

Snow covered the ground during our site visit and hindered our ability to observe the ground surface for evidence of oil or hazardous materials releases.

5.1 EXTERIOR OBSERVATIONS

Underground Storage Tanks (USTs)/Aboveground Storage Tanks (ASTs)

No evidence of underground storage tanks was observed. Facility personnel indicted that there are no known underground tanks located on-site. The sub-slab wastewater collection tank in Building No. 14 would likely be classified as an in-ground tank (3,000-gallon nominal capacity).

The exterior aboveground tanks which were observed included:

Location of AST	Approximate Size (Gals.)	Material Stored
South end of site	30,000	Propane
	10,000	Empty (formerly Ammonia)
South side of Building No. 14	10,000	Hot Water (not used)
	15,000	Hot Water
Courtyard of Bldgs. Nos. 3,4,5,6 &7	10,000	Empty



Hazardous Substance or Petroleum Product Storage

No exterior hazardous material or petroleum storage was observed, with the exception of the propane tank referenced above.

Electrical Transformers/Polychlorinated Biphenyls

Four electrical transformers were observed outdoors inside a locked fenced enclosure located on the north side of Brooklyn Street in the central portion of the site (see Photograph 11 in Appendix 1). The largest transformer appeared to be newer and was labeled as non-PCB containing. Three smaller ones were labeled to be PCB-containing. We did not observe evidence of leaking from the transformers.

Pits, Ponds, or Lagoons

Paper Mill Pond lies to the south of the site and American Mill Pond lies to the north, below Amerbelle's dam. No evidence of significant environmental issues was observed. Access to the American Mill Pond is restricted by fencing.

Stressed Vegetation and Staining

Snow at the base of the building outside the exhaust fan from the dye mixing room in Building 14 appeared to be stained (Photograph 10). No other areas of significant ground/snow staining were observed. There was evidence that the foundation wall of the building in this area had been patched.

Solid Waste

Some areas of solid waste debris (metal, brush, tires, etc.) were observed on the slope in the northwest portion of the site leading down to the American Mill Pond. A compacting dumpster is located on the west end of Building 14.

Septic Systems

No septic systems are known to have been used on the property

Drywells and Sumps

Exterior stormwater catch basins were observed at most of the loading dock facilities. The storm drains were reported to drain to the Hockanum River.



5.2 INTERIOR OBSERVATIONS

Oil and hazardous materials were observed to be in use at all active locations of the facility. In inactive areas, we observed machinery and dry good storage.

Aboveground Storage Tanks

Location of AST	Number & Approximate Size (Gals.)	Material Stored
Building 14 – South side	10,000	Hot water
Building 14 – West end	1- 350	Sulfuric Acid used for wastewater pH adjustment. Tank is plastic with containment (Photograph 8)
Building 14 – West end	1- 275	Sodium Hydroxide used for wastewater pH adjustment Tank is plastic with containment (Photograph 8)
Building 14 - West end	2-7,500	Wastewaters undergoing pH neutralization
Building 14	2- 275	Totes of Finishing resin
Building 14	1 – 500*	Sodium Hydroxide for Dye House process use
Oil Storage Building	2-18,000	Specification Used Oil inside containment building
Building 8	1-27,000	Production water supply tank

Floor Drains, Drywells and Sumps

- Numerous interior floor drains, trenches and sumps were observed at several locations particularly within Building No. 14 (wastewater conveyance) and the ground floors of Buildings Nos. 8 and 11. All of the floor drains in Building No. 14 discharge to the wastewater treatment system's collection sump. The floor drains in Buildings Nos. 8 and 11 were reported to be tied into the sanitary sewer. Mr. Donlon indicated that the floor drains in Building No. 11 are actually plugged to prevent a discharge to the sewer. The floor drains in Building No. 8 also have plugs, but these plugs can be removed to allow Building No. 8 floor wash to be discharged to the sewer. The latter discharge is authorized by Amerbelle's state-issued discharge permit.
- The surface of the concrete conveyance trenches at several locations within Building No. 14 showed evidence of erosion due to water and/or chemical attach. The aggregate in the concrete was exposed at the surface. An example is shown in Photograph 6.
- Two latex washdown areas were observed in Building No. 13. Mr. Donlon indicated that the collection sumps drain to the municipal sewer system, as allowed by a discharge permit.



Drum Storage Areas

- Waste oils were stored in 55-gallon drums on containment pallets located in Building No. 8. The storage appeared to be relatively neat and well maintained.
- Solvent-based coatings were stored in 55-gallon drums in Building No. 1 (Photograph 12). Solvent-based coatings were observed to be both stored and mixed in this location. Drums appeared to be relatively neat and well maintained. The area exhibited a strong solvent odor, likely attributable to the active mixing of the coating materials.
- Latex-based coatings were stored in 55-gallon drums in Building No. 13. The area appeared neat and well maintained.
- More than one hundred chemical containers, mostly 55-gallon drums, were observed stored on the ground floor of Building No. 11. Most of the containers were reported to be empty drums awaiting off-site disposition.. A floor trench was observed running along much of the length of the basement area. The trench drain is reportedly plugged.

6.0 RECOGNIZED ENVIRONMENTAL CONDITIONS

Based on the information collected and observations made as part of this Phase I Environmental Site Assessment, we have identified the following Recognized Environmental Conditions (RECs) on the Amerbelle property. According to ASTM 1527-00, an REC is identified when the presence, or likely presence, of hazardous substances or petroleum products are now or have been associated with the property under conditions that indicate an existing release, a past release or the material threat of a release into structures on the property or the soil, groundwater or surface water on the property. A potential REC can be declassified if it can be determined that the actual or potential releases were de minimis and do not present a material risk of harm to public health or the environment.

The following list compiles the locations and rationale for identifying certain RECs, based on the information obtained as part of this site assessment. REC locations are shown on Figure 3.

No.	REC Description	Rationale For Listing
	Former underground tanks located south of	Tanks were removed without reported closure confirmation soil
I	Bldg. 14 (3,000-gal & 5,000-gal. xylene)	sampling
2	Loading dock on south side of Bldg. 14	Potential for chemical spills during loading/unloading
3	Loading dock on west end f Bldg. 14	Potential for chemical spills during loading/unloading. This dock is located nearest the dye and finishing chemical room and wastewater treatment area.



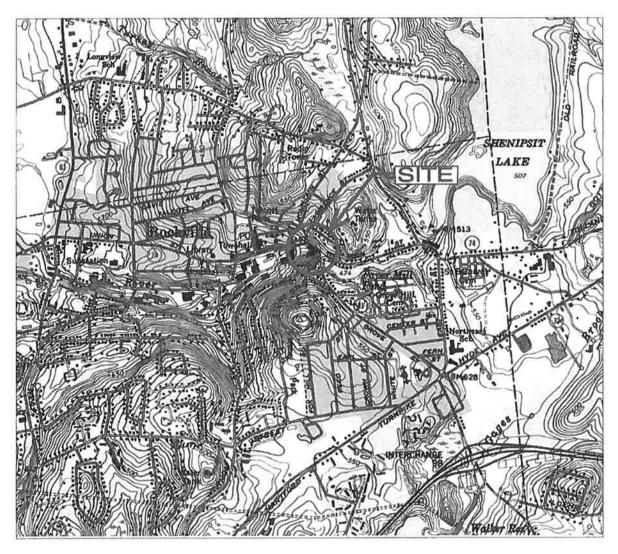
No.	REC Description	Rationale For Listing		
4	Northwest corner of Bldg. 14	Location where dye-colored water was observed in the ground during sewer line installations in 1997. This is also the area where seeps of discolored liquid were observed coming from an exhaust vent and cracks in the foundation.		
5	Wastewater conveyance trenches in Bldg. 14	Concrete erosion and chemical attack was visible on the surface of the visible areas of concrete. The sub-slab trench network is extensive.		
6	Southeast corner of Bldg. 14	Location where a bridge contractor identified dye-colored in 1995 and adjacent to location of process water overflows.		
7	Building 12	Maintenance/ Machine Shop		
8	Slope west of Bldgs. 1 and 2	Location of reported dye-colored water seepage (1994) and observed solid waste debris.		
9	Building 13	Latex coating operations		
10	Building 2 loading dock	Potential for chemical spills during loading/unloading		
11	Buildings 1 & 2	Storage of flammable solvents and mixing of coatings.		
12	Building 3	Downgradient of solvent coating / former storage area		
13	Building 7	Solvent Coaters		
14	Area west of Bldg. 13	Two 18,000-gal fuel oil ASTs where oil releases have occurred		
15	South of Bldg. 7	Four transformers (3 PCB containing)		
16	Bldg. 7 Loading Dock	Potential for chemical spills during loading/unloading		
17	Building 9	Former Dye Storage		
18	Building 8	Former Belding Bros. Dye House		
19	Building 11	Reported location of former Amerbelle dye operations and present chemical storage		
20	Bldg. 11 Loading Dock	Potential for chemical spills during loading/unloading		
21	Across Grove Street from Bldg. 14	Former gasoline station located across Grove Street southeast of the site		

7.0 LIMITATIONS

Information used in this report regarding operations, conditions, and test data has been obtained in part from company personnel, its employees or agents, various governmental officials and available public records and has been assumed by Geo**Design** to be correct and complete. Certain information reflects direct observations of conditions as they existed on the date of inspection. As this information is subject to professional interpretation, it could result in differing conclusions.

APPENDIX 1 FIGURES, PHOTOGRAPHS, & SPILL SUMMARY TABLE





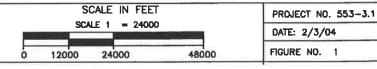


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AREA PLAN AMERBELLE CORPORATION 104 EAST MAIN STREET VERNON, CONNECTICUT



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PHASE II ENVIRONMENTAL ASSESSMENT AMERBELLE CORPORATION 104 EAST MAIN STREET VERNON, CONNECTICUT

Prepared for:

Mr. Mark R. Sussman Murtha Cullina LLP CityPlace I - 185 Asylum Street Hartford, Connecticut 06103

> Prepared By: GeoDesign, Inc. 984 Southford Road Middlebury, CT 06762

> > File No. 553-003 February 2004





February 25, 2004 File No. 553-003

Mr. Mark R. Sussman Murtha Cullina LLP CityPlace I - 185 Asylum Street Hartford, Connecticut 06103

Re: Phase II Environmental Site Assessment

> Amerbelle Corporation 104 East Main Street Vernon, CT

Dear Mr. Sussman:

GeoDesign, Inc. (GeoDesign) has performed a Phase II Environmental Site Assessment of the Amerbelle Corporation property located at 104 East Main Street in Vernon, Connecticut. The purpose of the subsurface assessment was to analyze samples of soil and groundwater to assess environmental impacts from known or suspected release areas. This report is subject to the appended Limitations.

We appreciate the opportunity to work with you. Please call if you have any questions.

Very truly yours,

GeoDesign, Inc.

Manager of Environmental Services

Charles S. Sawyer, P.E., Ph.D. Reviewer

Karn L. Ohn

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TABLE OF CONTENTS

		Page
EXECUTIVE SU	JMMARY	i
1.0 INTRODUCT	FION	
2.0 SITE DESCR	IPTION	1
2.1 SITE E	ENVIRONMENTAL SETTING	2
2.2 APPLI	CABLE REMEDIATION STANDARDS	3
3.0 SUBSURFAC	CE SAMPLING & ANALYSES	3
3.1 SOIL S	SAMPLING & ANALYSIS	4
3.2 SUBSU	JRFACE CONDITIONS ENCOUNTERED	4
3.2.	1 Photoionization Detector Readings	4
3.2.	.2 Monitoring Well Installations	5
3.3 SOIL A	NALYTICAL RESULTS	5
3.3.	1 Volatile Organic Compounds (VOCs)	5
3.3.	2 Base Neutral Semi-Volatile Organic Compounds (BN-SVOCs)	6
3.3.	3 Extractable Total Petroleum Hydrocarbons (ETPH)	6
3.3.	4 Formaldehyde & Aniline	6
3.3.	5 Total Metal Elements	6
3.3.	6 Polychlorinated Biphenyls (PCBs)	7
4.0 GROUNDWA	TER SAMPLING & ANALYSES	7
4.1 pH & S	PECIFIC CONDUCTANCE	7
4.2 GROUI	NDWATER ANALYTICAL RESULTS	8
4.2.	1 Volatile Organic Compounds (VOCs)	8
4.2.	2 Extractable Total Petroleum Hydrocarbons (ETPH)	8
4.2.	3 Base Neutral Semi Volatile Organic Compounds (BN-SVOCs)	9
4.2.	4 Formaldehyde & Aniline	9
4.2.:	5 Dissolved Metals	9
5.0 SUMMARY &	& CONCLUSIONS	10
APPENDICES		
APPENDIX 1	FIGURES & TABLES	
APPENDIX 2	BORING LOGS	
APPENDIX 3	LABORATORY DATA – SOIL	
APPENDIX 4	LABORATORY DATA - GROUNDWATER	
APPENDIX 5	LIMITATIONS	



EXECUTIVE SUMMARY

GeoDesign, Inc. has completed a Phase II Environmental Site Assessment of the Amerbelle Corporation property located at 104 East Main Street in Vernon, Connecticut. Amerbelle dyes, coats and finishes textiles for end users on two industrial parcels. The site has been used for textile dyeing and finishing operations since approximately 1865. Prior to this work, no other subsurface environmental sampling had reportedly been conducted at the site.

Site Description

The site consists of two separate parcels of land and building complexes, which are separated by Brooklyn Street. The southern-most parcel consists of 2.7-acres of land occupied by an approximately 54,500 square foot two-story brick building (Building 14) which houses Amerbelle's textile dyeing and finishing operations. The northern parcel consists of approximately 1.5-acres of land, which is occupied by an approximately 42,700 square foot mill complex, which houses Amerbelle's textile coating operations and industrial boiler systems and storage. Some of the buildings date to the 1860s. A canal or raceway flows primarily underground from the southeast corner to the north-central portion of the site. The raceway is part of the historic use of the Hockanum River to power textile mills that were constructed in the 1800's in this area.

The property is supplied with heat from industrial boilers located in the north-central portion of the property. Fuel oil is stored in two 20,000-gallon aboveground tanks. Three transformers are indicated to contain PCBs in the central portion of the site.

The site has an overall topographic relief of approximately 80-feet. The migration of groundwater beneath the site is expected to be controlled by the shallow elevation of the bedrock surface, the presence of the historic canal, and other historic drainage features. The groundwater underlying the site is classified as GB.

During the replacement of a sewer line in 1997, the Town of Vernon encountered dyed water in the excavation and inferred that the source of the water was Amerbelle's operations. A well/standpipe was installed by the town and was sampled as part of this study (designated W-1).

Subsurface Explorations

Five exterior soil borings (designated AM-1 through AM-5) and six interior soil borings (designated AM-6 through AM-11) were completed. The rationale for these borings is summarized on Table 1. The subsurface soils encountered generally consisted of red-brown fine to medium sand and gravel from the ground surface to the top of the inferred bedrock surface. The inferred bedrock surface was encountered between approximately 4 feet below grade to 19.5 feet below



grade. No significant soil staining or odors were noted in the subsurface samples collected. Low photoionization detector screening results were detected in field screening.

Groundwater was not encountered in six of the eleven borings completed to refusal. Where encountered, groundwater was present near the elevation of the bedrock surface between 8 to 18 feet below grade. The saturated thickness of overburden soils was 1.5 feet or less.

Soil Analytical Results

Phoenix Laboratories analyzed select samples for volatile organic compounds (VOCs); semi-volatile organic base-neutral compounds (BN-SVOCs); Formaldehyde and aniline; Extractable Total Petroleum Hydrocarbons (ETPH); polychlorinated biphenyls (PCBs) and, total antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and zinc. The laboratory was requested to perform analysis of semi-volatile organic base-neutral compounds and identify a list of approximately twenty-four diazo-based dye components (referred to as tentatively identified compounds), including aniline, benzidine and chloroaniline from the gas chromatograph/mass spectroscopy results. The laboratory's results are summarized on Table 2.

- Low levels of VOCs were detected in five of the soil samples, consistent with the low photoionization detector readings. The concentrations were below the applicable remediation criterion.
- BN-SVOCs and tentatively identified compounds were not detected in the two soil samples analyzed.
- The R-DEC was exceeded in two of seven soil samples analyzed for ETPH (920 mg/kg and 770 mg/kg). There were no exceedances of the industrial/commercial criterion of 2,500 mg/kg.
- Formaldehyde was detected in samples AM-8/3-4' and AM-11/5-6' at 17 mg/kg and 9.3 mg/kg, respectively. The detection of formaldehyde represents an issue for additional evaluation. No state remedial standards have been established for formaldehyde in soil. Aniline was not detected in three soil samples analyzed.
- The R-DEC and I/C-DEC for arsenic (10 mg/kg) was exceeded in sample AM-1/1-3' at 122 mg/kg. The remedial criteria for the other metals analyzed were not exceeded.
- A composite soil sample (S-1) was obtained from the likely discharge point of the PCB containing transformers containment. No PCBs were detected.



Groundwater Sampling & Analytical Results

Groundwater samples from the four newly installed monitoring wells (with sufficient groundwater) and one town installed well (W-1) were analyzed for: volatile organic compounds (VOCs); semi-volatile organic base-neutral compounds (BN-SVOCs); Extractable Total Petroleum Hydrocarbons (ETPH); formaldehyde and aniline; and, dissolved metals. The results are summarized on Table 3.

- No VOCs were detected in groundwater at concentrations which exceeded remedial criteria.
- ETPH was detected in three wells ranging between 260 μ g/l to 1,100 μ g/l. A concentration over 1,000 μ g/l is considered elevated but there are no applicable numeric remedial criteria for ETPH in a GB groundwater area. No hydrocarbon sheen was observed on the surface of the water purged from the wells during sampling.
- The town installed well (W-1) was sampled for BN-SVOCs. Relatively low levels of thirteen SVOCs and tentatively identified compounds were reported by the laboratory. Most of these compounds detected do not have established remedial criteria.
- All four groundwater monitoring wells and the town well were sampled for formaldehyde and aniline. No formaldehyde or aniline were detected.
- The default SWPC for arsenic (4 μ g/l) and copper (48 μ g/l) was exceeded in monitoring well AM-7 (11 μ g/l and 82 μ g/l, respectively). The SWPC for zinc (123 μ g/l) was exceeded in the town installed well (W-1) at a concentration of 171 μ g/l. An analysis of alternate SWPCs could be performed. No other remedial criteria were exceeded.

Summary and Conclusion

Based on the work performed and the analytical data obtained to date, no evidence of significant environmental contamination was identified at the locations explored. Some exceedances of remedial standards were identified in soil for petroleum hydrocarbons (Residential Direct Exposure Criteria) and arsenic (both Residential and Industrial/Commercial Direct Exposure Criteria). Exceedances of the default Surface Water Protection Criterion occurred in two water samples for the dissolved elements arsenic, copper and zinc.

Based on the long industrial history of the site and significant physical constraints, we were not able to perform sampling to adequately characterize all potential Areas of Concern, particularly in the northern portion of the site. Additional soil evaluations are warranted but access to some areas is very difficult. In addition, the limited thickness of the overburden aquifer makes the assessment of releases from Areas of Concern more difficult.



1.0 INTRODUCTION

GeoDesign, Inc. (GeoDesign) has completed a Phase II Environmental Site Assessment of the Amerbelle Corporation property located at 104 East Main Street in Vernon, Connecticut. The purpose of the subsurface assessment was to obtain samples of soil and groundwater to assess known or suspected release areas at the site.

Amerbelle dyes, coats and finishes textiles for end users on two industrial parcels. The site has been occupied by various companies that have performed textile dyeing and finishing since approximately 1865. Prior to this work, no other subsurface environmental sampling had reportedly been conducted at the site.

2.0 SITE DESCRIPTION

The site consists of two separate parcels of land and building complexes which are occupied by the Amerbelle Corporation and separated by Brooklyn Street. An Area Plan and a Site Plan are provided as Figures 1 and 2 in Appendix 1.

The southern-most parcel consists of 2.7-acres of land occupied by an approximately 54,500 square foot (footprint) two-story brick building (Building 14) which houses Amerbelle's textile dyeing and finishing operations. Building 14 was constructed in 1956. Building 14 is connected to an approximately 3,000 square foot building (Building 12) which was constructed between 1885 and 1892. Building 12 houses the maintenance shop and is used for storage. The parcel is adjoined by residential properties to the south; Grove Street and Paper Mill Pond to the east; Brooklyn Street to the north; and, Cedar Street to the west. A small dam of the Hockanum River at Grove Street forms Paper Mill Pond to the east of the site. From the dam, the river flows in a raceway beneath Grove Street, Building 14, Brooklyn Street, and, onto the northern Amerbelle parcel.

The northern parcel consists of approximately 1.5-acres of land which is occupied by an approximately 42,700 square foot mill complex which houses Amerbelle's textile coating operations and industrial boiler systems and storage. These buildings are primarily constructed of mortar and stone and brick. The mill complex is made up by buildings designated Building 1 through 9, 11 and 13 (see Figure 2 in Appendix 1).

The property is supplied with heat from industrial boilers located in the north-central portion of the property. The boilers burn fuel oil stored in two 20,000-gallon aboveground tanks located inside a steel building with concrete containment in the central portion of the site. Four oil-filled transformers are located inside a fenced enclosure, to the east of the fuel oil tanks. One transformer is marked as non-PCB containing. Three smaller transformers are indicated to contain PCBs.



A canal or raceway flows primarily underground from the southeast corner to the north-central portion of the site. The raceway is part of the historic use of the Hockanum River to power textile mills which were constructed in the 1800's in this area.

In 1997, the Town of Vernon replaced a sewer line within Brooklyn Street at the west-central portion of the site. While excavating the sewer line, the town encountered 90 °F colored water and inferred that the source of the water was Amerbelle's dying operations. The company and the Connecticut Department of Environmental Protection were notified and the town installed two to three 6-inch diameter PVC standpipes within the coarse backfill of the new sewer line. We confirmed the location of two of the standpipes with town representatives and measured approximately 14-inches of water in the bottom of one well. As summarized below, a sample of the water from the standpipe was obtained and designated "W-1". The results are summarized below in Section 4.

The ground surface of the site slopes downwards from the south to the north with an overall topographic relief of approximately 80-feet. Based on regional topography, geology and drainage considerations, the migration of groundwater beneath the site is expected to be controlled by the shallow elevation of the bedrock surface, the presence of the historic canal, and other historic drainage features. The bedrock surface is anticipated to be irregular but to generally slope downward towards the northwest.

2.1 SITE ENVIRONMENTAL SETTING

The Water Quality Classifications Map of Connecticut, Thames River, Pawcatuck River, and Southeast Coastal Basins (CT DEP, 1986), indicated the groundwater underlying the site is classified as GB. This indicated an area in which groundwater is known or presumed to be affected in quality by historic intense, urban, commercial and industrial development. Areas with GB groundwater are presumed to be provided with municipal water supply services.

The Surficial Materials Map of Connecticut (USGS, 1992) indicated the site is underlain by sand & gravel overlying sand. The map stated "Sand & gravel is generally less than 20-feet thick, horizontally bedded, and overlies thicker inclined layers of sand (deltaic deposits)". Just west of the site the map indicated "thin till". The thin till was described as generally less than 10-15 feet thick and includes areas of bedrock outcrop where the till is absent.

According to the *Bedrock Geology of the Rockville Quadrangle* (State Geological and Natural History Survey of Connecticut, 1955) the Glastonbury Gneiss underlies the site. The Glastonbury Gneiss is described as gray, medium to coarse-grained, well-foliated gneiss.



2.2 CONTAMINANTS OF CONCERN & APPLICABLE REMEDIATION STANDARDS

Based on our review of the history of textile dyeing and site uses, potential Contaminants of Concern (COCs) include volatile organic compounds (particularly toluene and xylenes), petroleum hydrocarbons, dye compounds (including diazo components of synthetic dyes) and metal elements. The first synthetic dyestuff was discovered in 1856 and was based on aniline. A diazotization process was developed in 1858. Based on this, the laboratory was requested to identify and quantify a list of approximately twenty-four diazo-based dye components, including aniline, benzidine and various diamene compounds. These compounds are referred to in this report and the laboratory data as tentatively identified compounds or TICs. Selected samples were also analyzed for formaldehyde and dimethyl formamide which are components of currently used dyeing, finishing or coating formulations.

Based on the site environmental setting and land use, the applicable remedial criteria for soil samples are the Residential and Industrial/Commercial Direct Exposure Criteria (R-DEC and I/C-DEC) and the Pollutant Mobility Criteria for GB Groundwater (GB-PMC). The applicable remedial criteria for groundwater are the Residential and Industrial/Commercial Volatilization Criteria (R-VC and I/C-VC) and the Surface Water Protection Criteria (SWPC).

3.0 SUBSURFACE SAMPLING & ANALYSES

Subsurface explorations were conducted in January 2004. The drilling program consisted of the completion of exterior borings using a truck-mounted hollow stem auger drill rig and interior borings using a skid-mounted solid stem auger drill rig. Boring locations are shown on Figure 2 and the boring logs are included in Appendix 2.

The rationale for the boring locations is summarized on Table in Appendix 1. Boring locations were selected to be proximate to potential Areas of Environmental Concern (e.g. former underground tanks, spills) and/or oil or chemical storage. Based on preliminary Phase I Site Assessment findings, there are numerous potential Areas of Concern due to former industrial operations, chemical storage and spills. However, there were also significant physical constraints posed by the presence of buildings, public access right-of-ways and underground utilities.

Eleven soil borings (designated AM-1 through AM-11) and five groundwater monitoring wells (AM-1, 3, 4, 5, and 7) were installed between January 22 and 31, 2004 by New England Boring Contractors of Glastonbury, Connecticut.



3.1 SOIL SAMPLING & ANALYSIS

On January 22, 2004 five exterior soil borings were completed using truck-mounted drilling equipment (designated AM-1 through AM-5). On January 23rd and 31st, 2004, a skid-mounted drill rig fitted with solid stem augers completed six interior soil borings (designated AM-6 through AM-11) at various accessible locations within the facility. Boring locations are shown on Figure 2 and boring logs are included in Appendix 2.

Soil samples were obtained using either a 2-inch diameter two-foot long split spoon sampler (exterior borings) or from the flights of the solid stem auger (interior borings). Low headroom and difficult subsurface conditions precluded the use of a GeoProbe or hollow stem augers for the interior borings.

A surficial soil sample (top two inches) was composited from frozen organic soils and debris at the outlet of a containment basin occupied by three PCB transformers. A significant quantity of ice and snow made the sampling difficult. The sample was designated S-1 and analyzed for PCBs.

3.2 SUBSURFACE CONDITIONS ENCOUNTERED

The subsurface soils encountered in the borings were generally consistent with the USGS maps described in Section 2.1. Boring logs are included in Appendix 2.

The subsurface soils encountered generally consisted of red-brown fine to medium sand and gravel from the ground surface to the top of the inferred bedrock surface. The inferred bedrock surface was encountered between approximately 4 feet below grade in boring AM-8 to 19.5 feet below grade in boring AM-4. No significant soil staining or odors were noted in the subsurface samples collected.

Groundwater was not encountered in six of the eleven borings completed (AM-2, AM-6, and AM-8 through AM-11). Where encountered, groundwater was present near the elevation of the bedrock surface between 8 to 18 feet below grade. The saturated thickness of overburden soils was approximately 1.5 feet or less.

3.2.1 Photoionization Detector Readings

Soil samples were screened in the field for the presence of volatile organic compounds using a calibrated photoionization detector (PID). PID screening results are summarized on the boring logs in Appendix 2 and ranged from none detected to 4.4 units (sample AM-11/5-6').



3.2.2 Monitoring Well Installations

Two-inch diameter flush mounted PVC monitoring wells were installed at the top of the inferred bedrock surface in borings AM-1, AM-3, AM-4, AM-5, and AM-7. The monitoring well screened sections were 5-feet to 10-feet long, depending on the total depth of the boring. Monitoring well construction details are provided on the boring logs.

3.3 SOIL ANALYTICAL RESULTS

Soil samples were delivered to Phoenix Laboratories in Manchester, Connecticut for analysis following chain of custody procedures. The analytical results are summarized below. Laboratory data sheets are attached in Appendix 3. Selected soil samples were analyzed for:

- Volatile organic compounds (VOCs) by EPA Method 8260 using EPA Method 5035 methanol preservation techniques (including identification of tentatively identified compounds);
- Semi-volatile organic base-neutral compounds by EPA Method 8270 (BN-SVOCs) including tentatively identified compounds;
- Formaldehyde and aniline;
- Extractable Total Petroleum Hydrocarbons (ETPH);
- Polychlorinated Biphenyls (PCBs); and,
- Total antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and zinc.

3.3.1 Volatile Organic Compounds (VOCs)

Eight soil samples were selected for analysis of VOCs. The laboratory was also asked to note the presence of tentatively identified compounds in the samples. The soils were chosen for analysis based on exhibiting an elevated PID reading or potential release area.

The analytical results and remedial standards for soil are summarized on Table 2 in Appendix 1. Low levels of eight VOCs were detected in five of the soil samples. This is consistent with the low photoionization detector readings obtained in the field. Total xylenes were detected in AM-8/3-4' at 2.2 mg/kg. The concentrations of VOCs detected were below published remediation criteria.



3.3.2 Base Neutral Semi-Volatile Organic Compounds (BN-SVOCs)

Two soil samples were selected for analysis of BN-SVOCs (AM-8/3-4' and AM-11/5-6'). The laboratory was also asked to note the presence of tentatively identified compounds. The samples were selected based on their location beneath dyeing operations and wastewater conveyance systems.

As summarized in Table 2, no BN-SVOCs or tentatively identified compounds were detected in the samples.

3.3.3 Extractable Total Petroleum Hydrocarbons (ETPH)

Seven soil samples were selected for analysis of extractable total petroleum hydrocarbons (ETPH). Generally, the soils were chosen for analysis based on exhibiting an elevated PID reading or were located near a potential source of petroleum contamination.

The laboratory results are summarized in Table 2. ETPH was detected in five of seven soil samples analyzed. The R-DEC of 500 mg/kg was exceeded in AM-1/1-3' (920 mg/kg) and in AM-6/5-6' (770 mg/kg). There were no exceedances of the industrial/commercial criterion for TPH of 2,500 mg/kg.

3.3.4 Formaldehyde & Aniline

Soil samples obtained from below Building 14 (dyehouse) were selected for analysis of formaldehyde (two samples) and aniline (three samples).

As summarized on Table 2, formaldehyde was detected in samples AM-8/3-4' and AM-11/5-6' at 17 mg/kg and 9.3 mg/kg, respectively. The detection of formaldehyde represents an issue for additional evaluation. No state remedial standards have been established for formaldehyde in soil.

Aniline was not detected in the three soil samples analyzed.

3.3.5 Total Metal Elements

Eight soil samples were analyzed for total antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, seleniúm, silver, and zinc. The soil samples were selected for analysis based on evidence of potential fill material (ash/slag).



Table 2 summarizes the analytical results. The R-DEC and I/C-DEC for arsenic (10 mg/kg) was exceeded in sample AM-1/1-3' at 122 mg/kg. The remedial criteria for the other metals analyzed were not exceeded.

Due to the relatively low concentrations of total metals reported, extraction testing to allow direct comparison to the Pollutant Mobility Criteria was not performed.

3.3.6 Polychlorinated Biphenyls (PCBs)

Composite sample S-1 was obtained from the likely discharge point if PCB transformers had leaked. No PCBs were detected in the sample.

4.0 GROUNDWATER SAMPLING & ANALYSES

The five groundwater monitoring wells were allowed to stabilize for approximately one week and low flow purging and sampling of groundwater was performed using a peristaltic pump and dedicated tubing. Due to a lack of sufficient saturated thickness and relatively poor groundwater recharge, the drawdown limits were exceeded and the wells purged dry. Although a monitoring well was installed in boring AM-5 at the top of the inferred bedrock surface, there was insufficient groundwater to allow for sampling.

The lack of sufficient saturated thickness and the volume of groundwater required to complete the desired number of analyses required that the monitoring wells be sampled over a period of three days (January 29 and 31, 2004). Five groundwater samples (four newly installed monitoring wells and one town installed well) were analyzed for:

- Volatile organic compounds by EPA Method 8260 and tentatively identified compounds;
- Semi-volatile organic base-neutral compounds by EPA Method 8270 and tentatively identified compounds;
- Extractable Total Petroleum Hydrocarbons (ETPH);
- Formaldehyde and aniline; and,
- Dissolved antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver and zinc.

4.1 pH & SPECIFIC CONDUCTANCE

The pH, specific conductance, and temperature of the groundwater in the four groundwater monitoring wells and the town installed well (W-1) were measured in the field using a calibrated Oakton-10 meter. The field measurements can be summarized as follows:



Well Designation	pH (S.U.)	Specific Conductance (uS)	Temp (Celsius)
AM-1	8.1	513	6.5
AM-3	8.1	517	6.4
AM-4	7.7	1,539	9.7
AM-7	10.7	224	13.0
W-1	9.10	2,390	13.1

The field measurements indicated elevated pH readings in wells AM-7 and W-1 and elevated specific conductance readings in AM-4 and W-1.

4.2 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples were delivered to Phoenix Laboratories following chain of custody procedures. Laboratory data sheets are included in Appendix 4.

4.2.1 Volatile Organic Compounds (VOCs)

Samples from all four groundwater monitoring wells and the town well (W-1) were analyzed for VOCs. The 40-ml sample vials contained hydrochloric acid to retard biodegradation. The laboratory results are summarized on Table 3 in Appendix 1.

Chloroethane was detected in the town installed well (W-1) at a concentration of 120 μ g/l, which is below the state's proposed R-VC remedial criterion of 12,000 μ g/l. No other VOCs were detected in the five samples, including AM-3 which was located near the former underground xylenes storage tanks.

4.2.2 Extractable Total Petroleum Hydrocarbons (ETPH)

All four groundwater monitoring wells and the town well (W-1) were sampled for ETPH using one liter amber glass containers. As summarized on Table 3, ETPH was detected in three of five samples. The ETPH concentrations in monitoring wells AM-4, AM-7, and W-1 were 260 μ g/l, 590 μ g/l, and 1,100 μ g/l, respectively. Although a concentration of 1,100 μ g/l is considered elevated, there are no established numeric remedial criteria for ETPH in a GB groundwater area.



4.2.3 Base-Neutral Semi-Volatile Organic Compounds (BN-SVOCs)

The town installed well (W-1) was sampled for BN-SVOCs and the result is summarized on Table 3. This sample was selected based on the former presence of dye wastewater at this location and the lack of a groundwater monitoring well in the vicinity. The sample was collected in a one liter amber glass container.

Relatively low levels of thirteen SVOCs and tentatively identified compounds were reported by the laboratory. Most of these compounds detected do not have established remedial criteria.

4.2.4 Formaldehyde & Aniline

Five monitoring wells were sampled for formaldehyde and aniline. The samples were collected in one liter amber glass containers.

As summarized on Table 3, no formaldehyde or aniline were detected.

4.2.5 Dissolved Metals

All four groundwater monitoring wells and the town well (W-1) were sampled for dissolved metals. The laboratory was requested to perform the sample filtering through a 0.45 micron filter prior to preservation with nitric acid. The results can be compared to the default Surface Water Protection Criteria (SWPC) as follows:

	Samı	ole Design	nation and	d Result (ug/l)	
Element	AM-1	AM-3	AM-4	AM-7	W-1	SWPC
Arsenic	<4	<4	<4	11	4	4
Barium	38	41	48	12	10	Not Est
Chromium	<1	<1	<1	2	1	110
Copper	2	2	3	82	28	48
Lead	<1	<1	<1	8	1	13
Nickel	<2	3	3	<2	41	880
Zinc	4	9	5	9	171	123

The default SWPC for arsenic (4 μ g/l) and copper (48 μ g/l) was exceeded in monitoring well AM-7 (11 μ g/l and 82 μ g/l, respectively). The default SWPC for zinc (123 μ g/l) was exceeded in the town installed well (W-1) at a concentration of 171 μ g/l. No other remedial criteria were exceeded. The potential exists to propose alternate Surface Water Criteria in accordance with the regulations.



5.0 SUMMARY & CONCLUSIONS

Based on the work performed and the analytical data obtained to date, no evidence of significant environmental contamination was identified at the locations explored. Some exceedances of remedial standards were identified in soil for petroleum hydrocarbons (Residential Direct Exposure Criteria) and arsenic (both Residential and Industrial/Commercial Direct Exposure Criteria). Exceedances of the default Surface Water Protection Criterion occurred in two water samples for the dissolved elements arsenic, copper and zinc.

Based on the long industrial history of the site and significant physical constraints, we were not able to perform sampling to adequately characterize all potential Areas of Concern, particularly in the northern portion of the site. Additional soil evaluations are warranted but access to some areas is very difficult. In addition, the limited thickness of the overburden aquifer makes the assessment of releases from Areas of Concern more difficult.

APPENDIX 1
FIGURES & TABLES



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No. M:\CL\0553\03\CAD\LOCUS PLAN.dwg

REVIEWED BY: TFC

AREA PLAN AMERBELLE CORPORATION 104 EAST MAIN STREET VERNON, CONNECTICUT

SCALE IN FEET
SCALE 1 = 24000
0 12000 24000 48000

PROJECT NO	. 553–3.1
DATE: 2/3/0	04
FIGURE NO.	1

PLAN.DWG

TABLE 1 BORING LOCATION RATIONALE Phase II Environmental Site Assessment Amerbelle Corporation 104 East Main Street

Vernon, CT

Boring Designation	Location	Rationale for Location
AM-1	Loading dock on the south side of Building 7.	Area of chemical loading/unloading
AM-2	Near northwest corner of Building 14 and Dye Mixing Room	Near Building No. 14 Dye Mixing Room, loading dock and near location where dye water had been encountered by town
AM-3	South side of Building No. 14, near loading dock	Inferred downgradient and within area of influence of former 3,000-gallon & 5,000-gallon underground xylene storage tanks (removed in 1993 without closure sampling).
AM-4	Southwest corner of Building No. 1	Adjacent to Building 2 loading/unloading dock and the Organic Coating/Mixing room in Building 1
AM-5	Building Exterior, Building No. 11 Loading Dock	Area of chemical loading/unloading
AM-6	Building Interior, Building No. 3	Interior storage location within an old portion of the mill
AM-7	Building Interior, Building No. 11	In an area identified as the dyehouse prior to construction of Building 14
AM-8	Building Interior, Building No, 14, Jig Dyeing area	Area of Jig Dyeing machines and wastewater conveyance trenches
AM-9	Building Interior, Building No. 14, textile finishing area	Textile finishing area – location of finish frames and finishing chemical storage
AM-10	Building Interior, Building No. 14, textile finishing area	Inferred to be downgradient of several dyeing and finishing operations, assuming groundwater flow towards the canal
AM-11	Building Interior, Building No. 14, wastewater collection sump area	Located adjacent to wastewater conveyance trenches and the main collection sump

SOIL ANALYTICAL RESULTS SUMMARY AMERBELLE CORPORATION 104 EAST MAIN STREET VERNON, CONNECTICUT TABLE 2

					Š	mple Des	ignation	Sample Designation and Result (mg/kg)	ilt (mg/k	(2					Remedi	Remediation Criteria (mg/kg)	ia (mg/kg)
0.64	AM-1/	AM-1/	AM-3/ AM-3/	AM-3/	AM-4/	AM-4/	AM-5/	AM-5/	AM-6/	AM-7/	AM-8/	AM-9/	AM-11/ AM-11	AM-11/	(1 6		ì
	1-3	3-5	3-5	5-7"	3.5	5-7"	3-5	9-117	2-6'	3-5	Ţ	5.7	1-3	2-6	K-DEC	J/C-DEC	GB-PMC
					Vc	latile Or	ganic Co	Volatile Organic Compounds and TICs	and TIC	S							
2,2,3,3-tetramethyl-Butane	Ę	¥	QZ	NT	QN	NT	NT	ON ON	0.26 (J)	IN	Ð	QN QN	£	Ð	뷛	兇	岩
2,2,5,5-tetrmethyl-Hexane	ŢN	TA.	2	IN	0.37 (J)	ĸ	NT	0.15 (J)	Ð	Ϋ́	£	P P	Ð	Ð	出	R	岁
2,2-dimethyl-Hexane	Ę	IN	0.19 (J)	NT	QN	TN	NT	QN.	ND DI	TN	<u>R</u>	Ð.	Ð	Ð	Ä	别	NE
Cyclohexane	NT	M	QN	NT	0.29 (J)	TN	NT	QV.	Ð	Ę	£	Ð	£	£	岁	岂	岂
Ethylbenzene	TN	Ĭ	< 0.18	۲N	< 0.18	NT	NT	< 0.14	< 0.21	Ę	0.35	< 0.2	< 0.13	< 0.17	200	1,000	10
Methyl isobutyl ketone (MIBK)	NT	NT	<1	ŢN	<1	NT	NT	<1	<1 <1	Ę	< 0.36	< 0.4	< 0.26	< 0.34	200	1,000	14
Toluene	ĸ	칟	< 0.18	NT	0.42	L	IN	< 0.14	< 0.21	Æ	< 0.18	< 0.2	< 0.13	< 0.17	200	1,000	19
Total Xylenes	L	뒫	< 0.18	Į	< 0.18	TN	TN	< 0.14	< 0.21	TM	2.2	< 0.2	< 0.13	< 0.17	200	1,000	20
					Semi	Volatile	Organic	Semi-Volatile Organic Compounds and TICs	ds and	TCs							
TICs	TN	¥	NT	TN	NT	NT	IN	IN	NT.	Ę	£	뉟	E	£	H)		
					Extr	ctable T	otal Pet	Extractable Total Petroleum Hydrocarbons	ydrocarb	Ons							
ЕТРН	920	TN	240	IN	360	NT	< 10	ĸ	170	83	Ę	< 10	Ĕ	뉟	200	2,500	2,500
					ŀ	Aiscellan	eous Or	Miscellaneous Organic Compounds	spunodu								
Aniline	뉟	NT	NT	TN	IN	F	IN	Ä	Ĭ	< 0.33	< 0.33	Ľ	Ľ	< 0.33	岩	岁	NE NE
Formaldehyde	Į	TN	TN	TN	ŢN	Ϋ́	TN	FA	TN	臣	17	Ę	Ę	9.3	岁	出	贸
						To	tal Meta	Total Metal Elements	2								
Arsenic	3.97	122	Ā	2.35	Ĭ	5.63	IN	IN	NT	2.04	1.93	2.36	Ę	1.93	10	01	ĄZ
Barium	92	48.2	¥	43.9	Į	9.92	L	본	NT	114	113	60.5	ΤN	61.2	4,700	140,000	NA
Chromium	12.6	8.51	IN	11.8	Ę	22.9	ĘN	N.	NT	16.4	28.4	15	ΤΝ	19.3	€ 001	100 3	NA AN
Copper	20.1	19.7	Ĭ	11.3	Ŕ	27.1	NT	NT	NT	33.7	19.8	16.1	Ā	15.1	2,500	76,000	NA
Lead	15.3	32.8	Ä	20.8	F	438	TN	LIN	TN	40.3	13	28.5	Ę	5.11	200	1,000	NA
Mercury	< 0.1	< 0.1	Ϊ	< 0.1	뉟	0.3	Ę	본	NT	0.11	< 0.1	< 0.1	TN	< 0.1	20	610	NA
Nickel	11.5	2.29	Į.	7.41	F	12.8	뇐	NŢ	NT	99.8	12	8.42	TN	9.64	1,400	7,500	NA
Silver	0.762	< 0.5	¥	< 0.5	L	< 0.5	K	TN	NT	< 0.5	< 0.5	< 0.5	TN	< 0.5	340	10,000	NA A
Zinc	26.8	15.4	Ţ	49.6	NT	73.4	F	Ţ	Ţ	46	43.7	32.8	본	22.4	20,000	610,000	ΝΑ

LEGEND:

NT = Not Tested

NE = None Established

ND = Not Detected

NA = Not Applicable

TICs = Tentatively Identified Compounds

J = J value indicates an estimated concentration that is below the quantification limit, but is present.

R-VC = Residential Volatilization Criteria

I/C-VC = Industrial/Commercial Volatilization Criteria

GB-PMC = Pollutant Mobility Criteria - GB Area

NOTES

- 1. In general, only detected compounds are reported. Refer to the analytical data sheets for all analytes and detection limits.

 2. The Pollutant Mobility Criteria for metal elements in soil can not be directly applied to mass analysis (total) results.
 - 3. This standard assumes the more stringent DEC for hexavalent chromium.
 - 4. Bolded data indicates exceedance of an applicable remediation standard.

TABLE 3

GROUNDWATER ANALYTICAL RESULTS SUMMARY AMERBELLE CORPORATION 104 EAST MAIN STREET VERNON, CONNECTICUT

	S	Sample Designation and Result (ug/l)	nation and l	Cesult (ug/l)		Remedi	Remediation Criteria (ug/l)	ia (ug/l)
Analyte	AMGI	AM-3	AM-4	A.M7	W-1	R-VC	I/C-VC	SWPC
	Vo	latile Organ	ic Compour	Volatile Organic Compounds and TICs				
Chloroethane	\$	\$	\$	\$	120	12,000 ⁽²⁾	29,000 ⁽²⁾	NE
Dimethyl Formamide (DMF)	<1000	<1000	<1000	<1000	<1000	SE	NE	NE
Methyl isobutyl ketone (MIBK)	<10	<10	<10	<10	<10	13,000 ⁽²⁾	50,000	RE
	Semi-	Volatile Org	ganic Compo	Semi-Volatile Organic Compounds and TICs	Cs			
1,4-Dichlorobenzene	IN	IN	IN	NT	14	$1,400^{(2)}$	$3,400^{(2)}$	26,000
1-[4-(2-benzoxazoly) 1H-Pyrrole-2,5-dione	NT	INT	NT	IN	54	NE	NE	NE
1-methoxy-4-octyl-Benzene	NT	INT	NT	IN	52	NE	NE	NE
2-Nonylphenol	NT	NT	TN	IN	120	NE	NE	NE
4-(2,2,4-trimethylpentyl)-Phenol	NT	NT	NT	IN	80	NE	NE	NE
4-chloro-2-(trifluoromethyl) Benzenamine	IN	NT	IN	IN	26	NE	NE	NE
4-Nonylphenol	TN	IN	NT	NT	130	NE	NE	NE
Aniline	<10	<10	<10	<10	<10	NE	NE	NE
Bis(2-ethylhexyl)phthalate	NT	IN	IN	IN	11	NE	NE	65
dodecyl-Phenol	NT	IN	IN	INT	190	NE	NE	NE
dodecyl-Phenol	TN	NT	TN	IN	210	NE	NE	NE
Fluoranthene	TN	NT	TN	NT	13	NE	NE.	3,700
Formaldehyde	<100	<100	<100	<100	<100	NE	NE	Æ
nonyl-Phenol	IN	TN	TN	TN	91	NE	NE.	NE
Pyrene	TN	L	NT	NT	12	NE	NE	110,000
	3	Extractable P	Petroleum Hy	Hydrocarbons				ar bish and d
ЕТРН	<100	<100	260	590	1100	NE	NE	NE
		Dis	Dissolved Metals	S				
Arsenic	42	45	\$	11	4	RE	NE	4
Barium	38	41	48	12	10	NE	NE	NE
Chromium	<1	<1	>	2	1	NE	NE	110
Copper	2	2	3	82	28	NE	NE	48
Lead	<1	<1	<	8	1 500	NE	NE	13
Nickel	7	3	3	2	41	NE	NE	880
Zinc	4	6	S	6	171	NE	NE	193

LEGEND:

NT = Not Tested

NE = None Established

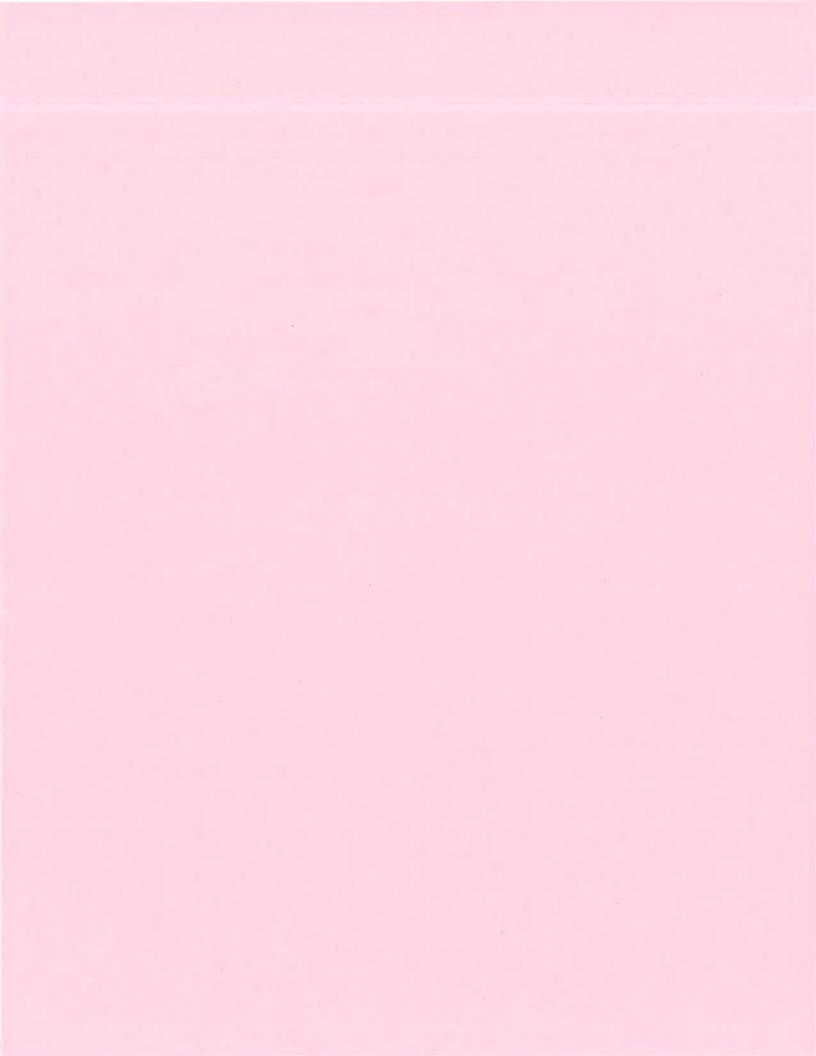
TICs = Tentatively Identified Compounds

UC-VC = Industrial/Commercial Volatilization Criteria R-VC = Residential Volatilization Criteria

SWPC = Surface Water Protection Criteria

NOTES:

- In general, only detected compounds are reported. Refer to the analytical data sheets for all analytes and detection limits.
 Denotes the Proposed VC Standard (March 2003)
 Bolded data indicates exceedance of remedial standard.



EPA CONTRACT NO. 68-W6-0042 EPA WORK ASSIGNMENT NO. 155-SIBZ-0100

EPA Project Officer: Diana King EPA Work Assignment Manager: Jim Byrne

Targeted Brownfields Assessment Report

Amerbelle Textiles 104 East Main Street Vernon, Connecticut

August 2006

Prepared By:

Metcalf & Eddy, Inc. 701 Edgewater Drive Wakefield, Massachusetts 01880-5371

TARGETED BROWNFIELDS ASSESSMENT REPORT AMERBELLE TEXTILES VERNON, CONNECTICUT AUGUST 2006

TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION AND BACKGROUND INFORMATION 2.1 Site Location and Description 2.2 Site History and Use 2.3 Groundwater and Surface Water Resources 2.4 Site Features and Utilities 2.5 Environmental Studies and Information	
3.0 PRELIMINARY CONCEPTUAL SITE MODEL 3.1 Areas of Concern	13 14
4.0 TBA INVESTIGATION 4.1 Soil Borings 4.2 Monitoring Well Installation and Groundwater Sampling 4.3 Geologic and Hydrogeologic Conditions	18 19
5.0 ANALYTICAL DATA EVALUATION 5.1 Soil Samples 5.2 Groundwater Samples 5.3 Data Usability Assessment	23 26
6.0 REVISED CONCEPTUAL SITE MODEL. 6.1 Building 11 Loading Dock Area and Interior of Building 11	31 33 34 34
7.0 CONCLUSIONS AND RECOMMENDATIONS	38
8.0 LIMITATIONS	40
9.0 REFERENCES	41

FIGURES

Figure	1.	Site	Locus	Map
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Figure 2. Site Plan (GeoDesign, 2004b)

Figure 3. Sampling Locations

Figure 4. Groundwater Contours for Bedrock

Figure 5. Conceptual Site Model

TABLES

Table 1. Summary of Phase I & II Assessments, Data Gaps, and Planned TBA Investigation Locations

Table 2. Soil and Groundwater Sampling Locations and Analyses – TBA Investigation

Table 3. Summary of Analytical Data for Soil Samples: Volatile Organic Compounds

Table 4. Summary of Analytical Data for Soil Samples: SVOCs and Metals

Table 5. Summary of Analytical Data for Soil Samples: ETPH

Table 6. Summary of Analytical Data for Groundwater Samples

Table 7. Summary of GeoDesign and TBA Investigations and Remaining Areas of Concern

APPENDICES

APPENDIX A	SELECTED TABLES AND FIGURES FROM PHASE I AND PHASE II
	REPORTS (GEODESIGN, 2004)
APPENDIX B	BORING LOGS
APPENDIX C	MONITORING WELL INSTALLATION LOGS
APPENDIX D	GROUNDWATER FIELD SAMPLING WORKSHEETS
APPENDIX E	LABORATORY DATA SHEETS & DATA VALIDATION MEMORANDA
APPENDIX F	EPA SITE PROGRAM REPORT (JULY 2005) – ROOSEVELT MILLS SITE
APPENDIX G	ROOSEVELT MILLS BEDROCK WELL DATA, 2005 (COURTESY OF SAIC)
APPENDIX H	STATEMENT OF LIMITATIONS

1.0 INTRODUCTION

This Targeted Brownfields Assessment (TBA) report for the Amerbelle Textiles property has been prepared in accordance with Metcalf & Eddy's (M&E's) EPA-approved Final Field Task Work Plan (M&E, October 2005) for conducting the TBA under EPA's Response Action Contract (RAC). This report presents the results of the TBA, performed on behalf of the TBA applicant, the town of Vernon, Connecticut, and the current Site owner, the Hockanum Industrial Development and Venture Corporation (HIDVC).

The Amerbelle Textiles property (the Site) is located at 104 East Main Street in Vernon, Tolland County, Connecticut. The Site was formerly owned and operated by the Amerbelle Corporation. Amerbelle Corporation was in arrears in its sewer payments to the town, and was prepared to close its Vernon operations and declare bankruptcy in November 2003. To help preserve the business and its 107 jobs for the town, the town enlisted the HIDVC to work with Amerbelle Corporation to transfer the property. The HIDVC is a non-profit corporation established by the Town of Vernon to take ownership of industrial properties within the town that have closed or are in danger of closing, and assist the town in maintaining productive uses of such sites. The Site is currently owned by the HIDVC (HIDVC, 2004).

Previous investigations at the Site have included Phase I and Phase II Environmental Site Assessments (ESA) prepared by GeoDesign, Inc. for Murtha Cullina, LLP (GeoDesign, 2004a and 2004b). These two assessments were provided to the Town of Vernon by Murtha Cullina to support the town's TBA application, and were subsequently provided electronically (PDF format) to M&E by the Town of Vernon point of contact (POC), Mr. Laurence Shaffer.

The town and the HIDVC identified an individual with knowledge of the business (Mr. Douglas Rimsky), who was also one of Amerbelle Corporation's main customers, to take over operation of the business. Amerbelle Textiles LLC (owner Mr. Douglas Rimsky) is currently leasing the Site from HIDVC and has expressed an interest in purchasing the property, including all land, buildings, and equipment, but has concerns regarding the Site's environmental condition and potential liability. The Phase I and Phase II ESAs produced by GeoDesign helped address these concerns, but some data gaps remained that led the town to apply for an EPA Targeted Brownfields Assessment grant. The town and HIDVC are hopeful that the TBA will address

remaining environmental concerns and allow for the transfer of the property from HIDVC to
Amerbelle Textiles LLC. For the time being, HIDVC intends to continue leasing the property to
Amerbelle Textiles LLC, and textile dyeing and finishing operations are continuing (HIDVC,
2004).

2.0 SITE DESCRIPTION AND BACKGROUND INFORMATION

Information presented in this section summarizes Site conditions and Site history and use, including a discussion of previous environmental investigations and activities.

The Site was owned and operated by the Amerbelle Corporation (a different entity than Amerbelle Textiles LLC). Amerbelle Corporation was in arrears in its sewer payments to the town, and was prepared to close its Vernon operations and declare bankruptcy in November 2003. To help preserve the business and its 107 jobs for the town, the town enlisted the HIDVC to work with Amerbelle Corporation to transfer the property. The HIDVC is a non-profit corporation established by the Town of Vernon to take ownership of industrial properties within the town that have closed or are in danger of closing, and assist the town in maintaining productive uses of such sites. The Site is currently owned by the HIDVC (HIDVC, 2004).

2.1 Site Location and Description

Amerbelle Textiles is located at 104 East Main Street in Vernon, Tolland County, Connecticut (Figure 1). The Site consists of a northern parcel and a southern parcel. Both parcels are occupied by various buildings and are separated by Brooklyn Street (Figure 2). Current operations include dyeing and treatment of fabrics that are subsequently converted into products such as wedding gowns, automobile convertible tops, and other specialty fabrics (HIDVC, 2004). Based on historic and on-going manufacturing operations, the Site is considered an "Establishment" under the Connecticut Property Transfer Act (22a-134) (GeoDesign, 2004a).

The 1.5-acre northern parcel is occupied by an approximately 42,700 square-foot mill complex. The mill complex to the north of Brooklyn Street is comprised of Buildings Nos. 1 through 9, 11, and 13 (see Figure 2). Buildings Nos. 3 and 11 are approximately five stories tall and Building No. 4 is four stories tall. The remaining buildings are one to two stories. These buildings are primarily constructed of mortar, stone, and brick. Several locations have crawl spaces and/or half-story areas (GeoDesign, 2004a).

The northern parcel mill complex currently houses solvent and latex-based textile coating operations, the company's industrial boiler systems, and storage areas. In addition to the manufacturing and boiler operations, these latter buildings also house a QC laboratory, various administrative offices, and the operations of Challenge Sailcloth, a tenant at the site (GeoDesign, 2004a).

The property is supplied with heat from two large industrial boilers located in the northern central portion of the property. The boilers are each authorized to burn either natural gas or used fuel oil. Natural gas is piped to the facility. The used fuel oil is stored in two 18,000-gallon aboveground storage tanks (ASTs) that are located inside a concrete containment structure that is fully-covered by a prefabricated metal building enclosure. Four oil-filled transformers are located outdoors inside a fenced enclosure, just to the east of the fuel oil tanks. One large transformer is marked as non-PCB containing. Three smaller transformers are indicated to contain PCBs (GeoDesign, 2004a).

The 2.7-acre southern parcel is occupied by an approximately 54,500 square-foot two-story brick building (Building No. 14) which currently houses textile dyeing and finishing operations. Building No. 14 was constructed in 1956 and adjoins an approximately 3,000 square foot 4-story building (Building No. 12) that was constructed between 1885 and 1892. Building No. 12 currently houses the maintenance shop and is used for storage. The parcel is adjoined by residential properties to the south; Grove Street and Paper Mill Pond to the east; Brooklyn Street to the north; and Cedar Street to the west (GeoDesign, 2004a).

A small dam of the Hockanum River forms Paper Mill Pond across Grove Street to the east of the Site. From Grove Street, the Hockanum River continues through the Site, in a raceway constructed beneath Buildings Nos. 14, 7, and 5. The river flows from the southeast corner to the north-central portion of the Site, discharging to American Mill Pond, then continuing to the southwest, ultimately joining the Connecticut River. The raceway was constructed when the Hockanum River was first used to supply power to the textile mills (GeoDesign, 2004a).

The Site topography slopes downwards from the south to the north with an overall topographic relief of approximately 60 feet. Based on regional topography, geology, and drainage considerations, the migration of groundwater beneath the Site is expected to be controlled by

the shallow elevation of the bedrock surface, the presence of the historic canal, and other historic drainage features. The bedrock surface is anticipated to be irregular but to generally slope downward towards the northwest (GeoDesign, 2004a).

The Surficial Materials Map of Connecticut (USGS, 1992) indicates that the Site is underlain by sand and gravel overlying sand. The map states, "Sand & gravel is generally less than 20-feet thick, horizontally bedded, and overlies thicker inclined layers of sand (deltaic deposits)." Just west of the Site, the map indicates "thin till." The thin till was described as generally less than 10-15 feet thick and includes areas of bedrock outcrop where the till is absent (GeoDesign, 2004a).

According to the Bedrock Geology of the Rockville Quadrangle (State Geological and Natural History Survey of Connecticut, 1955), the Glastonbury Gneiss underlies the Site. The Glastonbury Gneiss is described as a gray, medium to coarse-grained, well-foliated gneiss. The bedrock is exposed in the northwestern portion of the Site where the raceway discharges to the American Mill Pond (GeoDesign, 2004a).

The Water Quality Classifications Map of Connecticut, Thames River, Pawcatuck River, and Southeast Coastal Basin (CTDEP, 1986), indicates the groundwater underlying the Site is classified as GB. This classification indicates an area in which groundwater is known or presumed to be affected in quality by historic intense, urban, commercial, and industrial development. Areas having GB groundwater are presumed to be provided with municipal water supply services (GeoDesign, 2004a).

From The Atlas of the Public Water Supply Sources & Drainage Basins of Connecticut (1982), the Rockville Quadrangle indicates that the Site is located within the Connecticut Major Basin, the Hockanum Regional Basin, and the Hockanum River Sub-basin. No water supply sources were indicated within a one-half mile radius of the Site (GeoDesign, 2004a).

2.2 Site History and Use

The Site is occupied by numerous buildings. The mill buildings were constructed between 1865 and 1869 by Albert Dart, a local blacksmith who developed several mills in the area. Textile

dyeing and finishing operations have been the main activity at the Site since that time (GeoDesign, 2004a).

At least two separate companies occupied the original mill buildings which make up the present Site. The White Manufacturing Company and then J.J. Regan manufactured cotton yarn and gingham cloth in what are now Buildings No. 1, 3, 4, and 5 until approximately 1909. The Rose Silk Company (for a very short time) and then Belding Brothers Silk Thread Mill occupied Buildings No. 8, 9, and 11. Belding Brothers Silk Mill operated at the Site from approximately 1868 through 1927 and took over the J. J. Regan portions of the Site (northwestern corner) in 1909. The property was reportedly vacant between 1927 and 1936. In 1936, the Site was occupied by American Dyeing Corporation, which subsequently changed its name to Amerbelle Corporation (GeoDesign, 2004a). Amerbelle Corporation operated until April 19, 2005, when the property was transferred to the HIVDC and the dyeing business was turned over to Amerbelle Textiles LLC (see Section 2.0). The business continues to operate as a tenant of HIDVC under the name Amerbelle Textiles LLC.

Belding Brothers' dyeing operations are believed to have been in Building No. 8 and ceased in 1927. From 1936 when American Dyeing Corporation took over the site, until the construction of Building No. 14 in 1956, dyeing operations were performed in Building No. 11. Dyeing operations have been performed in Building No. 14 since it was constructed (GeoDesign, 2004a).

Amerbelle Textiles LLC currently operates at the Site as a "commission dye house." The company performs dyeing, coating, and finishing of synthetic and blend fabrics for textile converters. Bales of nylon or polyester fabrics, typically linen-white in appearance, are received into the facility. Within Amerbelle's facility, the fabric is typically scoured, bleached, and dyed. Following the dyeing process, the fabric is typically processed through machines called calendars to tighten the weave. The fabric is then further processed by application of latex or solvent-based coating and/or a water-based finish solution. Following lay-up and inspection, the fabric is packaged and shipped either to the customer or to the next step in the textile converting process (GeoDesign, 2004a).

Amerbelle's dyeing and finishing operations are conducted inside Building No. 14. Dye

chemicals and dye stuffs are measured out and prepared for use in an area of the "Dye House" located in the northwest corner of Building No. 14 (Figure 2, Dye Mixing Room area). The dye chemicals and dye stuffs are then delivered out to the Dye House floor for use in three different types of dyeing processes: beam dyeing, jig dyeing, and jet dyeing. Finishes are applied to fabrics in the "Finish Department" located at the eastern end of Building No. 14. Finishes are applied by whole fabric immersion in a water-based finish solution. Finishes impart physical attributes to the fabric such as water-repellency or flame retardance. Finishes can also be applied to impart anti-microbial or anti-static properties to a fabric. Finish chemicals are measured out and prepared for use in an area in the southeast portion of Building No. 14. Finish chemicals are then applied to fabric at the feed ends of five finish "tenter frame" machines. The fabric is then dried in gas-fired drying ovens (GeoDesign, 2004a).

Amerbelle's dyeing and finishing operations consume large quantities of water for process use and for non-contact cooling. Amerbelle's water needs are largely met by withdrawing water on-site from the Hockanum River. Hockanum River water is pumped from the raceway and then processed through bag filters for use as non-contact cooling water, and through a combination of sand filters and bag filters for use as process water. Filtered water for process use is stored in several aboveground tanks and then pumped to the various dyeing and finishing machines. The water is batch mixed with dye chemicals, dye stuffs, and finish chemicals at the individual dyeing machines and finishing frames and applied to the fabric (GeoDesign, 2004a).

After processing, batches of dye, finish, and rinse wastewaters are discharged to a network of concrete floor trenches and sumps in Building No. 14. All of the wastewater is eventually conveyed to a stainless steel in-ground collection sump, located in the western portion of the building. From the sump, the wastewater is pumped to two 7,500-gallon aboveground stainless steel neutralization tanks for pH adjustment. Approximately 150,000 gallons to 200,000 gallons of dyeing and finishing wastewater is discharged to the sanitary sewer per day, in accordance with a state-issued sewer discharge permit (GeoDesign, 2004a).

Filtered river water is used for non-contact cooling in "cooling cans" located at the ends of the finish tenter frames and at the ends of the coating lines. Non-contact cooling water is also used in five water-cooled air compressors. The non-contact cooling water is discharged back into the Hockanum River at the northwestern portion of the Site, in accordance with a National Pollution

Discharge Elimination System (NPDES) permit issued by the state. Current flows of non-contact cooling water average about 200,000 gallons per day (gpd) (GeoDesign, 2004a).

Much smaller amounts of river water and "city" water are used for contact cooling, for laboratory use, for equipment maintenance, and for sanitary purposes. A total of approximately 2,000 gpd of process and sanitary wastewater are discharged to the sanitary sewer following use as boiler blowdown, floor washing, compressor condensate, quality control laboratory operations, and sanitary use (GeoDesign, 2004a).

Amerbelle's "Coating Department" is located indoors on the north side of Brooklyn Street (see Figure 2, Latex Coating and Solvent Coaters). Amerbelle operates one coating line for applying water-based "latex" coatings and two coating lines for applying solvent-based coatings. Solvent emissions from the two solvent coating lines are directed to a gas-fired thermal oxidizer or "incinerator" to accomplish destruction of volatile organic compounds (VOCs) prior to discharge to the environment, in accordance with a state-issued air emission permit (GeoDesign, 2004a).

Coatings are applied to one side of the fabric using knife-coating operations. The coated fabrics then enter drying ovens that are heated by natural gas (for the latex coater) or by air-to-air heat exchangers (for the two solvent coating lines). The air-to-air heat exchangers draw heat from the exhaust gases leaving Amerbelle's gas-fired thermal oxidizer. Amerbelle's coatings are either solvent-based or water-based, and include acrylics, acrylic and urethane blends, urethanes, and silicones. Amerbelle's solvent-based coatings typically contain toluene (40-45%), isopropyl alcohol (10-15%) and methyl ethyl ketone (2 to 3%) as the principal solvents. Coatings are typically applied to impart physical attributes such as custom pigmenting, breathable waterproofing, flame retardant properties, or anti-microbial or non-ravel properties (GeoDesign, 2004a).

Small amounts of wastewater generated by the clean-out of equipment used to mix and apply the latex coatings are discharged to the sanitary sewer in accordance with a state-issued discharge permit. Small amounts of waste generated by the clean-out of equipment used to mix and apply the solvent coatings are collected and disposed off-site as a hazardous waste (GeoDesign, 2004a).

After dyeing, coating and finishing, fabrics are subjected to inspection on the second floor of Building No. 14. Stains and marks on the fabric are removed by an airbrush applicator using trichloroethylene (TCE). Approximately three to nine gallons of TCE are used per month in this process. No waste TCE is generated (GeoDesign, 2004a).

A maintenance shop located within Building No. 12 performs typical maintenance functions including welding, minor machining (turning, milling, grinding), and electrical repair. A small mineral spirits parts cleaner is located here for maintenance department use. A second small parts cleaner is located in the boiler department in Building No. 5. The parts cleaner uses a citrus-based fluid (GeoDesign, 2004a).

A quality control laboratory is located on the second floor of Building 8. This lab conducts a variety of dyeing and finishing tests on fabric samples. The QC lab also performs dry clean testing on fabric samples and employs the chlorinated solvent perchloroethylene (PCE, also known as tetrachloroethylene). One to three gallons of PCE are used per month in this process. Waste PCE is accumulated and shipped off-site as a hazardous waste (GeoDesign, 2004a).

Challenge Sailcloth is a tenant at the Site and occupies portions of Buildings Nos. 8, 9, and 11. Challenge Sailcloth is also a customer of Amerbelle, and markets and distributes sail cloth which has been coated by Amerbelle. According to interviews performed by GeoDesign, Challenge Sailcloth does not use or store oils or hazardous materials as part of their operation. No such materials were observed during the Site visits by GeoDesign (GeoDesign, 2004a) or by M&E and EPA on September 8, 2004.

Land in the general vicinity of the Site currently consists mostly of residential properties. An automobile repair facility is located to the southeast, across Grove Street and east Main. Several light industrial/commercial buildings are located along the eastern side of Paper Mill Pond southeast of the Site (GeoDesign, 2004a).

The mill building located at the northeast corner of the Site is known as Daniel's Warehouse and is believed to have an industrial history similar to Amerbelle's. The building is believed to be currently used primarily for storage. Anocoil Corporation is located approximately 500-feet to the north and downgradient of the Site. Anocoil manufactures lithographic plates for the commercial printing industry (GeoDesign, 2004a).

2.3 Groundwater and Surface Water Resources

A small dam on the Amerbelle property impounds the Hockanum River and forms Paper Mill Pond across Grove Street to the east of the Site. From Grove Street, the Hockanum River flows through the Site, in a raceway constructed beneath Buildings Nos. 14, 7, and 5. The river flows from the southeast corner to the north-central portion of the Site. The raceway was constructed when the Hockanum River was first used to supply power to the textile mills (GeoDesign, 2004a).

The Water Quality Classifications Map of Connecticut, Thames River, Pawcatuck River, and Southeast Coastal Basin (CTDEP, 1986) indicates the groundwater underlying the Site is classified as GB. This classification indicates an area in which groundwater is known or presumed to be affected in quality by historic intense, urban, commercial, and industrial development. Areas having GB groundwater are presumed to be provided with municipal water supply services (GeoDesign, 2004a).

From *The Atlas of the Public Water Supply Sources & Drainage Basins of Connecticut* (1982), the Rockville Quadrangle indicates that the Site is located within the Connecticut Major Basin, the Hockanum Regional Basin, and the Hockanum River Sub-basin. No water supply sources were indicated within a one-half mile radius of the Site (GeoDesign, 2004a).

2.4 Site Features and Utilities

The Site is occupied by various buildings as described in Sections 2.1 and 2.2. The property is supplied with heat from two large industrial boilers located in the northern central portion of the property. The boilers are each authorized to burn either natural gas or specification used fuel oil. Natural gas is piped to the facility. Specification used fuel oil is stored in two 18,000-gallon ASTs that are located inside a concrete containment structure that is fully-covered by a prefabricated metal building enclosure. Four oil-filled transformers are located outdoors inside a fenced enclosure, just to the east of the fuel oil tanks. One large transformer is marked as non-PCB containing. Three smaller transformers are indicated to contain PCBs (GeoDesign, 2004a).

2.5 Environmental Studies and Information

The following sources of information were provided by the town of Vernon and the USEPA. Historical investigations include Phase I and Phase II investigations by GeoDesign.

According to the GeoDesign Phase I, no environmental investigations occurred at the property prior to the 2004 Phase I investigation. GeoDesign conducted extensive file review as part of the Phase I. This included reviews of the following: Sanborn Fire Insurance Maps, historical facility map, aerial photographs, facility file information obtained from Amerbelle, and file reviews at the town offices (Tax Assessor's Office, Clerk's Office, Health Department, Building and Zoning Department, Sewer Department, and Fire Department) and Connecticut Department of Environmental Protection (CTDEP). GeoDesign also reviewed an Environmental Data Resources, Inc. (EDR) report for the property.

Phase I field activities conducted by GeoDesign included a review of available file information and determination of potential areas of environmental concern at the property. The file review identified former USTs in two areas: one area at the current location of the fuel oil ASTs, and another area south of Building 14 (former xylene USTs; see Figure 2).

The two steel 20,000 gallon USTs formerly located in the fuel oil AST area were used to store fuel oil of various types and were removed in 1989. No documentation was found that summarized the condition of the tanks upon removal or the condition of the subgrade, but Amerbelle located analytical reports that appear to be from tank closure soil samples, showing a maximum TPH concentration of 150 mg/kg. Amerbelle also located a letter to CTDEP documenting approval from the town of Manchester landfill to dispose of excavated soil there. From these records it is inferred that contaminated soil was excavated and removed from the Site prior to installation of the ASTs in the same area.

The former xylene USTs were of steel construction and were removed in 1993. No records were located by GeoDesign indicating post-excavation soil sampling or oversight of the tank removal by the town fire marshal or other regulatory agency. Amerbelle personnel indicated to GeoDesign that there are no known USTs on site at the present time.

According to interviews conducted by GeoDesign (2004a), the Town of Vernon was replacing a sewer line within Brooklyn Street in 1994 and encountered warm, dye-colored water in the sewer line excavation. The town notified Amerbelle of the potential release and installed clay dams within the sewer line excavation to minimize the migration of the water along the coarse backfill for the new line. Amerbelle took action to re-line the trenching and containment troughs underlying dyeing machines in Building 14, but was never able to determine if these troughs were the actual source of the release of the dye-colored water (GeoDesign, 2004a).

The Recognized Environmental Conditions identified in the GeoDesign Phase I, including the former UST locations, are presented in Appendix A (see figure extracted from the GeoDesign report).

GeoDesign conducted Phase II activities to address selected potential areas of concern identified during Phase I activities. During Phase II, GeoDesign performed eleven soil borings and completed five of the borings as monitoring wells. The locations are shown on Figure 2. Soil samples were collected, and four of the five wells were sampled (one, AM-5, was not sampled because it was found to be dry when the sampling team attempted to sample it). The remaining wells were sampled over a period of several days due to lack of groundwater recharge. The data summary tables from the Phase II are reproduced in Appendix A. The boring logs from the GeoDesign Phase II are also included in Appendix A.

3.0 PRELIMINARY CONCEPTUAL SITE MODEL

The objective of the conceptual site model (CSM) is to provide a representation of the nature and extent of contamination in soil and groundwater at the site that can be utilized to develop subsequent environmental investigation and remedial plans. A preliminary evaluation of the areas of concern (AOCs), contaminants of concern (COCs), potential receptors, migration pathways, and data gaps is presented below, based on the work performed by GeoDesign (2004a, 2004b). The TBA investigation locations and analyses that were planned to help address identified data gaps are also discussed below.

3.1 Areas of Concern

Table 1 presents a summary of the Recognized Environmental Conditions (areas of concern) identified by GeoDesign in the Phase I ESA (see figure in Appendix A), the associated GeoDesign Phase II Environmental Assessment investigation location (borings and/or wells), and the contaminants of note that were detected (as summarized from results presented in the tables in Appendix A). Remaining data gaps and TBA investigation locations (both planned locations and completed locations) are also included in Table 1 and shown on Figure 3. The Phase II Environmental Assessment report (GeoDesign, 2004b) noted that it was difficult to access many locations to install borings and wells because of underground utilities and building/equipment locations. It was also noted that for several potential well locations, a well could not be installed because the water table was below the bedrock surface. During the September 8, 2004 site visit by M&E and EPA, these conditions were discussed, and it was agreed that TBA efforts would focus on installation of additional wells (in bedrock as needed), and gaining access to areas not previously sampled because of subsurface utilities. Six locations were proposed to install additional wells site-wide, investigate locations where soil contamination was encountered during the Phase II, and install wells where subsurface utilities had previously precluded installation. Vacuum excavation was used to avoid utility damage at the Brooklyn Street location (location ME-2 on Figure 3), and a drill rig with rock coring capability was used so that wells could be installed in the rock as needed.

During a pre-bid site visit on October 18, 2005 with M&E, potential drilling subcontractors and Amerbelle representatives in attendance, it was determined that proposed location ME-4 on Figure 3 would not be performed because of the extreme difficulty of moving a drill rig into

Building No. 3. Alternative locations in the vicinity were examined but none was deemed satisfactory, and it was decided to focus efforts on other locations. Location ME-3 on Figure 3 was attempted twice but could not be completed as a monitoring well, as discussed in more detail in Section 4, because the bore hole collapsed before a well casing could be installed.

3.2 Contaminants of Potential Concern

The contaminants of potential concern that GeoDesign analyzed during the Phase II investigation included VOCs, semivolatile organic compounds (SVOCs), petroleum hydrocarbons, metals, and two chemicals related to the dyeing business (formaldehyde and aniline). The Phase II analyses included reporting of Tentatively Identified Compounds (TICs) with the intent of possibly identifying other dye-related chemicals not typically reported for VOC and SVOC analyses, should they have been present in soil or groundwater. The data summary tables prepared by GeoDesign are reproduced in Appendix A.

VOCs. Very low levels of petroleum-related VOCs were detected in soil and groundwater during the Phase II investigation. Although detected levels were very low, the use of solvents at the site suggests that VOCs remain contaminants of concern, so additional sampling and analysis was included in the TBA investigation.

SVOCs. No SVOCs were detected in the samples collected during the Phase II investigation. However, these compounds remain contaminants of concern because of their presence in dyeing chemicals. Polynuclear Aromatic Hydrocarbons (PAHs) are a subset of the SVOCs that may also be present due to their association with petroleum and ash, both of which may be present in site soil. Additional soil and groundwater sampling and analyses for SVOCs were performed during the TBA investigation.

Petroleum Hydrocarbons. Extractable Total Petroleum Hydrocarbon (ETPH) analyses were performed during the Phase II investigation, and concentrations in soil samples that exceeded Connecticut RSR residential direct exposure criteria (RES DEC) were reported at two locations (see table in Appendix A): AM-1 (1 to 3 foot sample, 930 mg/kg) and AM-6 (5 to 6 foot sample, 770 mg/kg). Neither of these concentrations exceeds the Industrial Commercial DEC (I/C DEC) of 2500 mg/kg. Detectable concentrations of ETPH below applicable criteria were present at

several other soil sample locations and also in groundwater samples. Oils are used extensively at the site. ETPH analyses were included for both soil and groundwater as part of the TBA investigation.

Metals. Certain metals were detected by GeoDesign in site soil and/or groundwater at levels exceeding Connecticut RSR criteria for direct exposure (soil) or surface water protection (groundwater). Arsenic was detected at a concentration of 122 mg/kg in the 3 to 5 foot sample from location AM-1. Lead was detected in the 5 to 7 foot sample from location AM-4 at a concentration of 438 mg/kg, which exceeds the 400 mg/kg value that CTDEP currently requires for soil at residential properties to be protective of human health, in accordance with CT Department of Public Health standards. Arsenic and copper were detected in the groundwater sample from AM-7 at concentrations exceeding the Surface Water Protection Criteria (SWPC), and zinc was detected in the groundwater sample from the town-installed well W-1 at a concentration above its SWPC.

The metals detected in soil samples may be related to the presence of ash on site, as noted in the Phase II assessment report. The leachability of the metals via Synthetic Precipitation Leaching Procedure was not evaluated during the Phase II investigation. The TBA investigation included total metals mass analyses for soil samples, and selection of a subset of the soil samples for the SPLP metals extraction/analysis based on the results of the metals mass analyses. Groundwater samples were also analyzed for total metals. The analyte list was the Connecticut RSR list of metals, consistent with the Phase II investigation.

Aniline. Aniline, a dye-related compound, was analyzed but was not detected in soil or groundwater during the GeoDesign Phase II investigation. Along with the SVOCs routinely reported that are regulated under the Connecticut RSR, the laboratory that performed the SVOC analyses for the TBA investigation was directed to report aniline as a Tentatively Identified Compound (TIC) if it was identified in any TBA samples.

Formaldehyde. Formaldehyde was analyzed in soil and groundwater samples during the Phase II investigation using EPA SW-846 Method 8315. Formaldehyde was not detected in the groundwater samples. It was detected in two soil samples at concentrations of 17 mg/kg and 9.3 mg/kg. There are no Connecticut RSR criteria for formaldehyde, but EPA Region 9 has

established a residential soil Preliminary Remediation Goal (PRG) for formaldehyde of 9,200 mg/kg and an industrial soil PRG of 100,000 mg/kg (EPA Region 9, 2004). Because the concentrations of formaldehyde detected are orders of magnitude below these PRGs, the TBA investigation analytical plan did not include sampling and analysis for formaldehyde.

Benzidine. Benzidine is an SVOC that is similar to aniline and is related to dye manufacturing and use. In the past, industry used benzidine to produce dyes, but benzidine has not been made for sale in the United States since the mid-1970s and major U.S. dye companies no longer make benzidine-based dyes (ATSDR, 2001). The GeoDesign Phase II investigation included benzidine as part of their Method 8270 SVOC analyte list, and benzidine was not detected. However, the reporting limit for benzidine by Method 8270 is greater than risk-based screening values for this compound, such as the Region 9 Preliminary Remediation Goals for soil and water. Benzidine is not regulated under the Connecticut RSR. Analysis for benzidine is not commonly performed, and it is very difficult to attain reporting limits as low as the Region 9 PRG. Similar to the GeoDesign investigation, the TBA investigation laboratory screened for benzidine in the SVOC samples and ran a standard for benzidine, so that if it were detected, the concentration could be quantified.

PCBs. During the GeoDesign Phase II investigation, the PCB transformer area was inspected and a soil sample was collected for PCB analysis using EPA SW-846 Method 8082. No PCBs were detected at a reporting limit of 400 ug/kg for each of the Aroclors. The TBA investigation analytical plan did not include additional sampling and analysis for PCBs.

The soil and groundwater analyses performed at each sampling location during the TBA are summarized in Table 2.

3.3 Potential Migration Pathways and Receptors

Because the site is almost completely paved or covered with buildings, potential migration pathways are limited to leaching of contaminants from soil into groundwater and resulting transport to the groundwater discharge point (presumed to be the Hockanum River), and/or volatilization of VOCs from groundwater or soil and subsequent migration to the indoor air of the on-site buildings. Because the site is to remain in industrial use, it is not anticipated that future

development of the site would result in removal of pavement and possibly alter the migration pathways to include direct exposure to soil and groundwater, surface water runoff, or windblown deposition of contaminated soil particles.

In some portions of the site, groundwater is entirely within the bedrock. The bedrock is highly weathered and fractured, and transport of groundwater contamination or Dense Non-Aqueous Phase Liquid (DNAPL) contaminants via bedrock fractures is a possibility. Transport of contamination via bedrock fractures, if occurring, would not necessarily correspond to the prevailing groundwater flow direction.

Currently, potential receptors appear to be limited to persons who could potentially be exposed to indoor air containing VOC contamination, and persons or flora and fauna that may be exposed to groundwater migrating from the site. The area is served by public water; therefore there is little chance of local residents consuming affected groundwater. Potential future receptors include construction workers who perform intrusive activities that could expose workers to potentially contaminated soil, soil gas, and/or groundwater.

4.0 TBA INVESTIGATION

The TBA investigation was conducted in November-December 2005 and January 2006 and consisted of soil borings with surface and subsurface soil sampling, installation of monitoring wells in overburden and bedrock, and groundwater sampling.

4.1 Soil Borings

Soil borings were drilled on November 28th through December 3rd, 2005. Soil borings located outdoors were advanced using a truck-mounted hollow-stem auger drill rig, which was re-tooled for rock coring using either an H-size or N-size core barrel for locations where the boring was advanced into bedrock. A roller-bit was used to create a socket to seat casing prior to beginning rock coring activities. The one indoor boring (Location 3) was advanced using a propane-powered skid-mounted rig because the location could not be accessed with the truck-mounted rig. At this location, it was necessary to use drive and wash drilling techniques in the overburden because the skid-mounted rig could not drive augers. Overburden soil samples were collected continuously from each boring using split-spoon samplers, with the exception of ME-2. Location ME-2 in Brooklyn Street was first cleared using vacuum excavation to a depth of five feet below ground surface (bgs) before roller bit drilling and rock coring were used to advance the well into bedrock. No soil samples were collected from ME-2.

The soil samples from each boring were logged and characterized, and observations were made to attempt to identify possible impacts by oil or hazardous materials (OHM). These observations included recording the visual appearance of the samples (looking for evidence of petroleum, ash, and other possible evidence of contamination), and field screening for total volatile organic compounds using a PID. The PID was used to screen the soil samples when they were first opened, and then again as a headspace after the soil was allowed to sit in a sealed bag for several minutes. Soil boring locations are shown on Figure 3, and soil boring logs are included in Appendix B.

Five soil borings were drilled throughout the site, identified as ME-1, ME-2, ME-3, ME-5, and ME-6 on Figure 3. Location ME-4 was not attempted because of difficulties in accessing the location that were identified during the pre-bid drillers meeting. Locations ME-1, ME-2, ME-5,

and ME-6 were completed as monitoring wells. Location ME-3 could not be completed as a well because the hole collapsed before the well casing could be placed. Two attempts were made to install a well at ME-3 without success. As noted in the boring log for ME-3, a large fracture zone was encountered in the boring that was filled with gravel, and this fracture is believed to have caused the collapse of the borehole.

Soil samples for laboratory analysis were typically collected from surface soil (defined as the interval from the ground surface to no more than 4 feet bgs), and from subsurface soil (greater than 4 feet bgs) near the water table for locations where the water table was within the overburden. The sampled intervals and analyses performed for each location are presented in Table 2.

4.2 Monitoring Well Installation and Groundwater Sampling

Four monitoring wells were installed at the site during the TBA field investigation. The wells are identified as ME-1, ME-2, ME-5, and ME-6 on Figure 3 and were constructed in the soil boring locations bearing the same identifications. Wells ME-1, ME-2, and ME-6 were completed in the bedrock, and well ME-5 was completed in the overburden.

All wells were constructed using two-inch schedule-40 flush joint PVC. The monitoring wells were screened across the water table with a 10-foot section of 10-slot PVC well screen and brought flush to grade with a solid PVC riser that was capped and housed in a six-inch aluminum gate box. The well construction consisted of sand pack in the annular space around the PVC from the bottom to approximately 2 feet above the top of the well screen, 1 foot of hydrated bentonite chips, sand above the bentonite, and a concrete pad with flush mount gate box. Well installation logs are included in Appendix C.

Well development was completed following installation of groundwater monitoring wells. The wells were developed by pumping to remove fine-grained particles until the water produced was relatively clear.

Existing overburden monitoring well AM-7 and the newly installed wells ME-1, ME-2, ME-5, and ME-6 were sampled on January 31 and February 1, 2006. Wells ME-1, ME-2, and ME-6 were

installed in the bedrock and were sampled using EPA low-flow methods (July, 1996). During groundwater sampling, the purge water was monitored for temperature, pH, specific conductivity, oxidation reduction potential, dissolved oxygen and turbidity (collectively referred to as field parameters). Groundwater sampling was initiated upon stabilization of these field parameters. Field sampling worksheets are included in Appendix D.

Because of the low volume of water within each well coupled with low recharge, the overburden monitoring wells (ME-5 and AM-7) could not be sampled with strict adherence to the EPA low-flow procedure. Instead, these wells were sampled with a peristaltic pump without use of a flow cell to monitor for field parameter stabilization. Also, because of elevated turbidity, the samples from these wells designated for metals analysis were field-filtered by pumping the water through an in-line filter prior to filling the sample bottles and preserving the samples with nitric acid. Also because of limited volume, it was not possible to collect sufficient sample to allow analysis of all parameters originally specified (VOC, SVOC, metals, and ETPH). ME-5 was sampled for VOCs, ETPH, and metals, but SVOC analysis was omitted. AM-7 was sampled for SVOCs and metals, but the VOC and ETPH analyses were omitted.

4.3 Geologic and Hydrogeologic Conditions

Amerbelle Textiles sits astride a bedrock knoll located on the edge of a large valley that contains American Mill Pond east of the site, and further to the northeast Shenipsit Lake. Topographically, the land surface slopes downward to the west, north, and northeast on and adjacent to the site. To the south the topography is relatively level and to the southwest and east the topography rises in elevation. In general, the underlying overburden at the site consists of a thin mantle of red/brown sandy soils with some semblance of a till, especially at depth. The soils at depth were also generally finer-textured silts, just above bedrock. A natural soil sequence, however, was not observed because of the urban location and the years of construction and maintenance of the facility and town improvements of roadways and utilities. Most soils at the site could be described as fill, most likely native soils that were disturbed by urban practices. Depths to bedrock ranged from 3 to 13.5 feet below ground surface and, in general, bedrock appeared to be deeper to the northeast.

Bedrock at the site consists primarily of gneiss derived from rocks with compositions ranging from felsic to mafic, with an overlying yellow-gold micaceous, phyllitic/schistose rock. The bedrock in general was highly weathered near the surface and well fractured. At ME-3, the thickness of the phyllite/schist was thicker than at the other boreholes and contained a bed of graphitic schist. At well ME-6, there was a zone of quartzite along with the gneiss. Gneiss was also found in both wells ME-1 and ME-2.

Bedrock fractures were apparent in the rock cores that were retrieved. While multiple fractures were found in ME-1 and ME-2, they were relatively small compared to fractures found at well locations ME-3 and ME-6. The fractures encountered at ME-3 and ME-6 were very large (~2 feet) bedrock fractures containing heavily weathered bedrock and gravel. In both well ME-3 and ME-6, these large fractures were encountered above groundwater and were followed by many large fractures below the water table. In both cases, the fractures appeared to be highly conductive based on the amount of drilling water that was lost to the borehole while drilling. In ME-3 the borehole repeatedly collapsed before smaller casing or a well could be inserted.

Overburden groundwater at the site was discontinuous and (when observed) it occurred in the finer material at the base of the overburden (on top of bedrock). In general, it appears that there is an increase in overburden groundwater to the northeast, however, due to the urban nature of the site and site conditions, it is difficult to determine the exact nature of the overburden groundwater. ME-1 contained no overburden groundwater, while ME-2 appeared to have 2 to 3 inches of water atop bedrock. ME-3 was indeterminate due to the different drilling technique (drive and wash). Wells ME-5 and ME-6 both contained approximately 2 feet of overburden groundwater. At well ME-5 (the only overburden well installed), the increase in saturated thickness may be the result of trapped groundwater due to the location of ME-5. Well ME-5 is surrounded by building foundations to the north and east, and the raceway to the west. Additionally, well ME-5 is in a loading dock depression. Well ME-6, a bedrock well, is in a similar situation as ME-5, located in a loading dock and surrounded by building foundations. The difference between overburden groundwater depth (10.8 feet) and bedrock groundwater depth (19.5 feet) at well ME-6 suggests a poor connectivity between overburden groundwater and bedrock groundwater. In wells ME-1 and ME-2, the groundwater elevation in the bedrock was between 2.2 and 6.6 feet below the top of bedrock, also suggesting that the overburden and bedrock groundwater zones at the site are not well connected. There are two lines of

evidence, however, that suggest that there is at least a partial connection between bedrock and overburden. The first is that in all borings where rock cores were collected, weathered bedrock and fractures (often large) were encountered in the upper (top) portion of the bedrock. The second line of evidence was visual/olfactory observance of petroleum/solvent contamination in both the overburden and bedrock groundwater at monitoring well location ME-6; though bedrock groundwater seemed to be more highly contaminated (stronger odors) than the overburden.

The hydrology of the site is impacted by the anthropogenic features of the site. Nearly 100 percent of the site is covered by impervious features (asphalt parking lots, buildings, etc), drainage systems, and roads. The impervious cover severely limits direct groundwater recharge to the site; therefore most recharge to the overburden (and bedrock) comes from up gradient adjacent properties (west and likely south).

Based on the evidence from the drilling program, a conceptual model of the site hydrogeology was developed. The thin overburden aquifer resides in the fine textured soils just above bedrock. The groundwater in the overburden either seeps laterally along the bedrock surface or flows downward into the bedrock where gradients are downward and vertical permeability permits it. Contaminant migration may also follow in a similar fashion. Due to the elevation and the complex fractured rock hydrogeology, the groundwater table in the bedrock is typically below the bedrock surface at the site. The interpretation of bedrock hydrogeology is further complicated by the sheer vertical drop (in particular to the north) and the large number of buildings that cover the site and adjacent properties. Groundwater in the bedrock is likely derived from a combination of infiltration from overburden and recharge from off site. A groundwater elevation map based on elevations obtained from the TBA-installed wells and AM-7 is presented in Figure 4. While the contours are inferred in many instances due to limited bedrock well coverage (note ME-5 and AM-7 are overburden wells), the overall direction of groundwater flow appears to be to the northwest towards American Mill Pond.

5.0 ANALYTICAL DATA EVALUATION

The laboratory analytical data from the TBA investigation are presented and discussed in this section. Soil analytical results are presented in Table 3 (VOCs), Table 4 (SVOCs and metals), and Table 5 (ETPH). Groundwater analytical results for all parameters are summarized in Table 6. The tables present only those organic analytes that were detected in one or more samples, while results for all of the CT RSR metals are presented. Laboratory data sheets and data validation memoranda are provided in Appendix E.

Data are compared to criteria contained in state regulations. The Regulations of Connecticut State Agencies ("RCSA") Sections 22a-133k-1 through 22a-133k-3, inclusive, comprise the Remediation Standard Regulations ("RSRs"). The RSRs apply to investigation and remediation of properties that are being transferred and meet the definition of "establishment" in the Connecticut Property Transfer Law. The RSRs also apply to sites undergoing voluntary remediation under RCSA Section 22a-133x or Section 22a-133y, and to remedial actions required by an order of the Commissioner pursuant to Chapter 445 or 446k of the Connecticut General Statutes. The CTDEP also suggests using the RSRs for guidance on sites that do not fit these categories, but are undergoing investigation and/or remediation.

The CTDEP RSR criteria included in Tables 3, 4, and 5 for comparison to the soil results are the industrial/commercial and residential direct exposure criteria and the GB pollutant mobility criteria (I/C and RES DEC and GB PMC, respectively). The site is classified as industrial/commercial and is expected to remain that way, but the residential direct exposure criteria are also included on the tables for information purposes. The CTDEP RSR criteria applied to the groundwater results are the proposed revised industrial/commercial and residential volatilization criteria (I/C VC and RES VC, respectively) (CTDEP, March 2003), and the surface water protection criteria (SWPC).

5.1 Soil Samples

Surface and subsurface soil samples were collected from locations ME-1, ME-3, ME-5, and ME-6 on Figure 3 and submitted for laboratory analysis. Analytical results from samples are summarized by contaminant below.

VOCs. Very low concentrations of VOCs (predominantly ethylbenzene and xylenes) were detected in the 2 to 2.5 foot bgs sample from location 3, the boring advanced inside Building 14 that collapsed before it could be completed as a monitoring well (Table 3). The detected concentrations are orders of magnitude below CT RSR criteria. Methylene chloride was detected in the subsurface soil sample from ME-5 (10 to 12 feet bgs), but this compound was also detected in the associated trip blank and is considered unlikely to be an actual site contaminant.

SVOCs. Most of the compounds detected in site soil samples are in the subset of SVOCs known as polycyclic aromatic hydrocarbons (PAHs) and related compounds (dibenzofuran and carbazole, see Table 4). PAHs are typically formed during the incomplete burning of organic material including wood, coal, oil, gasoline and garbage and are also found in coal tar, creosote, and asphalt (MassDEP, May 2002). PAHs are frequently found in soil because of the widespread historic practice of emptying fireplaces, stoves, and boilers in both rural and urban areas (MassDEP, May 2002). The concentrations found in site soil samples are fairly uniform and are below the applicable CT RSR criteria (both direct exposure and pollutant mobility). It is considered likely that the concentrations of PAHs are indicative of background concentrations for soil in the vicinity of the site, rather than a release of OHM. For the surface soil sample from ME-5, the boring log also noted the presence of coal ash in the sample which may be a source of the PAHs detected in that sample.

Concentrations of two other commonly encountered SVOCs, the phthalate esters di-n-butyl phthalate and bis(2-ethylhexyl)phthalate, were also detected in site soil samples. The phthalate esters are most often used as plasticizers and are not specifically related to the dyeing process. The concentrations detected were well below CT RSR criteria and are not indicative of a specific release of these compounds to site soil.

Metals. Arsenic was detected in one soil sample (ME-5, 0 to 4 feet bgs) at a concentration of 54.4 mg/kg, which is five times the RES and I/C DEC (Table 4). The arsenic concentrations detected in other TBA-collected soil samples were below direct exposure criteria and appear to be consistent with natural soil background concentrations. No other detected metals concentrations approached or exceeded direct exposure criteria for the soil samples collected during the TBA. The lead concentration in one soil sample collected by GeoDesign (AM-4, 5 to

7 feet below ground surface) exceeded the current CTDEP criterion for lead in residential soil of 400 mg/kg, but for the TBA-collected samples no lead concentrations approached this value, nor did any of the other GeoDesign-collected samples. It is possible that the lead is localized in the subsurface soil near AM-4.

An examination of the boring log for ME-5 (Appendix B) shows that the 0 to 4 foot soil sample was likely impacted by coal ash and coal chips. A similar observation was made by GeoDesign (2004b) at the nearby boring location AM-1, where arsenic was also detected at an elevated concentration (122 mg/kg) and ash and slag were noted in the boring log (see Appendix A). It is considered likely that the source of the arsenic in this part of the site is coal ash mixed with soil and used as fill. This area of the site is paved, and therefore there is no current exposure to the soil.

SPLP extraction/metals analysis was requested for seven of the eight soil samples collected (Table 4). No metals were detected in SPLP extracts at concentrations approaching their respective pollutant mobility criteria (the GB PMC). Results for mercury were rejected during data validation because of an exceedance of the holding time for mercury of 28 days. However, based on the mass analysis results for mercury, it would not be possible for the soil samples to have leached mercury at a concentration exceeding the mercury GB PMC, even if all the contained mercury were to leach out. Therefore, the rejection of the mercury results does not constitute a data gap in terms of evaluating pollutant mobility for mercury.

ETPH. Table 5 presents the ETPH concentrations detected in site soil samples collected during the TBA. Low concentrations ranging from 21 mg/kg to 75 mg/kg were detected. These concentrations are well below the RES and I/C DEC and do not indicate the presence of a significant release of petroleum hydrocarbons to the site. Soil samples collected by GeoDesign (2004b) and analyzed for ETPH showed higher concentrations, with two results exceeding the RES DEC of 500 mg/kg (AM-1, 1 to 3 feet bgs at 920 mg/kg, and AM-6, 5 to 6 feet bgs at 770 mg/kg). No reported results exceeded the I/C DEC of 2500 mg/kg. AM-1 is located near ME-5 in a loading dock area where oil releases from vehicles are likely to have occurred. AM-6 is located within Building 3 which currently serves as a general storage area.

5.2 Groundwater Samples

Groundwater samples were collected from the TBA-installed wells (ME-1, ME-2, ME-5, and ME-6) and from the GeoDesign well AM-7. AM-7 was selected for sampling because arsenic and copper were detected in the sample from this well during the GeoDesign investigation at concentrations exceeding their respective SWPC. GeoDesign also sampled town well W-1, and zinc was detected in that sample in excess of the SWPC. However, town well W-1 was not selected for re-sampling during the TBA because of the unavailability of construction details for that well, and because ME-2 was installed in the same area. The results of the TBA groundwater sampling event are presented in Table 6. The results of the 2004 GeoDesign groundwater sampling event are reproduced in Appendix A.

VOCs. Except for low concentrations of acetone in the sample from ME-2, detections of VOCs were limited to the sample from ME-6 located in the northernmost portion of the site near Building 8 and the neighboring property known as Daniel's Warehouse. ME-6 is a bedrock well, and the bedrock at that location was observed to be highly fractured. The VOCs detected were the chlorinated solvents TCE and PCE and their biodegradation products cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, and vinyl chloride. PCE, TCE, and cis-1,2-DCE were present at concentrations in the hundreds of parts per billion range. The concentration of TCE exceeded the Industrial/Commercial Volatilization Criterion (I/C VC). Traces of two trichlorobenzene isomers were also detected. Chlorinated solvents were not detected in any other wells sampled during the TBA.

The source of the chlorinated solvents in site groundwater is not known. TCE and PCE are both used at Amerbelle in very limited quantities (GeoDesign, 2004a). According to the GeoDesign Phase I report (GeoDesign, 2004a), after dyeing, coating and finishing, fabrics are subjected to inspection on the second floor of Building No. 14, and stains and marks on the fabric are removed by an airbrush applicator using TCE. Approximately three to nine gallons of TCE are used per month in this process and no waste TCE is generated (GeoDesign, 2004a). PCE is used in a quality control laboratory located on the second floor of Building 8 to perform dry clean testing on fabric samples. One to three gallons of PCE are used per month, and waste PCE is accumulated and shipped off-site as a hazardous waste (GeoDesign, 2004a). Because both TCE and PCE are apparently used at the site (and were likely also used in the past), it is

possible that one or more releases occurred and are the source of the TCE and PCE detected in the bedrock groundwater from ME-6. The storage area for 55-gallon drums is located in Building 11 which is near ME-6. Floor drains in Building 11 are now sealed, but the potential for a release existed in the past.

Another possible contributing source is the Roosevelt Mills site at 215 East Main Street, approximately one-half mile to the east of the Amerbelle site. The Roosevelt Mills site is a former woolen mill that included dry cleaning operations. The EPA Superfund Innovative Technology Evaluation Program (SITE) has been studying the site and evaluating a chemical oxidation technology to remediate chlorinated solvents that have been released there. A Site Characterization and Treatability Study Report released in July 2005 (EPA, 2005, reproduced in Appendix F) identified a pure-phase PCE source area (DNAPL) existing as distinct globules underneath the Roosevelt Mills building, and a chlorinated solvent plume emanating from this source area that contains PCE and the breakdown products TCE, DCE, and vinyl chloride. The report indicates that the plume is moving to the southwest. The laboratory-scale tests of chemical oxidation included in the report indicated that the technology was effective in reducing the concentrations of chlorinated solvents in the site soil and groundwater. Work is ongoing to perform an in-situ pilot test of the chemical oxidation technology at the site. Dr. Scott Beckman of Science Applications International Corporation (SAIC) is overseeing the work at the site on EPA's behalf, and he provided some groundwater quality data from bedrock wells located at the site (see Appendix G). PCE and TCE contamination is evident in the bedrock wells at the site, but concentrations are considerably lower than those observed in the sample from ME-6 on the Amerbelle site. However, given the presence of DNAPL at the Roosevelt Mills site (EPA, 2005) and the complexities of contaminant transport in fractured bedrock, the possibility that the Roosevelt Mills source area is contributing to the chlorinated solvent contamination observed in the groundwater at ME-6 cannot be ruled out.

SVOCs. The groundwater sample from bedrock well ME-2, located in Brooklyn Street, showed low-level detections of bis(2-ethylhexyl)phthalate and aniline. Aniline was quantified by the laboratory as a Tentatively Identified Compound (TIC) because it is not a routinely analyzed SVOC and is not regulated under the CT RSR. Aniline is of interest, as discussed in Section 2, because of its use as a component of dyes. The vicinity of ME-2 is the area where dye-colored

water was observed during sewer installation in Brooklyn Street, and the aniline detection may be a remnant of that past release.

ETPH. Low concentrations of ETPH (extractable total petroleum hydrocarbons) were detected in all groundwater samples collected. ETPH was also detected in the wells sampled by GeoDesign in 2004. Specific analytes that are typically found in petroleum hydrocarbon products, and for which there are CT RSR criteria (for example, the VOCs benzene, toluene, ethylbenzene, and xylenes; and the PAHs), were not detected in the corresponding samples. Releases of petroleum hydrocarbons and/or organic dyes may have occurred over the years that are reflected in the ETPH detections.

Metals. Chromium, copper, and lead were detected in the sample from ME-2 and its field duplicate at concentrations exceeding the SWPC. The field team also observed a bluish-green color to the sample from ME-2 when it was preserved with nitric acid. Groundwater in this vicinity may be showing residual impacts from the release of dye-colored water encountered in Brooklyn Street when new sewers were being installed.

For existing well AM-7, exceedances of SWPC were observed for copper and zinc. The GeoDesign results for AM-7 (2004b – see Appendix A) showed SWPC exceedances for arsenic in addition to copper, but the zinc concentration was much lower than was observed during the 2006 TBA sampling event. For both sampling events, the metals sample was filtered before preservation and analysis, and therefore elevated metals concentrations cannot be attributed to high sample turbidity. The source of the metals in the groundwater from AM-7 is not known.

5.3 Data Usability Assessment

Samples were analyzed by a directly-subcontracted laboratory. Quality control (QC) samples were also collected and submitted for laboratory analysis to monitor and evaluate laboratory and sampling performance. The field QC samples collected included trip blanks, field duplicates, and matrix spike/matrix spike duplicate samples.

M&E conducted a limited QC review/validation of analytical laboratory data in accordance with the EPA-approved FTWP (M&E, 2005). The review/validation provides an overview of the

laboratory and field QC data by identifying potential QC issues and assessing common QC criteria that might affect reporting and usability of the environmental data, as well as verifying that the laboratory has met minimum data acceptance criteria established by M&E. Although the limited review/validation was based on EPA Region I data validation guidelines (U.S. EPA, 1996), it was more limited in scope. The review/validation performed by M&E consisted of completing Tier II-like forms only for applicable criteria parameters, assessing data usability, and summarizing the results in abbreviated Tier II-like memoranda. The validation memoranda are included in Appendix E.

Data Qualifiers - General

Data found to be suspect during the validation/review process were qualified. Laboratory data forms were revised by hand to indicate any validation qualifications that supersede laboratory qualifiers and are included in the data validation memoranda. The final validation qualifiers are consistent with EPA validation guidelines. Positive results that were shown to exhibit poor precision or accuracy were qualified as approximated and flagged with a "J." Results with a J flag are still usable for project objectives, but such results are of reduced precision or accuracy as compared to positive results that are not so flagged. Nondetect results were flagged with a "UJ" if the associated QC data did not meet applicable criteria. Positive results were not qualified if they were found to meet all validation criteria. Nondetect results that were found to meet the validation criteria were shown as the quantitation limit or detection limit followed by a "U" qualifier. Sample data that failed to meet associated QC criteria were rejected and flagged with an "R" using EPA data validation guidelines. Because rejected data are unusable for project objectives, the numerical result or quantitation limit for a rejected result is not presented in the data summary tables and should not be relied upon for making site decisions.

Data Qualifications of Note

VOCs in Soil. For sample ME-5 (10 to 12 feet bgs), the reported result for methylene chloride was qualified with the "TB" flag, indicating that methylene chloride was also detected in the trip blank associated with this sample. This flag indicates that the result for methylene chloride in the sample may not be actual sample contamination, but may have arisen from cross-contamination that also affected the trip blank. Menthylene chloride was not detected in any

other soil sample at a concentration greater than the blank action limit applicable to the samples.

SVOCs in Soil. Soil sample ME-1 (0.5 to 3 feet bgs) was analyzed as a matrix spike/matrix spike duplicate (MS/MSD). The reported results for 2,4-dinitrophenol and pentachlorophenol in the sample were rejected because of very low recoveries of these compounds in the MS/MSD. These compounds were not detected in any other soil samples from the site and were not suspected to be present based on the site history.

SPLP Metals. SPLP metals results for mercury were rejected in all samples because of an exceedance of the holding time for mercury of 28 days. However, based on the mass analysis results for mercury, it would not be possible for the soil samples to have leached mercury at a concentration exceeding the mercury GB PMC, even if all the contained mercury were to leach out. Therefore, the rejection of the mercury results does not constitute a data gap in terms of evaluating pollutant mobility for mercury.

6.0 REVISED CONCEPTUAL SITE MODEL

Based on the findings of the TBA, the preliminary CSM was revised to re-evaluate the areas of concern, contaminants of concern, migration pathways and potential receptors of contamination, and to identify remaining data gaps. Table 7 is an update of Table 1 that includes each Recognized Environmental Condition (REC) identified by GeoDesign in their Phase I Environmental Site Assessment (2004a), summaries of the GeoDesign Phase II (2004b) and TBA investigation results, and an evaluation of potential sources of detected contaminants and remaining data gaps. The RECs that are listed first in Table 7 are those that are areas of concern for which additional investigation or remedial action is recommended. These areas are discussed further below. Following a discussion of each area of concern, the contaminants of concern and potential migration pathways and receptors are updated and a flowchart of the conceptual site model is presented. Finally, data gaps related to these AOCs are summarized.

6.1 Building 11 Loading Dock Area and Interior of Building 11

The Building 11 loading dock area and interior of Building 11 were listed as RECs by GeoDesign because of the potential for chemical spills during loading, unloading or storage of chemicals. GeoDesign installed an overburden well in the loading dock area (AM-5), but it could not be sampled because it was found to be dry when GeoDesign returned to the site to perform groundwater sampling. As noted in Section 4, the water table at the site fluctuates and is sometimes within the overburden, but more often is believed to be below the overburden/bedrock interface. GeoDesign also installed a well within Building 11 (AM-7). AM-7 groundwater was sampled and analyzed by GeoDesign for VOCs, SVOCs, ETPH, and metals. Only ETPH and metals were detected; arsenic and copper were detected at concentrations above their respective SWPC.

During the TBA, well ME-6 was installed near AM-5 and advanced into the bedrock. The groundwater sample from ME-6 was contaminated with PCE, TCE, and the degradation products of these two compounds (1,2-DCE and vinyl chloride). The source of the contamination is not known, but as discussed in Section 5, both PCE and TCE are used and stored at the site, and there is also a confirmed PCE DNAPL site (the Roosevelt Mills site) approximately 0.5 miles to the east of Amerbelle Textiles. Releases of PCE and/or TCE may have occurred within Building 11 or adjacent buildings before the building floor drains were

sealed, although no chlorinated solvents were detected in the sample from AM-7. Because the contamination is located within highly fractured bedrock, it is very difficult to identify a specific source and the migration of the contamination may not necessarily correspond to the groundwater flow direction. No other on-site wells that were sampled by GeoDesign or by M&E showed detectable levels of chlorinated solvents; however, ME-6 is the well closest to the Hockanum River, and it could be positioned between a potential on-site release and the river. It is also possible that a release could migrate through bedrock fractures from off site to the vicinity of ME-6, and not necessarily be evidenced in any of the other on-site wells. Additional investigation, consisting of borehole geophysics to determine fracture patterns and orientation, along with installation of additional wells, could be used to attempt to identify possible sources and to define the extent of the contamination. Wells positioned along Route 74 between Roosevelt Mills and Amerbelle Textiles could be installed to attempt to determine if the DNAPL at Roosevelt Mills is contributing to the contamination at ME-6. Further research into past PCE and TCE storage and disposal practices might help determine possible locations to look for an on-site source.

Well AM-7 was sampled with analysis for dissolved metals during the TBA to attempt to confirm the arsenic and copper exceedances of SWPC detected by GeoDesign. Copper and zinc (but not arsenic) were detected above their respective SWPC. The source of metals contamination at AM-7 is not known. This well is screened in the overburden, and samples were high in turbidity and required field filtering, despite attempts to redevelop the well and reduce turbidity. A possible release of metal-containing substances to the subsurface in this area cannot be ruled out. However, other nearby wells (ME-5, ME-6) do not show elevated metals concentrations and, if a release occurred, the extent of its impact to groundwater appears to be limited. Soil samples from AM-7 collected by GeoDesign (see Appendix A) did not show elevated metals concentrations, suggesting that leaching of metals from soil is not the source of the metals detected in groundwater at this location.

6.2 Trenches and Southeast Corner of Building 14

The trenches in Building 14 and the southeast corner of the building are listed as RECs by GeoDesign because of observed dye-colored water in an excavation in the vicinity, and because the concrete trenches that convey dye wastewater were eroded in some areas. No wells were installed in Building 14 by GeoDesign because of auger refusal before groundwater

was encountered. An attempt was made during the TBA investigation to install a bedrock well in the southeast corner of Building 14 (location 3 on Figure 3) to check for possible releases of dye-colored water to groundwater. It was not possible to install the well with the available equipment because the borehole collapsed due to fractured bedrock as soon as the casing was withdrawn. As a result, there is no data concerning groundwater in this area, and it is not known if releases in this area of the building may have occurred that have impacted groundwater. This area of the site is also of interest because of possible releases from a gas station that used to be located across from Building 14 along Grove Street, and because it is upgradient of most other possible on-site release areas. Future investigations should consider additional attempts to install a bedrock well in this vicinity using techniques to address the problem of borehole collapse. Examination of fractures in the borehole using borehole geophysics (in conjunction with similar work in the ME-6 area) may also be advisable to attempt to identify the source(s) of the chlorinated solvent contamination in groundwater at ME-6.

6.3 Northwest Corner of Building 14

The northwest corner of Building 14 was identified as a REC in the GeoDesign Phase I ESA because of observed dye-colored water in an excavation in Brooklyn Street that was dug to install a new sewer line in 1994. Bedrock well ME-2 was installed in Brooklyn Street in the vicinity of the observed dye-colored water, but avoiding the sewer line. Aniline and ETPH were detected in the groundwater sample from ME-2, and chromium, lead, and copper were detected at concentrations exceeding SWPC. These detections may be related to the past release of dye-colored water, the source of which was never conclusively identified by Amerbelle, although actions were taken to upgrade the wastewater conveyance system within Building 14, and the problem did not seem to recur. The extent appears to be limited because similar detections were not observed in groundwater samples from ME-1 (bedrock) or ME-5 (overburden), although these wells may not be positioned to capture a plume migrating from the immediate vicinity of ME-2. Soil samples were not collected from ME-2 because of the need to use vacuum excavation at this location to avoid subsurface utilities. Additional wells may be warranted to attempt to define the extent and collect data to allow derivation of alternate SWPC. although access restrictions limit where wells can be placed, and the complexity of the hydrogeology may make it difficult to accurately estimate the amount of site groundwater that is entering the Hockanum River.

6.4 Building 7 Loading Dock, Building 9, and Tank Area East of Building 13

Above-ground storage tanks are located in an area east of Building 13, and ETPH and arsenic were detected in GeoDesign's soil samples from AM-1. Petroleum releases and impacts to soil from ash used as fill were both suspected. Soil sample results from TBA boring ME-5 confirmed the presence of ash used as fill and elevated arsenic concentrations in this area. SPLP metals results from the same sample showed no exceedances of GB PMC for arsenic or any other CT RSR-regulated metal. There were no exceedances of SWPC for groundwater samples from AM-1 (sampled by GeoDesign in 2004) or ME-5 (TBA-collected sample), further confirming that metals pollutant mobility is not of concern in this area. ETPH was detected in the ME-5 groundwater sample but not the AM-1 groundwater sample collected by GeoDesign. There is no evidence of a significant release of petroleum in this area, but the evidence of ash used as fill first noted by GeoDesign was confirmed by the TBA investigation. Additional investigation does not appear to be necessary in this area, but steps to permanently maintain the pavement to limit direct exposure to the elevated arsenic concentrations in the soil are recommended.

6.5 Contaminants of Concern

The original contaminants of concern for the site consisted of VOCs including the BTEX compounds and chlorinated solvents, SVOCs including the PAHs and dye-related compounds (e.g., aniline), ETPH, and the CTDEP 15 metals (with foucs on arsenic, copper, and zinc). All these compounds were analyzed in soil and groundwater samples during the TBA investigation. Chlorinated solvents (PCE, TCE, and their degradation products) were detected in groundwater at ME-6 at elevated concentrations, and these compounds are now considered to be the primary contaminants of concern at the site. Some metals also continue to be contaminants of concern in soil and/or groundwater. Arsenic was detected in surface soil at one location (ME-5) in excess of the I/C DEC, and although this area is currently paved so there is no direct exposure, future redevelopment or construction could potentially result in human exposures. Lead was detected by GeoDesign in the subsurface soil sample from AM-4 (5 to 7 feet) at a concentration of 438 mg/kg, which exceeds CTDEP current standards for residential soil, but lead was not elevated in any of the other TBA or GeoDesign soil samples. Other metals in addition to arsenic (chromium, copper, lead, and zinc) were detected in groundwater samples above SWPC. Pollutant mobility does not appear to be a concern, however, because none of the seven soil samples analyzed for SPLP metals showed exceedances of GB PMC.

Extractable Total Petroleum Hydrocarbon concentrations in soil and groundwater samples did not exceed available CT RSR criteria, but the presence of ETPH in these media is considered evidence of some type of release and it is recommended that any future analyses at the site continue to include ETPH.

SVOCs, including PAHs and aniline and phthalate esters, were detected in some samples but not at concentrations that would indicate a human health concern or evidence of a specific release. PAH detections are most likely from ash used as fill co-mingled with natural soil. Traces of aniline in groundwater samples may be residual contamination from past releases of dye-containing water. No SVOC concentrations approached or exceeded applicable criteria, including the GB PMC criteria for PAHs.

6.6 Potential Migration Pathways and Receptors

Figure 5 includes a flowchart conceptual site model that indicates potential sources, release mechanisms, exposure pathways, and potential human receptors based on current and possible future uses of the property. Ecological receptors are not shown on Figure 6. Because the site is almost entirely paved, current ecological receptors are limited to flora and fauna that could be exposed to groundwater contaminants at the groundwater discharge point, believed to be the Hockanum River.

Potential Sources. The chlorinated solvent contamination is presented as having a minimum of two possible sources, possible on-site source(s) and the upgradient DNAPL site. The hydrogeology of the site is extremely complicated because of the fractured bedrock aquifer that underlies the site. Of particular concern is the area of ME-6, where high levels of PCE and TCE were observed in the groundwater. The location of the well, in a loading dock depression, is an area where past spills may have occurred; however, the level of contamination in the fractured bedrock could also be impacted by an off-site source. Further evaluation of the site is needed to test the conceptual site model, particularly information on fracture/lineament features of the Glastonbury Gneiss bedrock in Vernon. Borehole geophysics could provide information about the strike and dip of bedrock fractures in the wells located on site, as well as direction of groundwater movement, resistivity, and aperture size. Based on the geophysics, additional

wells could then be located off-site to evaluate off site contributions. A tracer test could also be performed to analyze connectivity in the bedrock.

Releases of dye-containing water are speculated to be potential sources for the low level ETPH and metals contamination detected in some groundwater wells. The area of soil with elevated arsenic concentrations is speculated to be from the presence of ash used as fill co-mingled with the soil. This speculation is backed by visual observations of ash in the borings where soil samples were collected that showed elevated arsenic concentrations.

Migration Pathways. Because the site is almost completely paved or covered with buildings, potential migration pathways are limited to leaching of contaminants from soil or DNAPL into groundwater and resulting transport to the groundwater discharge point; and volatilization of volatile contaminants (the chlorinated solvents) from soil or groundwater into soil gas, with possible subsequent migration of soil gas into the indoor air of site buildings. The buildings near ME-6 are primarily used for storage and are seldom occupied, but exposures could occur in the future if these buildings are staffed and if there is a complete pathway for migration of VOCs from groundwater to indoor air. Future development of the site (such as removal of pavement) could expand the migration pathways to include direct exposure to soils, surface water runoff, and windblown migration of contaminated soil particles.

Receptors. Current human receptors include on-site workers and possible trespassers. While future residential use is not anticipated, a future resident is also shown as a potential receptor should land uses change. Future human receptors may also include construction workers involved in invasive activities such as excavation that could lead to exposure to soil currently covered by pavement. Current human receptors appear to be limited to humans that may be exposed to groundwater migrating from the site, or exposed to indoor air that may be impacted by volatilization of chlorinated solvents from groundwater. Reportedly the area is served by public water; therefore there is little chance of local residents consuming affected groundwater. Well ME-6 is located outdoors, and it is not known if the chlorinated solvent contamination extends beneath on-site buildings or if it is limited to the vicinity of ME-6 and downgradient.

6.7 Identified Data Gaps

The following data gaps remain and, depending on future site use, may require additional investigation:

Soil Gas/Indoor Air Exposure Pathway. It is not known if chlorinated solvents are volatilizing from groundwater and impacting the indoor air of on-site buildings. While the chlorinated solvents were only detected in one outdoor well (ME-6) that is the most downgradient on the site, it is possible that there is some migration of VOCs to the air of the storage buildings near ME-6. Installation and sampling of soil gas points could be performed to attempt to evaluate whether the indoor air pathway is complete. The points would be installed in the overburden and do not require the large equipment needed for installing bedrock wells (although coring through the concrete floors would be needed), and therefore it may be feasible to perform them within Buildings 8 and 11.

Sources of Chlorinated Solvent Contamination. The sources are not known and may include on-site spills and off-site sources. As noted in Section 6.6, additional wells and borehole geophysics could help elucidate possible sources.

Surface Water Exposure Pathway. Concentrations of several metals in groundwater samples exceeded their respective SWPC, but the concentrations are relatively low. Additional wells could be considered to attempt to define the extent and collect data to allow derivation of alternate SWPC, although access restrictions limit where wells can be placed, and the complexity of the hydrogeology may make it difficult to accurately estimate the amount of site groundwater that is entering the Hockanum River.

Sources of Metals and EPTH in Groundwater. Dye-containing water releases are speculated to be a source. While there have been two documented releases of dye-colored water, it is not known if these releases are a source of these contaminants in groundwater.

7.0 CONCLUSIONS AND RECOMMENDATIONS

This section presents conclusions and recommendations based on the results of the TBA conducted at the Amerbelle Textiles site. It should be noted that the TBA was designed to collect data to evaluate potential contamination and partially fill data gaps identified by the . GeoDesign investigation (2004), and was not intended to provide a comprehensive characterization of the site. Due to access limitations posed by site buildings and operations, and difficulties in drilling within the fractured bedrock, full characterization of every REC identified by GeoDesign was not feasible.

Groundwater contamination with chlorinated solvents was detected at bedrock well ME-6, the most downgradient well location. The source of the contamination is not known but may be from on-site spills and/or an off-site source located approximately 0.5 miles to the east where the existence of PCE as a Dense Non-Aqueous Phase Liquid has been documented. One compound (TCE) was detected at a concentration exceeding its I/C VC. The following recommendations are made to further assess this contamination:

- Install and sample soil gas probes outdoors and in nearby buildings to check for the potential for migration of VOCs to indoor air
- Continue monitoring of ME-6 groundwater for VOCs to check for possible seasonal variation and concentration trends. Since remediation of the potential off-site source is underway, it is possible that a downward trend will be observed.
- Re-examine Amerbelle's records for information on use and storage of TCE and PCE, to help evaluate whether an on-site source is likely and if so, to identify areas for further investigation to possibly include additional wells and borehole geophysics.

Chromium, copper, and lead were detected in the groundwater sample from ME-2 and its field duplicate at concentrations exceeding the Surface Water Protection Criteria (SWPC). For existing well AM-7, exceedances of SWPC were observed for copper and zinc. The GeoDesign results for AM-7 (2004b – see Appendix A) showed SWPC exceedances for arsenic in addition to copper, but the zinc concentration was much lower than was observed during the 2006 TBA

sampling event. For both sampling events, the metals sample was filtered before preservation and analysis, and therefore elevated metals concentrations cannot be attributed to high sample turbidity. The source(s) of the metals in the groundwater from ME-2 and AM-7 is not known. Additional investigation could be considered to attempt to collect data to allow derivation of alternate SWPC. However, access restrictions limit where wells can be placed, and the complexity of the hydrogeology may make it difficult to accurately estimate the amount of site groundwater that is entering the Hockanum River. Additional monitoring to attempt to discern trends in metals concentrations is suggested before attempting to install additional wells.

Based on the soil analytical data collected, there are RSR direct exposure exceedances for soil (the fill-impacted area near ME-5, where arsenic exceeded DEC) but there are no known pollutant mobility issues, since SPLP testing showed no exceedances of GB PMC. This is significant because the direct exposure issues can be addressed by keeping the affected soil inaccessible in accordance with the RSRs (by maintaining the current pavement cover and implementing an Environmental Land Use Restriction), and no additional action would be required to be in compliance with the RSRs.

8.0 LIMITATIONS

No warranty, whether expressed or implied, is given with respect to this report or any opinions herein. It is expressly understood that this report and opinions expressed herein are based upon site conditions reported to M&E, observed by M&E, and as they existed only at the time this Targeted Brownfields Assessment was conducted. Without limiting the foregoing, this report, any opinions or conclusions stated herein, and its attachments are subject to the complete General Statement of Limitations and Conditions provided in Appendix H, which are incorporated by reference into, and are an integral part of, this report submittal. This report has been prepared on behalf of, and for the exclusive use of, the U.S. Environmental Protection Agency. Any use of or reliance on M&E's report by a third party, even with M&E's consent, shall be at such party's own risk.

9.0 REFERENCES

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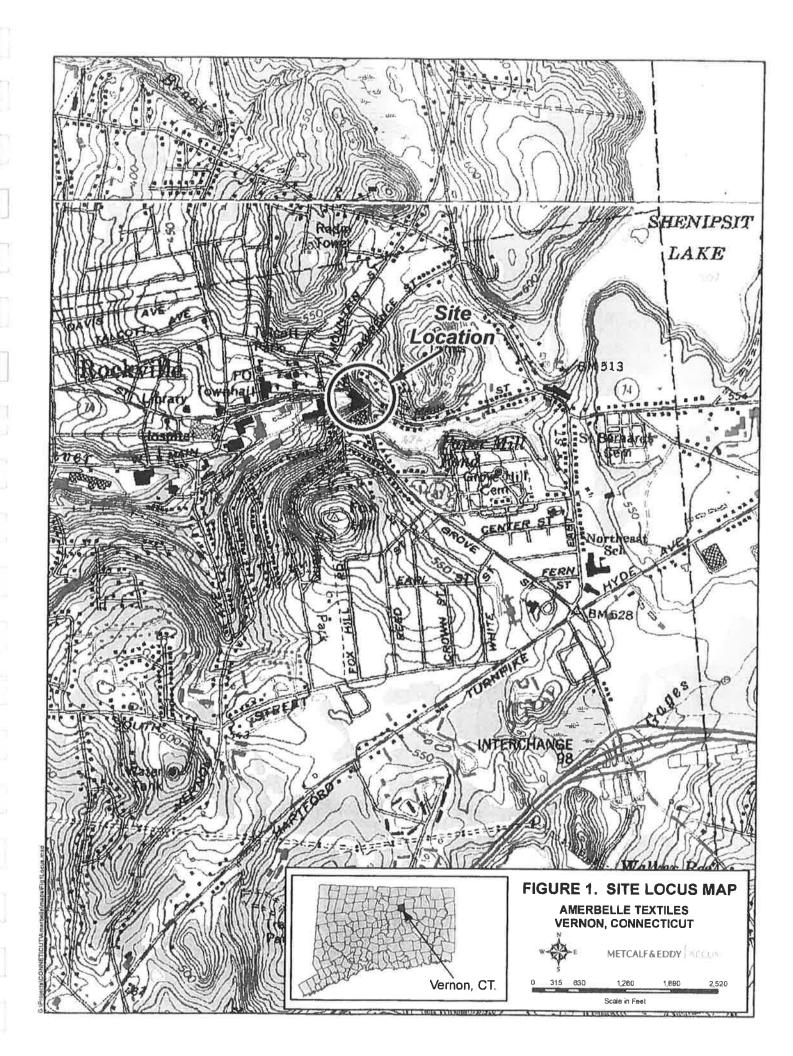
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- Metcalf & Eddy, Inc. (M&E). 2004a. Work Plan for Conducting Non-Superfund Targeted Brownfields Assessments, Various New England Locations. March, 2004.
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January 2005.

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- U.S. Environmental Protection Agency (U.S. EPA). 1992. Guide to Management of Investigation-Derived Wastes. U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response. Publication 9345.3-03FS. January.
- U.S. Environmental Protection Agency (U.S. EPA). 1996a Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells. July 1996.
- U.S. Environmental Protection Agency (U.S. EPA). 1996b. Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses. December 1996.

United States Geological Survey (USGS). 1992. Surficial Materials Map of Connecticut. 1992.

FIGURES



Groundwater Measurements 74 Newtown Road, Danbury, CT

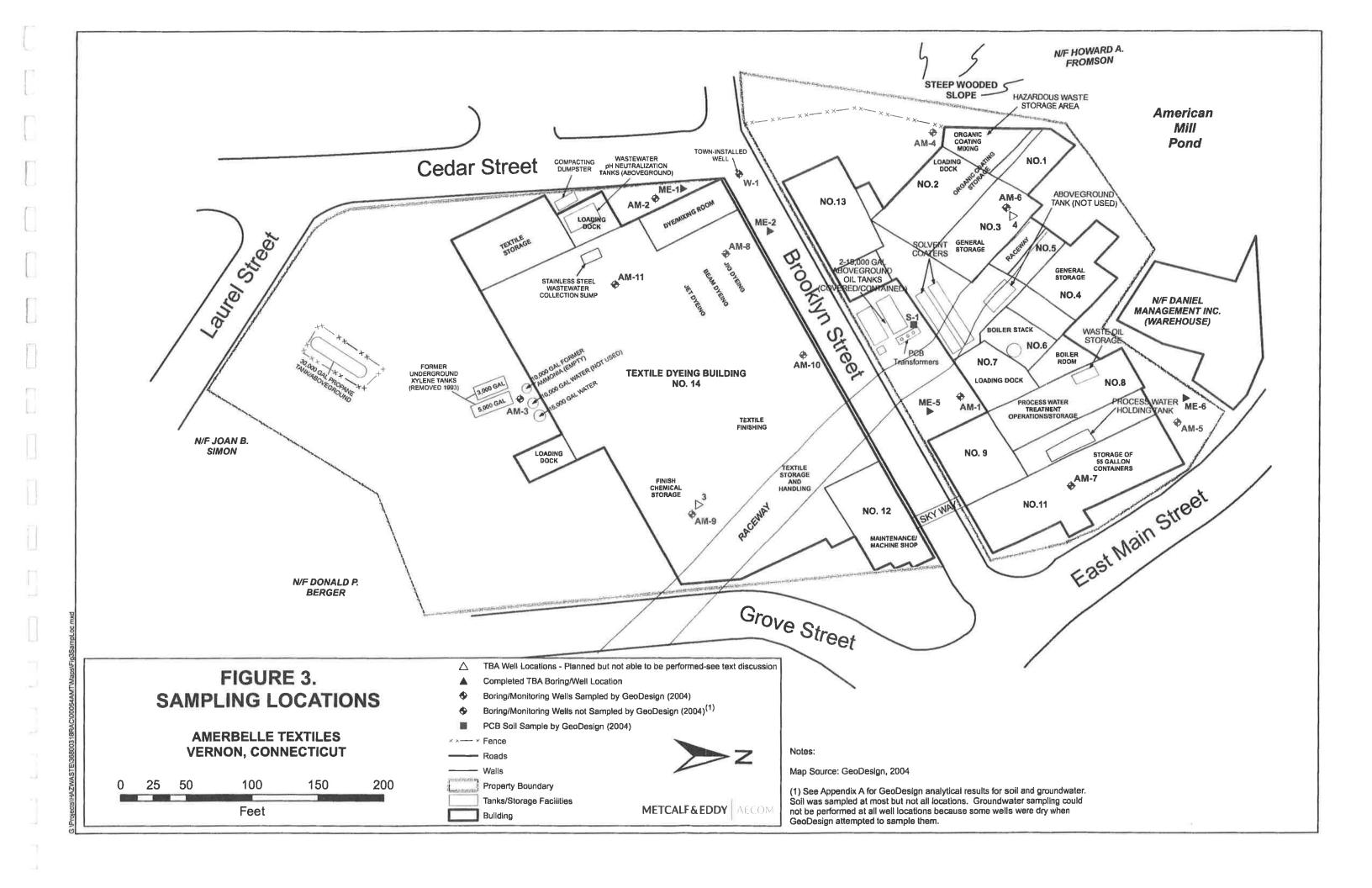
Monitoring Well Designation	Top of PVC Elevation	Depth to Groundwater (ft)	Groundwater Flevation (ft)
BR-1	326.86	*	*
BR-2	329.58	2.50	327.08
BR-3	329.74	4.19	325.55
BR-4	328.78	5.50	323.28
BR-5	334.00	9.05	324 95

PVC Elevations based on a 2009 survey conducted by CCA; measurements are in feet above mean sea level

Depth in feet below grade.

Groundwater measurements were collected by GZA on May 7, 2015

* Well destroyed



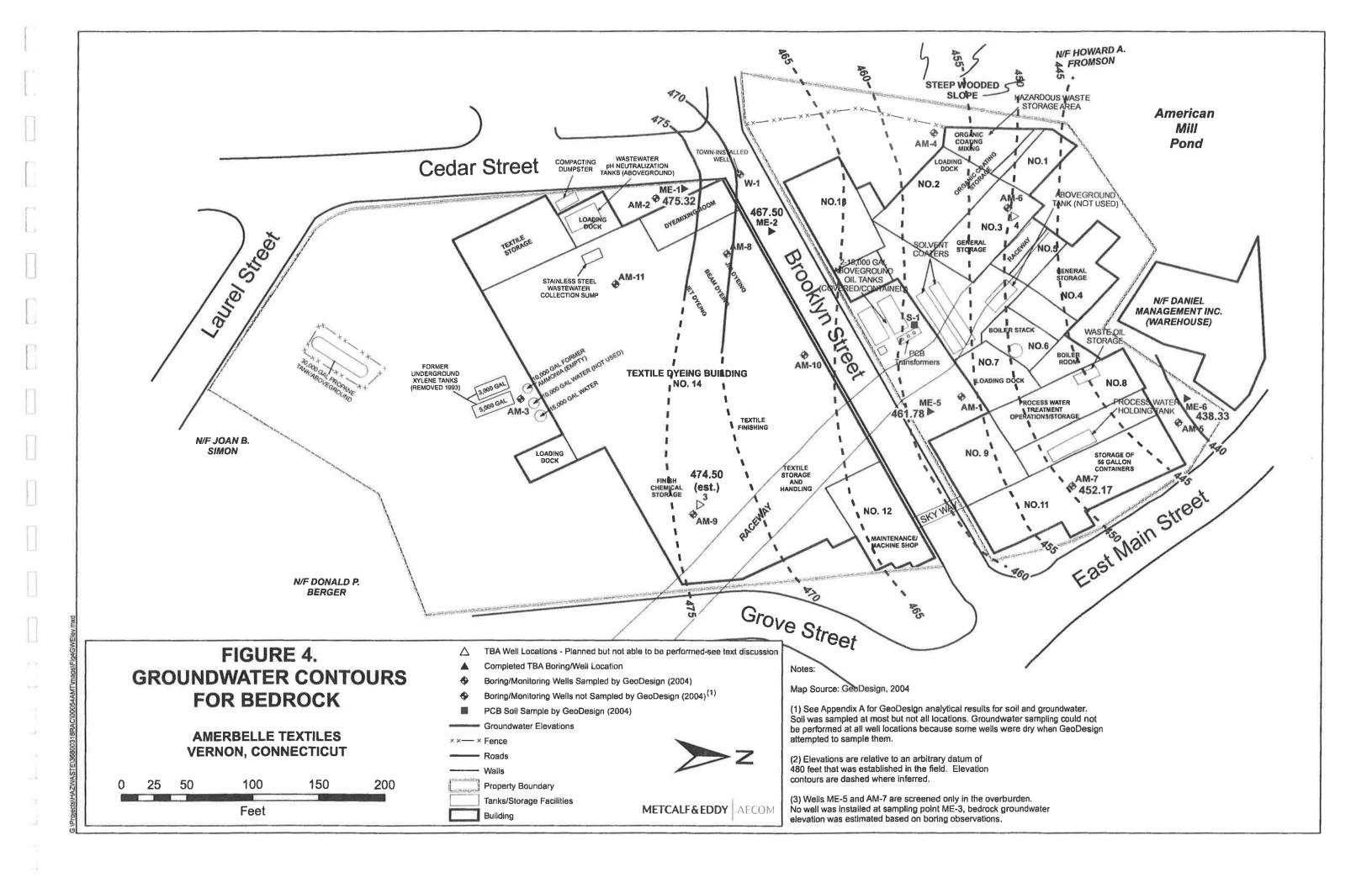
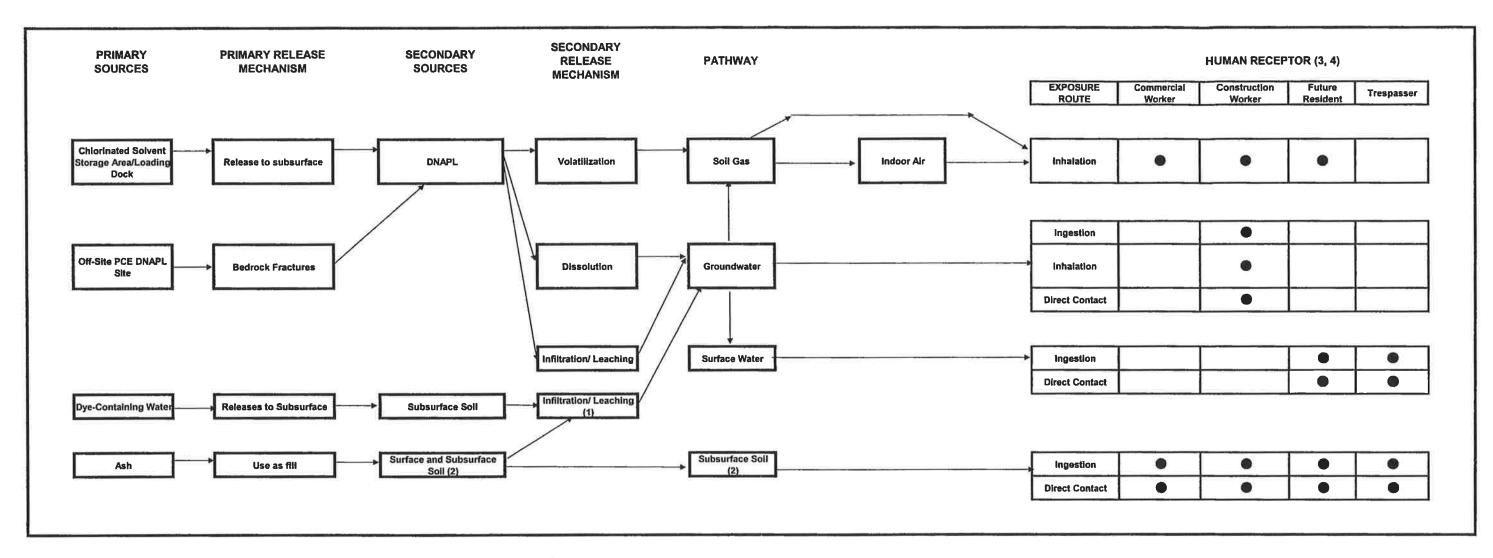


Figure 5. Conceptual Site Model



Contaminants of Concern:

Chlorinated Solvents/DNAPL - PCE, TCE, and their degradation products Dye-Containing Water - Metals, Aniline, ETPH Ash - Metals (particularly Arsenic), PAHs, ETPH

Notes:

- 1. SPLP metals analyses indicate that site soil no longer leaches metals at levels of potential concern, but this mechanism of release is not ruled out from having occurred in the past.
- 2. It is assumed that ash was placed as fill (surface and subsurface soll) prior to site being paved. Area of ashy fill is no longer exposed at the surface. For future uses, possible re-exposure of the soll would need to be evaluated as a potential risk.
- 3. Dots show pathways that would likely be considered if a human health risk assessment were to be performed, but the list is not intended to be exhaustive. Not all pathways are known to be complete. Although there are no plans for residential future uses, and the site is expected to remain as a dyeing operation, the future resident is included here for completeness.
- 4. Ecological receptors and exposure pathways are not presented.

Table 1. Summary of Phase I & II Assessments, Data Gaps, and Proposed TBA Investigation Locations

	Summary of GeoDesign Phase	and Phase II Assess	ments (GeoDesig	n, 2004)		TBA Inves	tigation and Rationale	
Recognized Environmental Condition/Location	Rationale for Listing	Associated Phase II Investigation Location	Depths of auger refual (feet bgs)		•	Remaining Data Gaps	Proposed TBA Investigation Locations	Boring/Well Location ID (see M&E (Figure 3)
ormer USTs located south .: Building 14 (3,000 gal and 5,000 gal xylene)	Underground xylene tanks were removed without reported closure confirmation soil sampling.	AM-3	15.0	ETPH at 240 mg/kg (3-5 ft)		Groundwater flow direction not known due to complex subsurface (bedrock, raceway) and no wells in bedrock. Possible release may have gone undetected.	Install additional wells site-wide (including bedrock, see below) to obtain additional information on site groundwater flow.	see below
Loading dock on south de of Building 14	Potential for chemical spills during loading/unloading	None	N/A	N/A	N/A	Evidence of surface releases (if any) is likely obliterated due to paving and vehicle activity in this area. Possible migration of a release through pavement cracks cannot be ruled out based on visual observations of no obvious surface impacts.	No activity because evidence of past releases (if any) is not likely to be detected by surface soil sampling, and other REC were prioritized for installation of borings/wells.	N/A
oading dock on west _nd of Building 14	Potential for chemical spills during loading/unloading. This dock is located nearest the dye and finishing chemical room and wastewater treatment area.	AM-2	5.5	No sample	No well	Groundwater could not be sampled (auger refusal before groundwater was encountered, so no well was installed).	Install well in area (with rock coring as needed to reach water table). Collect soil samples during boring installation. Sample well.	1
orthwest corner of	Location where dye-colored	AM-2	5.5	No sample	No well	Groundwater could not be sampled (auger	Install well in street (with rock-coring	2
Building 14	water was observed in the ground during sewer line installations in 1997. This is also the area where	AM-8	4.0	Formaldehyde at 17 mg/kg (3-4 ft); traces EX	No well	refusal before groundwater was encountered). Complex utilities in Brooklyn Street prevented installation of well in street. Town well installation	if needed). Use vacuum extraction to remove soil until below utilities, then advance hole using drill rig.	
	seeps of discolored liquid were observed coming from an exhaust vent and cracks in the foundation.	W-1 (town well)	N/A	N/A	Zn > SWPC (filtered sample)	details not available but it is likely set in sewer pipeline bedding and not natural material. Dye-colored water is suspected to have been released within Building 14 and migrated through the subsurface to the sewer line.	Sample well. No soil samples proposed because of need for vacuum extraction to avoid utility damage. Purpose of well is to evaluate whether impacts in this area still exist from past dye colored water release(s).	
/astewater conveyance _enches in Building 14	Concrete erosion and chemical attack was visible on the	AM-8	4.0	Formaldehyde at 17 mg/kg; traces EX	No well	Groundwater could not be sampled (auger refusal before groundwater was encountered).	Attempt installation of bedrock well in Building 14 to evaluate potential for	3
	surface of the visible areas of	AM-9	12.0	None	No well		releases to subsurface. Collect soil	
	concrete. The sub-slab trench	AM-10	7.2	No sample	No well	4	samples during boring installation.	
Ĺ	network is extensive.	AM-11	6.5	Formaldehyde at 9.3 mg/kg (5-6 ft)	No well		Sample well.	

WA#155-REPT-082506-504 Page 1 of 3

Table 1. Summary of Phase I & II Assessments, Data Gaps, and Proposed TBA Investigation Locations

	Summary of GeoDesign Phase I	and Phase II Assess	ments (GeoDesig	n, 2004)		TBA Inves	tigation and Rationale	
Recognized Environmental Condition/Location	Rationale for Listing	Associated Phase II Investigation Location		Phase II Ana Results Sur Soil	-	Remaining Data Gaps	Proposed TBA Investigation Locations	Boring/We Location ID (see M&I (Figure 3)
Southeast corner Building 14	Location where a bridge contractor identified dye-colored liquid in 1995 and adjacent to location of process water overflows.	AM-9	12.0	None	No well	Groundwater could not be sampled (auger refusal before groundwater was encountered).	Attempt installation of bedrock well in Building 14 to evaluate potential for releases to subsurface. Collect soil samples during boring installation. Sample well.	3
Building 12	Maintenance/Machine Shop Welding, minor machining, and electrical repair. Contains a small mineral spirits parts cleaner.	None	N/A	N/A	N/A	Surface releases may have taken place but significant releases to subsurface are not suspected, and if present might be observable via other wells to be installed downgradient.	No Activity; other REC were prioritized because likelihood of release was considered to be greater elsewhere, and downgradient wells might detect releases to groundwater, if they occurred in Building 12.	N/A
ope west of odgs. 1 and 2	Location of reported dye-colored water seepage (1994) and observed solid waste debris.	AM-4	19.5	ETPH at 360 mg/kg (3-5 ft); Pb at 438 mg/kg (5-7 ft)	No Detections of Note	Slope area not accessible. AM-4 would potentially show groundwater contamination migrating from Building 2 area, if present.	No Activity because area is not accessible for drill rigs and access is difficult for any type of sampling due to very steep slope.	N/A
ouilding 13	Latex coating operations	None	N/A	N/A	N/A	Releases possible but not suspected; area not accessible.	No Activity because area is not accessible for drill rigs.	N/A
suilding 2 loading dock	Potential for chemical spills during loading/unloading	AM-4	19.5	ETPH at 360 mg/kg (3-5 ft); Pb at 438 mg/kg (5-7 ft)	No Detections of Note	Extent of soil contamination is unknown. AM-4 result does not exceed CT RSR but does exceed DEP guideline for Pb in residential soil.	No Activity; see below for Bldgs. 1 & 2	N/A
Buildings 1 and 2	Storage of flammable solvents and mixing of coatings	AM-4	19.5	ETPH at 360 mg/kg (3-5 ft); Pb at 438 mg/kg (5-7 ft)	of Note	Well downgradient of buildings is not available. Extent of soil contamination is unknown.	Attempt installation of bedrock well in vicinity of boring AM-6. Collect soil samples and groundwater samples.	4
		AM-6	8.5	ETPH at 770 mg/kg (5-6 ft bgs)	No well			
Building 3	Downgradient of solvent coating/ former storage area	AM-6	8.5	ETPH at 770 mg/kg (5-6 ft bgs)	No well	Downgradient well not available. Extent of soil contamination is unknown.	Attempt installation of bedrock well in vicinity of boring AM-6. Collect soil samples and groundwater samples.	4
uilding 7	Solvent Coaters	None	N/A	N/A	N/A	Located partially above raceway. Releases (if any) likely entered raceway and river. Area is not accessible for borings/wells.	No Activity; area not accessible for a drill rig.	N/A

WA#155-REPT-082506-504 Page 2 of 3

Table 1. Summary of Phase I & II Assessments, Data Gaps, and Proposed TBA Investigation Locations

	Summary of GeoDesign Phase	I and Phase II Assess	ments (GeoDesig	n, 2004)		TBA Inves	TBA Investigation and Rationale				
Recognized Environmental Condition/Location	Rationale for Listing	Associated Phase II Investigation Location	Depths of auger refual (feet bgs)	1	-	Remaining Data Gaps	Proposed TBA Investigation Locations	Boring/Well Location ID (see M&E			
Area east of Building 13	Two 18,000 gallon fuel oil ASTs where oil releases have occurred	AM-1	12.3	ETPH at 920 mg/kg (1-3 ft); As at 122 mg/kg (3-5 ft)		Tanks currently contained. AM-1 potentially downgradient but raceway complicates groundwater flow. Extent of soil contamination is unknown.	Attempt soil boring/well installation in vicinity of AM-1. Collect soil and groundwater samples.	(Figure 3) 5			
puth of Building 7	Four transformers (3 PCB-containing)	PCB Surface Soil Sample (S-1)	N/A	No PCBs detected	N/A	Previous investigation did not detect evidence of release.	No Activity	N/A			
ilding 7 Loading Dock	Potential for chemical spills during loading/unloading	AM-1	12.3	ETPH at 920 mg/kg (1-3 ft); As at 122 mg/kg (3-5 ft)	No Detections of Note	Extent of soil contamination is unknown.	Attempt soil boring/well installation in vicinity of AM-1. Collect soil and groundwater samples.	5			
Luilding 9	Former dye storage	AM-1	12.3	ETPH at 920 mg/kg (1-3 ft); As at 122 mg/kg (3-5 ft)	No Detections of Note	Extent of soil contamination in unknown.	Attempt soil boring/well installation in vicinity of AM-1. Collect soil and groundwater samples.	5			
Building 8	Former Belding Bros. Dye House; Waste oil storage area	None	N/A	N/A	N/A	No direct evidence of releases. Phase I report notes that waste oil storage area was neat and well maintained.	No Activity. Access to area with a drill rig is difficult and other REC were prioritized for borings/wells.	N/A			
ailding 11	Reported location of former Amerbelle dye operations and present chemical storage	AM-7	11.0	ETPH at 83 mg/kg (3-5 ft)	As and Cu > SWPC (filtered sample)	Source of As and Cu is unknown. Address with additional groundwater sampling and possible derivation of alternate SWPC.	Re-sample AM-7 for metals and compare to other groundwater sample results site wide. Consider deriving alternate SWPC.	all new wells			
Building 11 loading dock	Potential for chemical spills during loading/unloading	AM-5	12.8	None	Well dry	Groundwater not sampled; well dry	Attempt soil boring/well installation in vicinity of AM-5. Collect soil and groundwater samples.	6			
cross Grove Street com Building 14	Former gasoline station located across Grove Street southeast of site	None	N/A	N/A	N/A	Not known if releases occurred at former gas station and migrated onto site.	No Activity (TBA is restricted to site property). On-site wells will be sampled for petroleum-related compounds (BTEX, ETPH).	all new wells			
Notes:	N/A - not applicable	<u> </u>		<u> </u>		Zn - Zinc					

CT RSR - Connecticut Remediation Standard Regulations

SWPC - Surface Water Protection Criteria (Connecticut Remediation Standard Regulations)

EX - Ethylbenzene and Xylenes

As - Arsenic Cu - Copper

Pb - Lead

Zn - Zinc

ETPH - Extractable Total Petroleum Hydrocarbons (CTDEP method)

No Detection of Note - No organic compounds were detected and no metals were detected in excess of CT RSR criteria.

References:

GeoDesign, Inc. 2004. Phase I Environmental Site Assessment.

GeoDesign, Inc. 2004. Phase II Environmental Site Assessment.

Table 2 Soll and Groundwater Sampling Locations and Analyses - TBA Investigation

	Sampled Intervals for Soil; Well Screen Interval for Groundwater	Approximate Depth to Bedrock (feet bgs)	VOCs	SVOCs	Samples Collected for Analysis SVOCs Mass Metals SPLP Metals	or Analysis SPLP Metals	ETPH	Rationale for Sampling and Analysis
Soil								
ME-1	1 to 1.5 feet bgs (VOC); 0.5 to 3 feet bgs (other analyses)	3.0	-	-	-	-	-	Vicinity of Building 14 loading dock and dye/mixing room where spills may have occurred. No soil or groundwater samples obtained in this area during previous investigation. Well could not be installed previously because of auger refusal before water table was encountered.
ME-2	No soil samples - purpose was for well installation only	5.3			No soil samples	es	30.	No soil samples collected. Vacuum excavation used to remove soil to avoid potential for hitting underground utilities.
ME-3	0.5 to 2 feet and 2 to 2.5 feet bgs (VOC); 0.5 to 4 feet and 4 to 6 feet bgs (other analyses)	g	23	7	2	2	2	Evaluate potential for releases in Building 14. Previously collected soil samples in Building 14 showed traces of formaldehyde, ethylbenzene, and xylenes.
ME-4		Location was d	stermined	to be inac	cessible during	pre-bid drillers	meeting	Location was determined to be inaccessible during pre-bid drillers meeting and was not performed
ME-5	2 to 4 feet and 10 to 12 feet bgs (VOC); 0 to 4 feet and 10 to 12 feet bgs (SVOC, mass metals); 0 to 4 feet and 8 to 10 feet bgs (ETPH); 0 to 4 feet bgs (SPLP metals)	12.8	8	N	2	-	N	Area is east of Aboveground Storage Tank Area (now contained) where releases had occurred in the past, and is adjacent to Building 7 loading dock and Building 9 former dye storage area. Soil samples from previous investigation (location AM-1) showed elevated ETPH and arsenic concentrations.
ME-6	1 to 1.5 feet bgs plus field duplicate (VOC); 0.5 to 4 feet bgs plus field duplicate (other analyses)	13.5	2	2	2	2	8	Near Building 11 loading dock with potential for releases during loading/unloading. Well was attempted during Phase II investigation (AM-5) but could not be sampled because it was dry. No soil samples were collected from AM-5 during Phase II investigation.
Groundwater ME-1	4.9 to 14.9 feet bgs (in bedrock)	3.0	-	-	7-	¥ Z	4-	Vicinity of Building 14 loading dock and dye/mixing room where spills may have occurred. No soil or groundwater samples obtained in this area during previous investigation. Well could not be installed previously because of auger refusal before water table was encountered.

Page 1 of 2

Table 2 Soll and Groundwater Sampling Locations and Analyses - TBA Investigation

bgs = below ground surface CT SWPC = Surface Water Protection Criteria NA = Not Applicable

Table 3. Summary of Analytical Data for Soil Samples: Volatile Organic Compounds*
TBA Investigation -- Amerbelle Textiles Site -- November/December 2005

LOCATION NAME	ME-1SB1-1.5	ME-3SB0.5-2	ME-3SB2-2.5	ME-5SB2-4	ME-5SB10-12	ME-6SB1-1.5	ME-7SB1-1.5	ME-6SB10-12	CT RSR	CT RSR	CT RSR
SAMPLE DEPTH (ft bgs)	1.0-1.5	0.5-2.0	2.0-2.5	2-4	10-12	1.0-1.5	1.0-1.5	10-12	Direct	Direct	Pollutant
M&E SAMPLE ID	ME-1SB1-1.5	ME-3SB0.5-2	ME-3SB2-2.5	ME-5SB2-4	ME-5SB10-12	ME-6SB1-1.5	ME-7SB1-1.5	ME-6SB10-12	Exposure	Exposure	Mobility
DATE SAMPLED	11/29/2005	12/3/2005	12/3/2005	11/28/2005	11/28/2005	11/30/2005	11/30/2005	11/30/2005	Criteria**	Criteria**	Criteria**
COMMENTS		1100					FD (ME-6SB1-1.5)		(RES)	(I/C)	(GB)
PARAMETER/ANALYTE											
VOLATILE ORGANIC COMPO	 	6 Method 8260	B/5035 (ua/ka)								
1,1-Dichloroethene	5 U	6 U	2 J	4 U	6 UJ	5 UJ	5 UJ	5 UJ	1,000	9,500	1,400
Acetone	5 UJ	6 UJ	7 J	4 UJ	6 UJ	5 UJ	5 UJ	5 UJ	500,000	1,000,000	140,000
Carbon disulfide	5 U	6 U	3 J	4 U	6 U	5 U	5 U	5 U	500,000	1,000,000	140,000
Methylene chloride	28 UJ	20 UJ	21 UJ	17 UJ	31 TB	23 U	23 U	26 U	82,000	760,000	1,000
Tetrachloroethene	5 U	6 U	4 U	4 U	6 U	1 J	1 J	5 U	12,000	110,000	1,000
Ethylbenzene	5 U	6 U	10	4 U	6 U	5 U	5 U	5 U	500,000	1,000,000	10,100
m,p-Xylene	5 U	6 U	36	4 U	6 U	5 U	5 U	5 U	n	See total xylenes	~
o-Xylene	5 U	6 U	13	4 U	6 U	5 U	5 U	5 U		See total xylenes	
Xylenes (total)	5 U	6 U	49	4 U	6 U	5 U	5 U	5 U	500,000	1,000,000	19,500
1,2,4-Trimethylbenzene	5 UJ	6 U	2 J	4 U	6 U	5 U	5 U	5 U	500,000	1,000,000	70,000
LAB SAMPLE ID											
Volatile Organic Compounds	D1429-06B	D1429-21A	D1429-18A	D1429-01B	D1429-03C	D1429-09C	D1429-10C	D1429-13C			

Bolded values - detected concentrations

* - Validated data presented. Analyte presented if it was detected in at least one sample from this grouping, or if results for the analyte were rejected during data validation.

** - Values shown for standards are in the same units as the analytical data.

FD = Field Duplicate

ft bgs = feet below ground surface

CT RSR criteria

RES = Residential

I/C = Industrial/Commercial

GB = Groundwater classification

January 1996. Remediation Standard Regulations. Section 22a-133k-2(b) Direct Exposure Criteria, and 22a-133k-2(c) Pollutant Mobility Criteria, and

April 30, 1999: Approved Criteria for Additional Polluting Substances, pursuant to Sections 22a-133k(1) through (3) of the Regulations of Connecticut State Agencies.

Data Qualifiers

J - Quantitation is approximate due to limitations identified in the quality control review.

TB - Analyte was also detected in the trip blank.

U - Value reported is the sample-specific detection limit.

UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review.

[&]quot;--" indicates that no standard is available, or this type of standard is not applicable to the analyte in question

Table 4. Summary of Analytical Data for Soil Samples: SVOCs and Metals*
TBA Investigation -- Amerbelle Textiles Site -- November/December 2005

LOCATION NAME	ME-1SB0.5-3	ME-3SB0.5-4	ME-3SB4-6	ME-5SB0-4	ME-5SB10-12	ME-6SB0.5-4	ME-7SB0.5-4	ME-6SB10-13.5	CT RSR	CT RSR	CT RSR
SAMPLE DEPTH (ft bgs)	0.5-3.0	0.5-4.0	4.0-6.0	0.0-4.0	10-12	0.5-40	0.5-4.0	10-13.5	Direct	Direct	Pollutant
M&E SAMPLE ID	ME-1SB0.5-3	ME-3SB0.5-4	ME-3SB4-6	ME-5SB0-4	ME-5SB10-12	ME-6SB0.5-4	ME-7SB0.5-4	ME-6SB10-13.5	Exposure	Exposure	Mobility
DATE SAMPLED	11/29/05	12/3/05	12/3/05	11/28/05	11/28/05	11/30/05	11/30/05	11/30/05	Criteria**	Criteria**	Criteria**
COMMENTS	NASTESTINAS	12,0,00	12,0,00	11,20,00	11120100	11/00/00	FD (ME-6SB0.5-4)			11	II .
COMMENTS	VOC 1.0-1.3						FD (ME-6580.5-4)		(RES)	(I/C)	(GB)
		100 10 0 0 0000	Yes 200 00				}				
SEMIVOLATILE ORGANIC COMPO	DUNDS -SW-846	Method 8270C	(ug/kg)								
1											
Naphthalene	700 U	350 U	340 U	370 U	410 U	48 J	57 J	380 U	1,000,000	2,500,000	56,000
2-Methylnaphthalene	700 U	350 U	340 U	370 U	410 U	39 J	43 J	380 U	474,000	2,500,000	9,800
Acenaphthylene	110 J	59 J	340 U	370 U	410 U	350 U	350 U	380 U	1,000,000	2,500,000	84,000
Acenaphthene	700 U	350 U	340 U	370 U	410 U	140 J	140 J	380 U	1,000,000	2,500,000	84,000
2,4-Dinitrophenol	R	720 U	690 U	760 UJ	840 UJ	720 U	720 U	760 ∪	140,000	2,500,000	2,800
Dibenzofuran	700 UJ	350 U	340 U	370 U	410 U	69 J	74 J	380 U	270,000	2,500,000	5,600
Fluorene	700 UJ	350 U	340 U	370 U	410 U	110 J	110 J	380 U	1,000,000	2,500,000	56,000
Pentachlorophenol Phenanthrene	R	720 U	690 U	760 U	840 U	720 U	720 U	760 U	5,100	48,000	1,000
Anthracene	130 J 700 UJ	210 J	340 U	230 J	140 J	1,200	1,200	380 U	1,000,000	2,500,000	40,000
Carbazole	700 UJ	54 J	340 U	59 J	410 U	250 J	250 J	380 U	1,000,000	2,500,000	400,000
Di-n-butylphthalate	700 UJ	350 U 68 J	340 U	370 U	410 U	150 J	140 J	380 U	31,000	290,000	1,000
Fluoranthene	260 J	520	340 U 340 U	370 U 320 J	410 U 150 J	350 U	350 U	380 U	1,000,000	2,500,000	140,000
Pyrene	420 J	580	340 U	440 J	200 J	1,600	1,600	380 U	1,000,000	2,500,000	56,000
Benzo(a)anthracene	270 J	360 J	340 UJ	260 J	120 J	1,500 890 J	1,600 880 J	380 U	1,000,000	2,500,000	40,000
Chrysene	250 J	300 J	340 UJ	200 J	87 J	820 J	840 J	380 UJ	1,000 84,000	7,800	1,000
Bis(2-ethylhexyl)phthalate	180 J	620	1,000	84 J	450 J	320 J	280 J	300 J	44,000	780,000	1,000
Benzo(b)fluoranthene	200 J	340 J	340 UJ	190 J	69 J	670 J	720 J	380 N1	1,000	410,000 7,800	11,000 1,000
Benzo(k)fluoranthene	82 J	120 J	340 U	73 J	410 UJ	330 J	290 J	380 U	8,400	78,000	1,000
Benzo(a)pyrene	190 J	260 J	340 U	150 J	57 J	600	610	380 U	1,000	1,000	1,000
Indeno(1,2,3-cd)pyrene	140 J	170 J	340 U	85 J	410 UJ	340 J	330 J	380 U	1,000	7,800	1,000
Dibenz(a,h)anthracene	700 UJ	42 J	340 U	370 UJ	410 UJ	92 J	96 J	380 U	1,000	1,000	1,000
Benzo(g,h,i)perylene	190 J	200 J	340 U	110 J	43 J	390	400	380 U	1,000,000	2,500,000	42,000
CT RSR METALS, MASS (mg/kg)									,,,	.,,	,000
Antimony	0.054 UJ	0.053 UJ	0.051 UJ	0.050.111	0.066 UJ	0.055 111	0.054.111	0.000 111	07	0.555	
Arsenic	1.8	2.6	1.4	0.053 UJ 54.4	2.0	0.055 UJ 0.83 UJ	0.054 UJ 0.82 UJ	0.062 UJ	27	8,200	_
Barium	87.4 J	72.4 J	58.0 J	186 J	35.8 J	44.4 J	50.1 J	0.94 UJ 54.2 J	10 4,700	10 140,000	-
Beryllium	0.32	0.28	0.29	0.0057 U	0.27 J	0.13 J	0.12 J	0.10 J	4,700	140,000	-
Cadmlum	0.16 J	0.0052 U	0.0050 U	0.43	0.088 UJ	0.49	0.12 3	0.10 3	34	1,000	_
Chromium***	16.3 J	18.0 J	15.7 J	9.4 J	18.1 J	12.1 J	14.2 J	77.8 J	100***	1,000	
Copper	15.6	23.9	24.4	23.0	12.6	21.4	20.8	65.1	2,500	76,000	
Lead	11.0 J	37.9 J	5.0 J	50.7 J	5.9 J	8.3 J	9.6 J	53.5 J	400****	1,000	
Mercury	0.037 J	0.068 J	0.0066 U	0.094 J	0.010 J	0.035 J	0.074 J	0.12 J	20	610	
Nickel	9.9 J	10.5 J	11.0 J	5.0 J	7.8 J	9.4 J	9.8 J	8.6 J	1,400	7,500	_
Selenium	1.5	1.4	1.0 UJ	7.0	2.0	1.0 U	0.98 U	1.1 U	340	10,000	_
Silver	0.017 U	0.17 UJ	0.12 UJ	0.018 U	0.022 U	0.52 UJ	0.54 UJ	0.80 UJ	340	10,000	
Thallium	1.5	1.5	1.9	0.79 J	0.48 UJ	0.37 U	0.36 U	0.41 U	5.4	160	_
Vanadium	32.3 J	27.3 J	22.8 J	34.9 J	24.5 J	32.1 J	32.6 J	21.5 J	470	14,000	_
Zinc	66.8 J	44.4 J	32.4 J	27.0 J	24.7 J	34.2 J	36.0 J	58.1 J	20,000	610,000	_
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				7		8	9	<u>.</u>)	90 5	**	u.

Table 4. Summary of Analytical Data for Soil Samples: SVOCs and Metals*
TBA Investigation -- Amerbelle Textiles Site -- November/December 2005

LOCATION NAME	ME-1SB0.5-3	ME-3SB0.5-4	ME-3SB4-6	ME-5SB0-4	ME-5SB10-12	ME-6SB0.5-4	ME-7SB0.5-4	ME-6SB10-13.5	CT RSR	CT RSR	CT RSR
SAMPLE DEPTH (ft bgs)		0.5-4.0	4.0-6.0	0.0-4.0	10-12	0.5-40	0.5-4.0	10-13.5	Direct		
` - /				ly is						Direct	Pollutant
M&E SAMPLE ID			ME-3SB4-6		ME-5SB10-12		ME-7SB0.5-4	ME-6SB10-13.5	Exposure	Exposure	Mobility
DATE SAMPLED	11/29/05	12/3/05	12/3/05	11/28/05	11/28/05	11/30/05	11/30/05	11/30/05	Criteria**	Criteria**	Criteria**
COMMENTS	VOC 1.0-1.5						FD (ME-6SB0.5-4)		(RES)	(I/C)	(GB)
CT RSR METALS, SPLP (ug/L)				1							}
Antimony	1.2 U	1.2 U	1.2 U	1.2 U	NA	1.2 U	1,2 U	2.0 UJ		-	60
Arsenic	1.6 U	1.6 UJ	1.6 U	68.6	NA NA	6.0 UJ	5.3 UJ	3.5 UJ	_	-	500
Barium	33.0 J	49.5 J	27.1 J	122 J	NA	116 J	94.7 J	138 J	- 1	-	10,000
Beryllium	0.15 U	0.19 J	0.15 U	0.15 U	NA	0.48 J	0.38 J	0.38 J	-	:	40
Cadmium	0.10 U	0.10 U	0.10 U	0.19 UJ	NA NA	0.19 UJ	0.10 U	0.10 UJ	_	-	50
Chromlum	5.5 J	12.0 J	5.3 J	8.1 J	NA	19.1 J	15.2 J	136	-	-	500
Copper	20.6 UJ	24.4 UJ	16.7 UJ	23.4 UJ	NA NA	35.4 U	30.9 U	85.5	-	_	13,000
Lead	7.0 UJ	30.3	3.0 UJ	60.9	NA	21.1	18.1	78.7	-		150
Mercury	R	R	R	R	NA	R	R	R		_	20
Nickel	4.0 UJ	5.0 UJ	3.4 UJ	2.0 UJ	NA	11.5 J	8.7 J	8.6 J		-	1,000
Selenium	0.98 UJ	0.98 UJ	3.1 J	8.7 J	NA NA	3.0 J	0.98 UJ	0.98 UJ		144	500
Silver	0.91 U	0.91 U	0.91 U	0.91 U	NA NA	0.91 U	0.91 U	1.4 UJ	-	_	360
Thallium	1.2 U	1.2 U	1.2 U	2.1 UJ	NA	1.2 UJ	1.2 U	1.2 U	-	=	50
Vanadium	10.2 J	11.2 J	5.9 J	21.7 J	NA NA	142	109	72.3		·	500
Zinc	52.6 U	51.7 U	36.1 UJ	57.0 U	NA NA	74.8 U	65.0 U	110 U	-	S =1 0	50,000
LAB SAMPLE ID											
Semivolatile Organic Compounds	D1429-07A	D1429-19A	D1429-20A	D1429-02A	D1429-03A	D1429-11A	D1429-12A	D1429-14A			
RSR Metals (MASS)	D1429-07	D1429-19	D1429-20	D1429-02	D1429-03	D1429-11	D1429-12	D1429-14			
RSR Metals (SPLP)	E0091-02	E0091-06	E0091-07	E0091-01	NA	E0091-03	E0091-04	E0091-05			

Bolded values - detected concentrations

Bolded and boxed values - Concentration exceeds one or more CT RSR criteria.

FD = Fleld Duplicate

ft bgs = feet below ground surface

NA = Not Analyzed

CT RSR criteria

RES = Residential

I/C = Industrial/Commercial

GB = Groundwater classification

January 1996. Remediation Standard Regulations. Section 22a-133k-2(b) Direct Exposure Criteria, and 22a-133k-2(c) Pollutant Mobility Criteria, and

April 30, 1999: Approved Criteria for Additional Polluting Substances, pursuant to Sections 22a-133k(1) through (3) of the Regulations of Connecticut State Agencies.

"--" indicates that no standard is available, or this type of standard is not applicable to the analyte in question

Data Qualifiers

- J Quantitation is approximate due to limitations identified in the quality control review.
- R Value is rejected due to limitations Identified in the quality control review.
- U Value reported is the sample-specific detection limit.
- UJ Sample-specific detection limit is approximate due to limitations identified in the quality control review.

^{* -} Validated data presented. Analyte presented if it was detected in at least one sample from this grouping, or if results for the analyte were rejected during data validation.

^{** -} Values shown for standards are in the same units as the analytical data.

⁻⁻⁻⁻ Direct Exposure Criteria are not established for total chromium. Criteria are established for hexavalent and trivalent chromium. Criteria presented are for hexavalent chromium, which are lower than those for trivalent chromium. Analytical result is for total chromium and hence is not directly comparable to the hexavalent chromium criteria.

^{****} Lead: 400 mg/kg is the standard typically required by CTDEP to be protective of human health (Connecticut Department of Public Health, Lead Environmental Management Unit, December 1, 2003).

The 1996 RSR criterion is 500 mg/kg but in practice CTDEP is using the CTDPH standard.

Table 6. Summary of Analytical Data – Groundwater TBA Investigation - Amerbelle Textiles Site

LOCATION NAME	ME-1	ME-2	ME-2CS	ME-5	ME-6	AM-7	CT Remedi	CT Remediation Standard Regulations	egulations
WELL SCREEN INTERVAL (ft bgs)	4.9-14.9	8.0-18.0	8.0-18.0	4.8-12.8	15.5-25.5	4.5 - 9.5			
SCREEN LOCATION	bedrock	bedrock	bedrock	overburden	bedrock	overburden		Proposed	Proposed
M&E SAMPLE ID	ME-1	ME-2	ME-2CS	ME-5	ME-6	AM-7	Surface Water	Volatilization	Volatilization
DATE SAMPLED	2/2/2006	2/2/2006	2/2/2006	2/2/2006	2/2/2006	2/2/2006	Protection	Criteria [™]	Criteria**
COMMENTS			FD (ME-2)	metals sample:	metals samples field filtered for ME-5 and AM-7	ME-5 and AM-7	Criteria**	(RES)	(J/C)
LAB SAMPLE ID Volatile Organic Compounds	E0118-06A	E0118-01A	E0118-02A						
Semivolatile Organic Compounds	E0018-06C	E0018-01C	E0118-02C		E0118-05C	E0118-07B			
Extr. Total Pet. Hydrocarbons	E0118-06	E0118-01	E0118-02	E0118-04	E0118-05				
CT RSR Metals	E0118-06	E0118-01	E0118-02	E0118-04	E0118-05	E0118-07			

(TIC) - Aniline was reported as A Tentatively Identified Compound (TIC) from the SVOC analysis in some samples. Because aniline is a dye-related compound, the concentrations reported for it are presented in this table.

- Validated data presented. Analyte presented if it was detected in at least one sample from this grouping.

** - Values shown for standards are in the same units as the analytical data.

*** - Direct Exposure Criteria are not established for total chromlum. Criteria are established for hexavalent and trivalent chromlum. Criteria presented are for hexavalent chromium, which are lower than those for trivalent chromium. Analytical result is for total chromium and hence is not directly comparable to the hexavalent chromium criteria.

Bolded values - detected concentrations

Concentration exceeds one or more CT RSR criteria. Bolded and boxed values -

CT DEP Criteria

("--" indicates no standard available)

RES - Residential

VC - Industrial/Commercial

January 1996. Remediation Standard Regulations. Section 22a-133k-3(b): Surface-Water Protection Criteria; and

April 30, 1999: Approved Criteria for Additional Polluting Substances, pursuant to Sections 22a-133k(1) through (3) of the Regulations of Connecticut State Agencies.

Proposed Volatilization Criteria: CTDEP, Permitting, Enforcement, and Remediation Division, March 2003. Proposed Revisions: Connecticut's Remediation Standard Regulations -

Volatilization Criteria.

ft bgs - feet below ground surface

B - Organics: Analyte detected in a laboratory blank. Inorganics: The analyte was detected at a concentration greater

than the Instrument Detection Limit (IDL) and less than the Contract Required Detection Limit (CRDL).

D - Reported results are from the analysis of a diluted sample.

FD - Field Duplicate

J - Quantitation is approximate due to limitations identified in the quality control review.

R - Value is rejected.

U - Value reported is the sample-specific detection limit.

UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review.

Table 7. Summary of GeoDesign and TBA Investigations and Remaining Areas of Conern

	GeoDesign Phase I an	nd Phase II Assessme	ents (2004)			TBA Investigatio	n Locations and Rationale		
Recognized Environmental Condition/Location	Rationale for Listing	Associated Phase II Investigation Location		Phase II An Results Sui Soil	•	Data Gaps Remaining after Phase II	Completed TBA Investigation Locations	Boring/Well Location ID (see M&E (Figure 3)	TBA Investigation Observations and Remaining Data Gaps
Remaining Areas of Conern Building 11	Reported location of former Amerbelle dye operations and present chemical storage	AM-7	11.0	ETPH at 83 mg/kg (3-5 ft)	As and Cu > SWPC	Source of As and Cu Is unknown. Address with additional groundwater sampling and possible derivation of alternate SWPC.	Re-sampled AM-7 for metals for comparison to other groundwater sample results site-wide. Sample was field-filtered, as was the GeoDesign sample, because of high	AM-7	The groundwater sample from AM-7 showed concen- trations of Cu and Zn (but not As) above SWPC. The metals contamination is confirmed but source remains unknown. Derivation of alternate SWPC is complex because of the complex hydrogeology and
							sample turbidity.		the groundwater discharge to the Hockanum River could not be estimated with the available data. There is still question about this well and whether it is representative of aquifer conditions. Yield is very low and turbidity is very high and does not dissipate with continued pumping. Other nearby wells (ME-5, ME-6) did not show elevated concentrations of metals in groundwater samples.
Building 11 loading dock	Potential for chemical spills during loading/unloading	AM-5	12.8	None	Well dry	Groundwater not sampled; well dry	Attempt soil boring/well installation in vicinity of AM-5. Collect soil and groundwater samples.		Groundwater from ME-6 is highly contaminated with PCE, TCE and their degradation products. Source may be storage area in Building 11 and/or an off-site source such as the Roosevelt Mills site, a confirmed PCE DNAPL site approximately 0.5 miles to the east. The bedrock at ME-6 is highly fractured and one very large fracture is present above the well screen.
Wastewater conveyance trenches in Building 14; southeast comer of Building 14.	Concrete erosion and chemical attack was visible on the surface of the visible areas of concrete. The sub-slab trench network is extensive. Dye-colored liquid identified in the southeast comer in 1995.	AM-8 AM-9 AM-10 AM-11	4.0 12.0 7.2 6.5	Formaldehyde at 17 mg/kg; traces EX None No sample Formaldehyde at 9.3 mg/kg (5-6 ft)	No well No well No well No well	Groundwater could not be sampled (auger refusal before groundwater was encountered).	Attempted installation of bedrock well in Building 14 to evaluate potential for releases to subsurface. Soil samples were collected. Well could not be installed, however, because of borehole collapse due to highly fractured bedrock.	ME-3 (attempted)	Because it was not physically possible to install a well in this area, there remains a question as to the potential for groundwater contamination. Additional attempts using a different drilling method could be considered. The Buildng 14 area remains a data gap. Also, if contamination is migrating from off-site, a well in this vicinity or entirely upgradient of site could be informative.
Area east of Bullding 13 Building 7 Loading Dock	Two 18,000 gallon fuel oll ASTs where oil releases have occurred Potential for chemical spills	AM-1	12.3	ETPH at 920 mg/kg (1-3 ft); As at 122 mg/kg (3-5 ft)	of Note	Tanks currently contained. AM-1 potentially downgradient but raceway complicates groundwater flow. Extent of soil contamination is unknown.	Installed soil boring/well in vicinity of AM-1. Collected soil and groundwater samples.	ME-5 overburden	The 0 to 4 foot soil sample showed concentrations of arsenic above direct exposure criteria, consistent with GeoDesign's results for AM-1 soil and indicative of coal ash used as fill. No exceedances of pollutant mobility criteria. No detections in the ME-5 groundwater
	during loading/unloading Former dye storage								sample except for ETPH. There is no evidence of significant releases to this area. Exposure to the ash used as fill is currently prevented by pavement.
Northwest comer of Building 14	Location where dye-colored water was observed in the ground during sewer line installations in 1997. This is also the area where seeps of discolored liquid were observed coming from an exhaust vent and cracks in the foundation.	AM-2 AM-8 W-1 (town well)	5.5 4.0 N/A	No sample Formaldehyde at 17 mg/kg (3-4 ft); traces EX N/A		Groundwater could not be sampled (auger refusal before groundwater was encountered). Complex utilities in Brooklyn Street prevented installation of well in street. Town well installation details not available but it is likely set in sewer pipeline bedding and not natural material. Dye-colored water is suspected to have been released within Building 14 and migrated through the subsurface to the sewer line.	Installed well in street (with rock coring). Used vacuum extraction to remove soil until below utilities, then advanced hole using drill rig. Groundwater was sampled. Purpose of well was to evaluate whether impacts in this area still exist from past dye-colored water release(s).	ME-2 Bedrock	Aniline and ETPH were detected. Chromium, copper, and lead concentrations exceeded SWPC. Detections and exceedances may possibly be related to past releases of dye-colored water. Similar contamination was not found in other groundwater samples, so impact may be limited to the immediate vicinity.

Table 7. Summary of GeoDesign and TBA Investigations and Remaining Areas of Conern

	GeoDesign Phase I	and Phase II Assessme	nts (2004)			TBA Investigatio	n Locations and Rationale		
Recognized Environmental Condition/Location	Rationale for Listing	Associated Phase II Investigation Location	Depths of auger refual (feet bgs)	Phase il An Results Su Soll	•	Data Gaps Remaining after Phase II	Completed TBA Investigation Locations	Boring/Well Location ID (see M&E (Figure 3)	TBA Investigation Observations and Remaining Data Gaps
Areas of Lesser Concern Former USTs located south of Building 14 (3,000 gai and 5,000 gal xylene)	Underground xylene tanks were removed without reported closure confirmation soil sampling.	AM-3	15.0	ETPH at 240 mg/kg (3-5 ft)		Groundwater flow direction not known due to complex subsurface (bedrock, raceway) and no wells in bedrock. Possible release may have gone undetected.	Additional wells were installed site-wide (Including bedrock, see below) to obtain additional information on site groundwater flow.		ETPH was detected in all groundwater samples, but xylenes were not detected. A release that impacted groundwater would be expected to contain xylenes, although it is possible that any released xylene has undergone degradation to other products, and/or affected soil but not groundwater. Because there is no soil confirmation sampling to confirm that there was no release, it is not possible to conclusively rule out a xylene release based on the absence of xylene in groundwater.
Loading dock on west end of Bullding 14	Potential for chemical spills during loading/unloading. This dock is located nearest the dye and finishing chemical room and wastewater treatment area.	AM-2	5.6	No sample	No well	Groundwater could not be sampled (auger refusat before groundwater was encountered, so no well was installed).	Installed well in area (with rock coring as needed to reach water table). Collected soil samples during boring installation. Groundwater was sampled.	ME-1 Bedrock	No groundwater contamination was detected except for ETPH at 0.39 ppm. Low concentrations of ETPH and PAHs (below RES DEC and GB PMC) were detected in the soil. Source is not known, but may be related to ash used as fill and/or miscellaneous small petroleum or dye releases.
Buildings 1 and 2 Building 3	Storage of flammable solvents and mixing of coatings Downgradient of solvent coating/ former storage area	AM-4 AM-6	19.5 8.5	ETPH at 360 mg/kg (3-5 ft); Pb at 438 mg/kg (5-7 ft) ETPH at 770 mg/kg (5-6 ft bgs)	of Note	Well downgradient of buildings is not avallable. Extent of soil contamination is unknown.	Attempt installation of bedrock well in vicinity of boring AM-6. Collect soil samples and groundwater samples.	Proposed Location 4 not attempted	After inspection by potential drilling contractors, it was concluded that this area would not be accessible for installation of of a bedrock well. Other locations were considered but no acceptable location could be identified. It may not be possible to examine this area further without substantial expense and disruption. There is no evidence of a release that has impacted groundwater and soil detections in AM-4 and AM-6 are below I/C DEC.
Across Grove Street from Building 14	Former gasoline station located across Grove Street southeast of site	Nane	N/A	N/A	N/A	Not known if releases occurred at former gas station and migrated onto site.	No Activity (TBA is restricted to site property). On-site wells will be sampled for petroleum-related compounds (BTEX, ETPH).	All ME series wells	No BTEX compounds or PAHs were detected in the ME series groundwater samples. ETPH was detected with highest concentrations at ME-2. Most likely source is thought to be dye-colored water releases rather than releases from former gas station. BTEX would be expected to be present from a gasoline release. A well within Building 14 (attempted but not completed; see ME-3 discussion) would be useful in further evaluating possibility of off-site contaminants migrating onto site.
Areas Not Selected for Investigation Loading dock on south side of Building 14	stigation During the TBA Potential for chemical spills during loading/unloading	None	N/A	N/A	N/A	Evidence of surface releases (if any) is likely obliterated due to paving and vehicle activity in this area. Possible migration of a release through pavement cracks cannot be ruled out based on visual observations of no obvious surface impacts.	No activity because evidence of past releases (if any) was considered unlikely to be detected by surface soll sampling, and other REC were prioritized for installation of borings/wells.	N/A	
Building 7	Solvent Coaters	None	N/A	N/A	N/A	Located partially above raceway. Releases (if any) likely entered raceway and river. Area is not accessible for installing borings/wells.	No Activity, area not accessible for a drill rig.	N/A	
Building 12	Maintenance/Machine Shop	None	N/A	N/A	N/A	Surface releases may have taken place but significant releases to subsurface not suspected, and if present might be observable via other wells to be installed downgradient.	No Activity, other REC were prioritized because likelihood of release was considered to be greater elsewhere, and downgradient wells might detect releases to groundwater, if they occurred in Building 12.	N/A	

WA#155-REPT-082508-504 Page 2 of 3

Table 7. Summary of GeoDesign and TBA investigations and Remaining Areas of Conern

	GeoDesign Phase I a	nd Phase II Assessme	ents (2004)			TBA Investigati	on Locations and Rationale		
Recognized Environmental Condition/Location	Rationale for Listing	Associated Phase II Investigation Location	Depths of auger refual (feet bgs)		•	Data Gaps Remaining after Phase II	Completed TBA Investigation Locations	Boring/Well Location ID (see M&E (Figure 3)	TBA Investigation Observations and Remaining Data Gaps
Slope west of Bldgs. 1 and 2	Location of reported dye-colored water seepage (1994) and observed solid waste debris.	AM-4	19.5	ETPH at 360 mg/kg (3-5 ft); Pb at 438 mg/kg (5-7 ft)	of Note	Slope area not accessible. AM-4 would potentially show groundwater contamination migrating from Building 2 area, if present.	No Activity because area is not accessible for drill rigs and access is difficult for any type of sampling due to very steep slope.	N/A	
Bullding 13	Latex coating operations	None	N/A	N/A		Releases possible but not suspected; area not accessible.	No Activity because area is not accessible for drlll rigs.	N/A	
Building 2 loading dock	Potential for chemical spills during loading/unloading	AM-4	19.5	ETPH at 360 mg/kg (3-5 ft); Pb at 438 mg/kg (5-7 ft)	of Note	Extent of soil contamination is unknown. AM-4 result does not exceed CT RSR but does exceed DEP guideline for Pb in residential soil.	No Activity; see above for Bidgs. 1 & 2	N/A	
South of Building 7	Four transformers (3 PCB-containing)	PCB Surface Soil Sample (S-1)	N/A	No PCBs detected	1	No evidence of contamination encountered during Phase II Investigation.	No Activity; previous investigation did not detect evidence of a release.	N/A	
Bullding 6	Former Belding Bros. Dye House; waste oli storage area	None	N/A	N/A	N/A	No direct evidence of releases. Phase I Report notes that waste oil storage area was neat and well maintained.	No Activity. Access to area with a drill rig is difficult and other REC were prioritized for borings/wells.	N/A	

Notes:

N/A - not applicable

CT RSR - Connecticut Remediation Standard Regulations

SWPC - Surface Water Protection Criteria (Connecticut Remediation Standard Regulations)

EX - Ethylbenzene and Xylenes

As - Arsenic Cu - Copper

Pb - Lead Zn - Zinc

ETPH - Extractable Total Petroleum Hydrocarbons (CTDEP method)

No Detection of Note - No organic compounds were detected and no metals were detected in excess of CT RSR criteria

References:

GeoDesign, Inc. 2004. Phase I Environmental Site Assessment. GeoDesign, Inc. 2004. Phase II Environmental Site Assessment.





December 15, 2009

Ms. Mary Ellen Kowalewski Director of Community Development Capitol Region Council of Governments 241 Main Street Hartford, CT 06106

RE: Limited Phase II/Limited Phase III Environmental Site Assessment

Amerbelle Textiles 104 East Main Street Vernon, Connecticut

Dear Ms. Kowalewski:

We are pleased to submit the enclosed report of the Limited Phase II/Limited Phase III Environmental Site Assessment for the above-referenced site. The assessment was conducted in general conformance with the Connecticut Department of Environmental Protection Site Characterization Guidance Document and the EPA-approved Quality Assurance Project Plan Addendum.

The results of this investigation are summarized in the attached report. Thank you for the opportunity to conduct this work. Please contact the undersigned if we can be of further assistance.

David F. Hurley PG, LEP

Vice President

Sincerely,

146 Harrford Road Manchester, CT 06040-5921

06040-5921 Daniel R. Jahne, LEP 50) 646-2469 Senior Hydrogeologist

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Table of Contents

Limited Phase II/Limited Phase III Environmental Site Assessment Amerbelle Textiles

Exe	cutive	Summary	iv		
1					
•	1.1	Project Objective			
2	Cito				
~	Site Information and Preliminary Conceptual Model				
	2.1	Site Description and History			
	2.2	Physiographic Setting			
	2.3	Site Geology and Hydrogeology			
	2.4	Previous Site Investigations	7		
3	Regulatory Framework				
	3.1	RSR Soil Criteria			
	3.2	RSR Groundwater Criteria			
4	Limited Phase II/Limited Phase III Scope of Study				
	4.1	Data Quality Objectives and Reasonable Confidence Protocols			
	4.2	Constituents of Concern			
	4.3	Limited Phase II/Limited Phase III Investigative Procedures			
5	Phas	se II/III Results	15		
	5.1	Soil Analytical Results	16		
	5.2	Soil – Discussion of Conceptual Site Model			
	5.3	Groundwater Analytical Results	10 10		
	5.5	Croundwater mary dear results			
6	Con	clusions and Recommendations	21		
7	Refe	rences	24		
3	Limi	tations of Work Product	25		



Table of Contents

Limited Phase II/Limited Phase III Environmental Site Assessment Amerbelle Textiles

Tables End of Text

Table 1 Summary of Constituents Detected in Soil

Table 2 Summary of Constituents Detected in Groundwater

Figures End of Text

Figure 1 Site Location Map

Figure 2 Site Plan and Sampling Locations

Appendices End of Report

Appendix A AOC-Specific Conceptual Models (Technical Memoranda)
Appendix B Boring Logs and Monitoring Well Completion Reports

Appendix C Low Flow Groundwater Sampling Data Sheets

Appendix D Soil Analytical Laboratory Reports

Appendix E Groundwater Analytical Laboratory Reports



ACRONYMS AND ABBREVIATIONS

Organization					
CTDEP					
USEPA	Connecticut Department of Environmental Protection				
USGS	United States Environmental Protection Agency				
	United States Geological Survey				
Units of Mea					
ug	Micrograms				
mg	Milligrams				
kg	Kilograms				
L	Liter				
ppb	Parts per billion				
ppm	Parts per million				
Analytical Pa	rameters and Chemical Compounds				
ETPH	Extractable total petroleum hydrocarbons				
PAHs/PNAs	Polynuclear aromatic hydrocarbons				
PCBs	Polychlorinated biphenyls				
PCE	Tetrachloroethylene				
SPLP	Synthetic precipitate leaching procedure				
SVOCs	Semivolatile organic compounds				
TCLP	Toxicity characteristic leaching procedure				
TCE	Trichloroethylene				
TPH	Total petroleum hydrocarbons				
VOCs	Volatile organic compounds				
Other					
AOC	Area of concern				
AST	Aboveground storage tank				
CFR	Code of Federal Regulations				
QA/QC	Quality assurance/quality control				
RCSA	Regulations of Connecticut State Agencies				
RSRs	Remediation Standard Regulations				
UST	Underground storage tank				



Executive Summary

Fuss & O'Neill was retained by the Capitol Region Council of Governments (CRCOG) on behalf of the Town of Vernon to perform a Limited Phase II/Limited Phase III Environmental Site Assessment (ESA) at the Amerbelle Textiles facility located at 104 East Main Street in Vernon, Connecticut. The objective of the investigation was to characterize potential contaminant source areas located in the shallow unconsolidated material to the extent that these areas are accessible. In addition, the potential for the migration of contaminated groundwater onto and off of the site in the shallow bedrock aquifer was also evaluated.

Fourteen (14) of the twenty-three (23) site Areas of Environmental Concern (AOCs) were investigated during this mobilization. Not all of the AOCs at the site were investigated due to funding limitations. The investigation included the advancement of soil borings, installation of monitoring wells, and collection of groundwater samples. The investigation was performed in accordance with the Quality Assurance Project Plan approved by the US Environmental Protection Agency.

The results of the investigation indicate that fill comprised of sand and silt with trace amounts of asphalt and concrete fragments is present across the surface of the site. The thickness of the fill ranges between 1 foot and 1.5 feet. The fill is polluted with polynuclear aromatic hydrocarbons and metals consisting of arsenic, cadmium, chromium, copper, mercury, lead, and zinc.

No evidence of releases of hazardous substances or petroleum products was found at the following AOCs.

- AOC 9 Building 13, Latex Coating
- AOC 11 Buildings 1 and 2
- AOC 21 Former Off-site Gasoline Station

The determination of "no release" was based on physical inspections, document reviews and analytical data from soil samples. Based on the data collected during our Limited Phase II/Limited Phase III investigations as well as analytical data from previous investigations, we conclude that releases of hazardous substances or petroleum products have occurred at the following AOCs.

- AOC 10 Building 2, Loading Dock
- AOC 12 Building 3
- AOC 13 Solvent coaters
- AOC 14 Fuel Oil Above-ground Storage Tanks
- AOC 15 Transformers
- AOC 16 Building 7, Loading Dock
- AOC 17 Building 9
- AOC 18 Building 8
- AOC 19 Building 11, Former Dyeing/Current Chemical Storage
- AOC 20 Building 11, Loading dock
- AOC 23 Site Groundwater



Site groundwater quality has been negatively impacted by releases of petroleum and hazardous constituents that have occurred to soil at several of the above-referenced AOCs. The solvent tetrachloroethylene (PCE) exists in the overburden groundwater in the northeast portion of the site at Building Number 11. The concentrations of PCE in groundwater in this area represent a potential vapor intrusion issue for Buildings 8 and 11.

PCE and the semi volatile organic compound (SVOC) (bis(2-ethylhexyl)phthalate) were also identified in groundwater located in the northwest portion of the property north of Brooklyn Street, which is upgradient of the Paper Mill Pond. It is unknown whether the groundwater contaminant plumes have migrated off-site to Paper Mill Pond or the north abutting property.

We recommend further investigation of the Building 11 PCE release to determine the degree and extent of the release areas and to assess the possibility of vapor intrusion. We also recommend investigation of the AOCs associated with the textile dyeing operations in Building Number 14, which were not assessed during this mobilization due to funding issues. The source area for the SVOC groundwater contaminated plume may originate from Building Number 14.

Further investigation is also needed at several of the AOCs investigated during this mobilization to determine the degree and extent of contamination. Recommendations for investigation at each of these areas is provided in the Technical Memoranda included with this report.



1 Introduction

1.1 Project Objective

Fuss & O'Neill was retained by the Capitol Region Council of Governments (CRCOG) on behalf of the Town of Vernon to perform a Limited Phase II/Limited Phase III Environmental Site Assessment (ESA) at the Amerbelle Textiles facility located at 104 East Main Street in Vernon, Connecticut. The investigation was completed as part of the Metro Hartford Community Wide Brownfield Assessment Program. The purpose of the investigation was to characterize potential contaminant source areas located in the shallow unconsolidated material to the extent that these areas are accessible. In addition, we evaluated the potential for the migration of contaminated groundwater onto and off of the site in the shallow bedrock aquifer.

The assessment was completed in accordance with the QAPP Addendum that was submitted to the United States Environmental Protection Agency (USEPA) in August 2008. To achieve this objective, our Limited Phase II/Limited Phase III investigation was conducted in general conformance with the Connecticut Department of Environmental Protection (CTDEP) 2007 Site Characterization Guidance Document. For this phase of the project, only a portion of the EPA-approved QAPP Addendum was implemented due to funding limitations. Implementation of the remaining parts of the QAPP Addendum may be completed in the future when sufficient funds are available.

2 Site Information and Preliminary Conceptual Model

This section provides a summary of the information used to construct the initial conceptual model for the site, which, in turn, guided the physical investigations. Information such as the site's operational history, geology, hydrogeology, and potential receptors help identify areas where releases of hazardous materials could occur and how they might impact human health and the environment.

2.1 Site Description and History

The subject site, the current Amerbelle Corporation, is located on the western side of East Main Street in an industrial zone of Vernon, Connecticut (Tolland County). A portion of a United States Geological Survey (USGS) topographic map showing the subject site location is provided as Figure 3-1. Amerbelle Corporation produces specialty textiles for various applications.

The subject site is divided into two parcels, one 2.7-acre parcel located south of Brooklyn Street and one 1.5-acre parcel located north of Brooklyn Street. The site building on the southern parcel contains Amerbelle's dyeing, mixing and finishing operations, while the building on the northern parcel is used for coating operations and as a storage area. Several aboveground storage tanks (ASTs) are located throughout the property as follows:



- Two 18,000-gallon waste oil storage tanks
- One 27,000-gallon production water supply tank
- One 500-gallon tank containing sodium hydroxide for dyeing processes
- Two 275-gallon finishing resin tanks
- Two 7,500-gallon pH neutralization tanks
- One 275-gallon tank containing sodium hydroxide for pH neutralization
- One 275-gallon tank containing sulfuric acid for pH neutralization
- One 10,000-gallon hot water storage tank.

A site plan is provided as <u>Figure 2</u>. The site buildings, numbered 1 through 14, are distributed over the two parcels. Buildings 12 and 14 are the only two located on the southern parcel. A summary of operations conducted in each building is provided below. This information was compiled based on Fuss & O'Neill's review of existing environmental documents and a site visit performed in July 2008.

Buildings 1 and 2

Building 1 is used for the mixing and storage of flammable, organic coatings. Raw materials are stored on the northern side of the building. Constituents noted in the storage area included formaldehyde, toluene, and isopropyl alcohol as well as brand-named compounds. The mixing area is located on the southern side. A hazardous waste storage area is located in the northwestern portion of the mixing area. The floor in Building 1 is concrete. A wood-floored basement and earth/stone sub-basement underlie this area. The main floor appears to have been reinforced with additional steel support columns that extend to bedrock in the sub-basement. We suspect that the original floor was likely wood and that the new construction was completed to accommodate the current use.

Building 2

Building 2 is a storage area with three loading docks on the southwest side. Rolls of fabric were stored in this area at the time of Fuss & O'Neill's site visit, which was made in July 2008. The floor of Building 2 is concrete with a wood-floored basement area below. The area in front of the loading docks is asphalt paved. Files held by the Fire Marshal indicate that tank trailers were used for the temporary storage of oil in 1989 (GeoDesign, 2004).

Buildings 3, 4 and 5

These buildings are used for general storage. Building 5 is located above the raceway. Buildings 3 and 4 both have basements. The basement of Building 3 is used for storage. The basement of Building 4 houses fire pumps that draw water from American Mill Pond.

Building 6

Building 6 is located adjacent to the boiler room and built around the base of the boiler stack. No manufacturing processes appear to take place in this area. A shallow floor trough (less than three inches deep) is present to provide drainage for groundwater infiltration. Boiler operations are located to the northwest and northeast of Building 6. Concrete cradles for a historical AST are located outside Building 6, adjacent to the raceway.



Building 7

Building 7 houses two solvent coater lines. The solvents are primarily methyl ethyl ketone (MEK)- and toluene-based. The solvents are stored in Building 1. Emissions from the coating lines are discharged to a gas-fired thermal oxidizer to destroy volatile compounds prior to discharge to the air. The solvent coaters operate in conjunction with air-to-air heat dryers which utilize heat from exhaust gases coming from the oxidizer. The coating lines are located above the raceway. A two-bay loading dock is located in the eastern end of Building 7.

Building 8

Water is withdrawn from the Hockanum River for use in manufacturing operations. The water is processed through a filtration system in the western portion of the Building 8 basement and pumped to a 27,000-gallon holding tank in the eastern portion. Process wastewater is discharged to the sanitary sewer. A floor drain system in the basement also discharges to the sanitary sewer. Non-contact cooling water that is withdrawn from the raceway is discharged back to the river. Several 55-gallon drums containing waste oil are stored on containment pallets. Equipment that may have been used in former mixing or wastewater treatment operations is also located in the basement. Building 8 was used as a dye house until 1927 (GeoDesign, 2004).

Building 9

This area is used for general storage. Groundwater seepage from the raceway is evident and a sump pump pumps water to the floor drain system in Building 8. Building 9 was used for dye storage from 1868 to 1927 (GeoDesign, 2004). A Hazardous Materials Survey in 1986 identified several miscellaneous chemicals as being stored on the ground of this building.

Building 10

Building 10 is not identified on available mapping.

Building 11

This area is used for the storage of equipment, drums of oil, and chemicals. The building was previously used for dye operations prior to 1927 (GeoDesign, 2004). A floor trench system currently conveys groundwater infiltration but in the past may have conveyed liquid seepage from former operations. The central collection point of the trench system is not known, but is suspected to have discharged to American Mill Pond. One loading bay is located along the northern edge of the building. An elevator shaft is present on the west wall. Dyeing operations subsequently moved to Building 14.

Building 12

This area is used as a machine shop and storage area. Operations include welding, turning, milling, grinding and electrical repair. A small parts cleaner area is located here. The 4-floor building was constructed between 1885 and 1892 (GeoDesigns, 2004). It is not known if historical manufacturing operations were conducted in this building.



Building 13

The latex coating line is located in the eastern end of Building 13. The latex coatings are stored in a storage area located just east of the coating line. The western end of the building is usually empty. At the time of the July 2008 site visit, the facility was shut down for maintenance and this area was used to temporarily store rolls of fabric.

Building 14

This building occupies most of the southern parcel and is used for textile dyeing and finishing. Two loading docks are located at the southwest end of the facility; three are located on the southeast side. A textile storage area with an elevator is located in the southern corner of the building.

Most of the dying operations occur in the western portion of the building. A dye mixing room is located in the northwest corner of the ground floor. Dyes are stored just outside the dyeing room in 55-gallon drums. The rest of the ground floor is generally open and houses dyeing and finishing machines. A floor drain trench system is located throughout the ground floor to collect oversplash and drips that occur when cleaning the equipment and removing processed material from the machines. The liquid is directed to a wastewater sump, approximately 20 feet deep, located in the southwestern end of the building. Two 7,500-gallon pH neutralization tanks are located in a loading dock west of the sump. Wastewater treatment chemicals (including sodium hydroxide, citric acid, soda ash, and sodium bicarbonate) are stored in 55-gallon drums in the vicinity of the sump. Treated wastewater is discharged to the sanitary sewer.

Most of the finishing operations occur in the southwestern portion of the building. Finishing products are applied to fabrics which are then dried. Finishing chemicals (including formaldehyde, fabric protector, and brand name chemicals) are stored in the southwestern portion of the building.

18,000-Gallon Fuel Oil ASTs

Two 18,000-gallon fuel oil ASTs are located east of Building 13 in a concrete containment structure. The structure is walled and roofed.

Two 20,000-gallon fuel oil USTs were formerly located in this area. The USTs were removed in 1989 along with an undocumented quantity of contaminated soil (GeoDesign, 2004).

Exterior Pad-Mounted Transformers

Three PCB-containing transformers and one non-PCB-containing transformer are located south of Building 7 in a fenced-in area. The PCB transformers are on a concrete pad that adjoins a concrete paved bridge over the raceway to the northeast and the concrete wall of the AST structure to the southwest.



2.2 Physiographic Setting

The topography of the subject site slopes sharply to the north and northwest with an approximately 80 foot difference in elevation across the site (USGS, 1992). The site is bounded on the east by the Paper Mill Pond. A raceway connects the pond with the Hockanum River, located south of the site across Grove Street. The Amerbelle facility is built around a raceway. Water flows from a small dam in the river through a raceway running from the southeastern corner of the site to the north into the Paper Mill Pond. Groundwater migration at the site is controlled primarily by drainage to the raceway and Paper Mill Pond and the bedrock surface.

The Hockanum River and Paper Mill Pond are classified by the State of Connecticut as C/B (CTDEP, 1993). 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 (CTDEP, 2002).

2.3 Site Geology and Hydrogeology

Site Geology

Surficial material at the subject site is mapped as till (Stone, 1992). Test hole logs for borings advanced in the vicinity of the site by the Connecticut Department of Transportation in association with the CTDEP Water Resources Bulletin in 1960 indicate that the soil near the site is sand with some silt and clay up to a depth of 9 feet. To the east of the site unconsolidated material consists of varved clay to a depth of 36 feet. Based on observations made during Limited Phase II/Limited Phase III field investigations, fill comprised of sand and silt with trace amounts of asphalt and concrete fragments is present across the surface of the site. The thickness of the fill ranges between 1 foot and 1.5 feet. Native soil was encountered at a depth of 1 to 1.5 feet below the ground surface and consists primarily of compact fine-sand and silt and clay.

Bedrock beneath the subject site is mapped as Glastonbury Gneiss, a well-foliated, grey to silver gneiss (Rodgers, 1985). Suspected bedrock was encountered during drilling at various depths, as summarized in the table below.

Location	Refusal Depth (feet)		
MW-01	14		
MW-02	19		
MW-03	24		
SB-101	4.0		
SB-102	2.0		
SB-103	2.0		
SB-116	6.2		



Since portions of the Amerbelle facility foundation was constructed in bedrock and the Paper Mill Pond raceway flows through the central portion of the building, the shallow refusals were likely on bedrock. A bedrock outcrop is visible in the northwestern portion of the site.

Site Groundwater

The quality of groundwater beneath the subject site is classified by the Connecticut Department of Environmental Protection as GB (CTDEP, 1993). Groundwater classified as GB is defined by CTDEP as groundwater within a historically highly-urbanized area or an area of intense industrial activity and where public water-supply service is available. Class GB groundwater may be not be suitable for human consumption without treatment due to waste discharges, spills, or leaks of chemicals or land use impacts. The designated uses for Class GB groundwater are as industrial process water and cooling waters and as baseflow for hydraulically-connected surface water bodies. Class GB groundwater are presumed not suitable for human consumption without treatment (CTDEP, 1996).

Limited Phase II/Limited Phase III investigations indicate the depth to groundwater at the site ranges from 5.3 feet bgs to 19 feet bgs. Groundwater flow at the site is generally toward the northwest and is primarily influenced by the adjacent Hockanum River, Paper Mill Pond and underlying raceway. Seepage from the raceway and drainage features around the building and parking lots are likely affecting the water table elevation at monitoring wells MW-01 and MW-03.

A summary of well detail information and depth to groundwater measurements is provided in the table below.

Well LD.	Well Diameter (inches)	Well Depth (feet)	Screened Interval (feet)	Depth to Bedrock (feet)	Measurement Date	Depth to Water (feèt)
MW-01	2	50.0	40 – 50	14.0	7/6/2009	7.18
111 11 01					7/13/2009	5.38
MW-02	2	33.0	23 – 33	19.0	7/6/2009	20.15
141 W -02					7/13/2009	18.98
MW-03	2	37.5	27.5 – 37.5	24.0	7/6/2009	10.70
W -03					7/13/2009	10.72
ME-1	2	14.9	4.9 - 14.9	3.0	7/13/2009	5.44
ME-2	2	18.0	8 – 18	5.3	7/13/2009	6.92
ME-6	2	25.5	15.5 – 25.5	13.5	7/13/2009	18.51
AM-1	2	12.0	7 – 12	10.3	7/13/2009	11.44
AM-5	2	12.5	7.5 – 12.5	10.0	7/6/2009	12.27
AIVI-5					7/13/2009	12.27
AM-7	2	9.5	4.5 – 9.5	NE	7/6/2009	5.43
VIAT- \					7/13/2009	8.30

NE = not encountered

The groundwater flow direction at the site was not determined during this investigation. Vertical gradients at the site have also not been determined. Seepage from the raceway



influences local groundwater flow direction. The existing well network at the site includes wells screened in the unconsolidated deposits aquifer, the shallow bedrock aquifer, and the deeper bedrock aquifer. The well network needs to be better defined for the unconsolidated deposits aquifer and bedrock aquifer to assess groundwater flow direction and to determine vertical gradients. Recommendations for expanding the well network at the site are provided in the Technical Memoranda provided as Appendix A.

2.4 Previous Site Investigations

This section provides a summary of previous investigations conducted at the site, including Phase I and Phase II investigations completed by GeoDesign, Inc. and a Targeted Brownfields Assessment Report completed in 2006 by Metcalf & Eddy. The reports contained information regarding description of AOCs, locations of AOCs, and a summary of constituents of concern identified from these investigations.

A Phase I report prepared by GeoDesign, Inc. in 2004 identified 21 AOCs on the subject site. After reviewing this information as well as the results of the Phase II investigation, Fuss & O'Neill identified 2 additional AOCs. A list of AOCs identified for the subject site properties is detailed below. A detailed description of each AOC is summarized in the AOC-Specific Technical Memoranda provided in Appendix A.

- AOC 1 Former xylene USTs south of Building 14
- AOC 2 Building 14 south loading dock
- AOC 3 Building 14 west loading dock
- AOC 4 Northwest corner of Building 14
- AOC 5 Building 14 wastewater conveyance trenches
- AOC 6 Southeast corner of Building 14
- AOC 7 Building 12, Maintenance
- AOC 8 Slope west of Buildings 1 and 2
- AOC 9 Building 13, Latex Coating
- AOC 10 Building 2 loading dock
- AOC 11 Buildings 1 and 2, Coating Storage
- AOC 12 Building 3, Storage
- AOC 13 Building 7, Solvent Coating
- AOC 14 Fuel oil ASTs
- AOC 15 Transformers
- AOC 16 Building 7 loading dock
- AOC 17 Building 9, Dye Storage
- AOC 18 Building 8, Former Dye House
- AOC 19 Building 11, Former Dyeing/Current Chemical Storage
- AOC 20 Building 11 loading dock
- AOC 21 Former off-site gasoline station
- AOC 22 Fill
- AOC 23 Groundwater



Phase I and II Environmental Site Assessments (ESAs), February and March 2004, completed by GeoDesign, Inc.: Environmental investigations included the following:

- Site history and file review
- Interior and exterior site inspection
- Identification of AOCs
- Five exterior soil borings
- Six interior soil borings
- Installation of four groundwater monitoring wells.

Analytical results from the Phase II soil sampling indicated the presence of trace VOCs at several locations throughout the site. ETPH was detected at low concentrations at almost all of the sample locations. Formaldehyde was detected in two samples, both collected from the northwestern portion of Building 14. No SVOCs or PCBs were detected in any of the samples.

Groundwater samples were analyzed for VOCs, SVOCs, ETPH, formaldehyde, aniline and dissolved metals. Trace VOC concentrations were detected in several of the groundwater samples. ETPH was detected at concentrations up to 1,100 ug/L. Arsenic (11 ug/L) and copper (82 ug/L) were detected in the groundwater sample from the monitoring well installed in Building 11. The sample collected from the town well on Brooklyn Street showed zinc at a concentration of 171 ug/L.

Targeted Brownfields Assessment Report, August 2006, completed by Metcalf & Eddy: Between November 28 and December 3, 2005, five soil borings were drilled, and overburden soil samples were collected. Four monitoring wells were installed during drilling-three in bedrock (ME-1, 2 and 6) and one in the overburden (ME-5). See Figure 3-2 for a map showing sampling locations. Soil analytical results are summarized below:

- VOCs were detected at trace concentrations in several of the shallow soil samples collected throughout the site.
- SVOCs were detected throughout the site and may be associated with fill. Coal ash, which contains SVOC compounds, was found to be present in fill in one of the borings.
- The sample from soil boring AM-1 (south of the Building 7 loading dock) also contained arsenic at a concentration of 54.4 mg/kg.
- ETPH concentrations ranging from 21 to 75 mg/kg were detected, the highest concentrations being detected in samples collected from Building 3, a general storage area, and outside of the Building 7 loading dock.

Groundwater samples were collected from all four of the newly installed wells (ME-1, 2, 5, 6) as well as from an existing monitoring well (AM-7). Analytical results indicated the presence of TCE, PCE and several other VOCs in the groundwater downgradient of Building 11. The source of TCE and PCE contamination is unknown; however PCE and TCE are currently used in several site operations. PCE and TCE have also been identified as constituents of concern in groundwater as a result of an off-site release at the upgradient Roosevelt Mills facility located 0.5 miles east of the site. ETPH was detected at higher than background concentrations. Metals were found at concentrations higher than background at monitoring wells ME-2 (chromium, lead and copper) and AM-7 (copper and zinc). The groundwater sample collected



at ME-2 was reported to have a blue-green tint. ME-2 is located on Brooklyn Street in the area where dye-colored water was encountered during sewer installation.

3 Regulatory Framework

The Connecticut Remediation Standard Regulations (RSRs) are the clean-up standards in the State of Connecticut. They also contain procedures to evaluate whether actions (e.g., remediation or institutional controls) will be required to address identified releases of hazardous substances.

The RSRs require that the nature and extent of release areas be fully characterized prior to making a final determination of compliance with the RSRs. At this point in the investigation process, release areas have not been fully characterized, and it is not appropriate to make a compliance determination based on this initial data. However, RSR criteria can be used to gauge the relative magnitude of identified releases and assist in the early identification of potential risks to human health and the environment. For this reason, baseline RSR criteria are presented alongside the analytical data as a preliminary evaluative tool, and the RSR criteria that apply to Amerbelle Textiles are discussed in the following subsections.

3.1 RSR Soil Criteria

The RSR Soil Remediation Standards (RCSA Section 22a-133k-2) require polluted soil at a release area to be remediated to meet the Direct Exposure Criteria (DEC) to protect human health from exposure to constituents of concern (COCs). Soil must also meet the Pollutant Mobility Criteria (PMC), which is intended to prevent the pollution of groundwater through the leaching of constituents from impacted soil. The RSRs also define specific alternatives to strict compliance with the baseline numeric DEC and PMC by including self-implementing options, exceptions, and variances.

Direct Exposure Criteria: In general, these criteria apply to soil located within fifteen feet of the ground surface. Soil impacted by a release must be remediated to a concentration that is consistent with the Residential (Res) DEC, unless the site is used exclusively for industrial or commercial activities. In such a case, the Industrial/Commercial (I/C) DEC may be used, provided an Environmental Land Use Restriction (ELUR) is recorded to ensure that the site is used only for industrial/commercial activities. In addition, it is possible to use institutional or engineered controls to manage impacted soil on-site.

Pollutant Mobility Criteria: The PMC is dependent upon the groundwater quality classification of the site. Based on the site's location in a GB-designated area, the GB PMC apply to the Site. In a GB-area, these criteria apply to soil located above the seasonal high water table. Since groundwater at the site is relatively shallow (5-20 ft below the ground surface), the GB PMC may not apply at certain release areas. As with the DEC, it is possible to use engineered controls to manage impacted soil on-site. Variances also exist for the presence of widespread, polluted fill and constituents associated with fill that contains only asphalt fragments, coal fragments, or coal/wood ash.



3.2 RSR Groundwater Criteria

The RSR Groundwater Remediation Standards (RCSA Section 22a-133k-3) require that remediation of a groundwater plume shall result in the attainment of the Surface Water Protection Criteria (SWPC) and Volatilization Criteria (VC) or the background concentration for groundwater for each substance in the plume. The criteria which apply to the subject site are discussed in more detail below. As with soil, the RSRs specify self-implementing options and exceptions associated with determining compliance with groundwater criteria.

Surface Water Protection Criteria (SWPC): The SWPC ensure that surface water quality is not impaired by the discharge of contaminated groundwater into a surface water body at constituent concentrations above the Water Quality Standards. The SWPC apply to a groundwater plume at the point where the plume discharges to a surface water body. Alternatively, the SWPC may be evaluated as an average of concentrations within the plume. Site-specific SWPC may also be calculated.

Volatilization Criteria (VC): The VC protects human health from volatile substances in shallow groundwater that may migrate from groundwater into overlying buildings. Under the current regulations, the VC are considered for areas where groundwater is within 15 feet of the ground surface or a structure intended for human occupancy; however, the CTDEP is proposing that this compliance depth be increased to 30 feet. The VC are specific to a site's land use (i.e., residential versus industrial/commercial). Residential criteria apply unless an ELUR is filed to restrict the site's use to industrial/commercial. In evaluating the site with respect to the volatilization criteria, Fuss & O'Neill considered the draft revised VC and the potential for vapor intrusion.

4 Limited Phase II/Limited Phase III Scope of Study

As described in Section 2.4, previous investigations have identified releases of VOCs, SVOCs, ETPH and several metals to soil and groundwater at the site. This scope of work targeted the identified areas of concern with supplemental investigations. The site is an active manufacturing facility, and the nature of the processes and arrangement of the buildings prevented access to sampling in some areas.

The objectives of the investigation are identified below:

- 1) Characterize potential releases to shallow, unconsolidated soil to the extent that identified AOCs are accessible.
- 2) Evaluate the potential for the off-site migration of impacted groundwater in the shallow bedrock. Fuss O'Neill consulted the CTDEP on development of the scope of work for assessment of groundwater quality. On June 5, 2008 Fuss & O'Neill met with CTDEP's Tom O'Connor to review groundwater quality for the area surrounding the site. CTDEP is involved in the investigation and remediation of the upgradient Roosevelt Mills site where releases of chlorinated solvents to groundwater at that property have occurred. The releases at Roosevelet Mills have migrated off-site and have affected groundwater quality in the area and potentially the Amerbelle site. The



degree of groundwater characterization at this phase of investigation at the site focused on identifying potential hot spot contaminant source areas and evaluating groundwater quality in the shallow aquifer at the downgradient property boundary.

This section provides an overview of the methods used to investigate the site and evaluate the data collected and describes data quality objectives (DQOs), constituents of concern (COCs), laboratory methods used to analyze environmental samples, and field investigation methods.

4.1 Data Quality Objectives and Reasonable Confidence Protocols

DQOs are used to ensure that data is collected in a manner that permits it to be used to evaluate a site and support decisions based on those evaluations. Procedures used to ensure that the DQOs for the project were met include:

- Work was conducted in accordance with the EPA approved Quality Assurance Project Plan (QAPP) dated November 2008
- Selection of analytical methods with appropriate detection limits
- · Use of pre-determined sampling handling and custody procedures
- Use of pre-determined data management and documentation procedures
- Selection of sampling locations and COCs appropriate to the potential release area
- Collection of samples from locations most likely to exhibit evidence of a release based on the AOC conceptual model
- Use of Connecticut's soil VOC sampling procedures
- Use of trip blanks, equipment blanks, duplicates, and laboratory matrix spikes for quality assurance/quality control
- Use of Connecticut's Reasonable Confidence Protocols (RCP) and laboratory QA/QC procedures

QA/QC data and laboratory RCP reporting were reviewed to confirm that objectives for investigation data were met. Our observations are summarized below.

Trip Blanks: Trip blanks for VOC analysis were provided by the laboratory to accompany each cooler of environmental samples to be analyzed for VOCs. Trip blank results were used to determine whether samples may have been compromised as a result of sample container handling or transport. No VOCs were detected in trip blanks. Trip blank analytical results are included in the laboratory reports.

Duplicates: Duplicate samples were generally submitted at a frequency of 1 per 20 samples per matrix. Both soil and aqueous duplicate samples were submitted to Phoenix Laboratories to check the precision of laboratory analysis and field sampling procedures during our Limited Phase II and Limited Phase III investigations. Each duplicate was collected at the same time as the corresponding primary sample and was analyzed for the same parameters.

Duplicate sample concentrations were comparable with reported concentrations for the primary samples. Minor differences in primary and duplicate sample results were generally due to sample heterogeneity and matrix interference. Duplicate results are included in tables with the primary sample.



Reasonable Confidence Protocols: The reasonable confidence protocol packages provided with laboratory reports were reviewed. The laboratory reported that "reasonable confidence" was achieved on all analyses conducted. This checklist is included in the analytical report in Appendix D and Appendix E. A review of the narratives revealed no notes that affect the usability of the data. The lab answered "no" to the following QA/QC questions with the following explanations:

- 3. Were samples received at an appropriate temperature (<6 degrees C)? Soil and groundwater samples were greater than 6 degrees C upon arrival at the laboratory. No bias in the sample results is suspected due to temperature.
- 4. Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? During the analysis of one soil sample (993090630-07 collected at location SB-107), the surrogate dibromofluoromethane exhibited a negative interference. The sample was reanalyzed with similar results indicating matrix interference. Since this sample is beings used to assess the environmental quality of soil, a negative surrogate recovery does not affect the usability of the results.
- 5b. Were all reporting limits specified or referenced on the chain-of-custody met? Due to the presence of petroleum in the shallow soil sample collected at boring location SB-109 (Lab ID AR89517), both the volatile and semi-volatile analysis required a dilution. As a result, the requested reporting limits for volatiles and semi-volatiles could not be achieved. Although the reporting limits were elevated, the primary constituents of concern for this AOC (PCE and TCE) were detected in the sample. In addition, samples collected from adjacent locations did not require a dilution; therefore the absence/presence of AOC-specific constituents of concern at these locations could be evaluated.

Reporting limits for the semi-volatile pyridine and the volatiles acrylonitrile and dibromoethane did not meet the requested groundwater protection criteria for groundwater samples. Groundwater samples collected from monitoring wells AM-1 and ME-2 required a dilution due to non-target material in the sample. As a result, not all requested reporting limits were achieved for these two samples.

6. For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists present in the Reasonable Confidence Protocol documents? On the chain of custody, polynuclear aromatic hydrocarbons (PAHs) were requested via EPA Method 8270. This list refers to all semi-volatile organic compounds; however PAHs are a sub-set of SVOCs and the lab used a shortened list of compounds.

4.2 Constituents of Concern

A list of COCs to be investigated was developed for each REC. The COC list comprises those compounds most likely to be released, based on knowledge of site operations and results of previous investigations. The COCs include:

- Volatile Organic Compounds (VOCs)
- Polychlorinated Biphenyls (PCBs)
- Semi-volatile Organic Compounds (SVOCs)



- Extractable total petroleum hydrocarbons (ETPH)
- RCRA 8 (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) metals plus copper, nickel and zinc
- Formaldehyde
- Glycols
- Methanol
- Ammonia

The analytical methods presented in the following table were selected to identify and evaluate potential releases because they are capable of achieving analytical detection limits less than the baseline numeric RSR clean-up criteria applicable to the Site.

Constituent of Concern (COC)	Analytical Method		
VOCs	EPA Method 8260. Soil samples were collected using Terracores and preserved using the 5035 preservation method.		
SVOCs (and PAHs)	EPA Method 8270		
Petroleum hydrocarbons	Connecticut ETPH Method		
RCRA 8 metals (plus Cu, Ni, Zn)	SW6010 and SW-7471		
SPLP metals	SW6010 and 1323/245.1		
PCBs	EPA Method 8082		
Formaldehyde	SW8315		
Glycols	8015MOD		
Methanol	SW8015		
Ammonia	E350.1		

Sample analysis was conducted by Phoenix Environmental Laboratories of Manchester, Connecticut.

4.3 Limited Phase II/Limited Phase III Investigative Procedures

The Limited Phase II/ Limited Phase III field activities conducted between June 26, 2009 and July 13, 2009 were broken down into the following general tasks, which are described in the following subsections:

- Bedrock monitoring well installation and development (3 locations)
- GeoprobeTM soil sampling (21 locations)
- Groundwater sampling (8 locations)

Sample locations are depicted on Figure 2.

Bedrock Monitoring Well Installation

Prior to initiating field work associated with this Limited Phase II/Limited Phase III ESA, potential sampling locations were marked at the site. As required by law, a state-wide underground utility locating service was contacted prior to commencement of subsurface



sampling activities to mark the location of public underground utilities entering the property. Because providers do not mark out utilities on the property, Fuss & O'Neill contracted NAEVA Geophysics of Congers, New York to clear proposed drilling locations. Fuss & O'Neill contracted Aquifer Drilling and Testing (ADT) of Bloomfield, Connecticut to conduct a portion of the work using a direct-push drill rig. Because the site has several unique conditions likely to complicate drilling operations, Fuss & O'Neill walked the site with the contracted driller to ensure that all proposed investigation areas were accessible to either a track-mounted or portable drill rig.

Three 2-inch diameter groundwater monitoring wells (MW-01 through -03) were installed at the site using a GeoprobeTM drill rig. Monitoring well MW-01 was installed adjacent to the boiler room at the Building 4 loading dock, monitoring well MW-01 was installed near the Building 2 loading dock at AOC 10 and monitoring well MW-03 was installed in the southeastern corner of Building 14 along Grove Street to assess upgradient groundwater quality. Bedrock was encountered between 14 and 24 feet bgs.

The monitoring wells were constructed with standard PVC materials and ten feet of screen. Two of the wells (MW-02 and MW-03) are screened in the shallow bedrock aquifer and MW-01 is screened in deep bedrock (40-50 feet bgs). During drilling, the shallow bedrock wells were advanced several feet below the soil/bedrock interface to ensure that the screened interval was contained within bedrock. The interval above the well screen at the soil/bedrock interface was sealed with bentonite to prevent vertical migration of potential contamination between the unconsolidated deposits and the bedrock. Each monitoring well was finished with flush-mount curb boxes. Well completion details are provided with boring logs in Appendix A and are further described in Section 2.3.

GeoprobeTM Soil Sampling

A total of 21 soil borings were drilled in areas associated with 16 of the 23 areas of concern (AOCs) where manufacturing operations may have resulted in a release of hazardous materials and/or petroleum products to soil. In general, soil sampling was conducted to depths of up to 5 feet below the ground surface (bgs). Bedrock was encountered at several locations, including SB-101, SB-102, SB-103 and SB-116, above the desired boring depth. Deeper borings were advanced in areas where underground structures (such as storage tanks) may have been the source of a release, such as AOC 14. Soil boring SB-104 was drilled to the water table to assess the presence of contaminants in the soil and groundwater at AOC 12.

Soil sampling intervals were selected to characterize the maximum concentrations of release constituents within a release area and confirm the extent of impacted soil. At the majority of AOCs, the release mechanism is expected to be shallow in nature (spills, leaks from equipment, etc.). Therefore, a release to the subsurface would be concentrated in the shallow sub-slab soil beneath concrete floor or exterior asphalt paving. If visual inspection and field screening did not yield evidence of impacted soil, samples were selected for laboratory analysis from predetermined intervals based on the conceptual model for the parcel.

Each soil sample was inspected by a field scientist from Fuss & O'Neill for physical evidence of contamination, such as staining or odors. Where VOCs were a potential COC, samples were also field screened for VOCs using a photoionization detector (PID). In addition, we screened



for select metals (arsenic, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, and zinc) using X-Ray Fluorescence (XRF) technology at some locations. The field scientist recorded soil descriptions, changes in stratigraphy and evidence of potential contamination on boring logs (included in <u>Appendix A</u>).

Fill material, including asphalt, brick, debris and ash, were observed in several borings throughout the site. Fill thickness at the site varies; however, according to boring logs, increases towards the east. Borings drilled in the Building 2 loading dock and southern parking lot indicate fill to a depth of two feet bgs. Borings drilled at AOC 17, 18 and 19 indicate fill to a depth of three feet bgs. The maximum fill thickness (5 feet) observed during this investigation was at AOC 16.

Monitoring Well Development

Monitoring wells were developed immediately after installation using surge-and-purge techniques to remove suspended sediments from the well and to increase the hydraulic connection between the wells and the aquifer.

Groundwater Sampling

An attempt was made to locate existing monitoring wells from previous investigations. Five existing monitoring wells (AM-1, AM-7, ME-1, ME-2 and MW-6) were located and sampled along with the three new wells (MW-01, MW-02 and MW-03). AM-5 was located; however there was not enough water in the well to sample.

Eight wells in total were sampled on July 13, 2009. Due to poor recharge, MW-02, AM-1 and AM-7 could not be sampled using low-flow techniques; a grab sample was collected from available groundwater in the well. The rest of the wells were sampled by the low-flow method. Groundwater samples were analyzed for VOCs, SVOCs, including polynuclear aromatic hydrocarbons (PAHs), RCRA 8 metals plus copper, nickel and zinc, ammonia, formaldehyde, aniline and phenols. Elevated metal concentrations in a sample can be the result of high turbidity (>10 NTU). If a sample did not exhibit a turbidity of less than 10 NTU, an extra metals bottle was collected and field filtered using a 10 micron disposable filter. These samples were analyzed for both total and dissolved metals. The measured turbidity in wells ME-2, MW-01 and MW-03 was less than 10 NTU, therefore samples from these wells were not field filtered and were analyzed only for total metals.

5 Phase II/III Results

This section presents the findings of the Limited Phase II/Limited Phase III investigation and relates the data gathered to the conceptual model developed in Section 2. Each AOC investigated is discussed in detail in the Technical Memoranda for AOCs 9 through 23 included in Appendix A. Sampling locations are shown on Figure 2. Analytical results are summarized on Table 1 and Table 2. Boring logs and well completion reports are included in Appendix B. Low-flow groundwater sampling data sheets are included in Appendix C. Laboratory reports are included in Appendix D and Appendix E. A discussion of site-wide groundwater is presented in the following subsections as well as the Technical Memorandum for AOC 23.



5.1 Soil Analytical Results

Volatile Organic Compounds (VOCs)

A total of sixteen (16) samples were analyzed for VOCs. Tetrachloroethene (PCE) was detected above the laboratory reporting limit at AOC 18, 19 and 20. The highest concentration of PCE detected during this investigation was 36000 ug/kg in the sample collected from SB-109. Borings drilled downgradient (northwest) of this location contained PCE at lesser concentrations. The VOCs cis-1,2-dichloroethene and trichloroethene (TCE) were also detected at SB-109.

Semi-volatile Organic Compounds (SVOCs)

Polynuclear aromatic hydrocarbons (PAHs), which are a sub-set of SVOCs commonly associated with petroleum products, were detected in eight of the 17 samples in which they were analyzed. Most of the detections can be attributed to fill; however PAH detections at AOC 15, 16 and 18 are likely associated with a release of petroleum that has occurred as a result of site operations. Samples collected at these three AOCs were analyzed for PAHs after extraction via synthetic precipitation leaching procedure (SPLP). SPLP analysis assesses the potential mobility and transport of contaminants in soil. A detection indicates that leaching of the constituent to groundwater may be a concern. Phenanthrene was present in the analysis for PAHs after extraction by SPLP in one of the samples collected from boring SB-106. This indicates that the leaching of petroleum compounds is a concern at AOC 18.

ETPH

A total of twenty one (21) samples were analyzed for petroleum hydrocarbons (ETPH). A summary of the results is presented in <u>Table 1</u>. Eight of the samples exhibited concentrations of ETPH. Detected concentrations ranged from 46 mg/kg to 4700 mg/kg. The highest concentration of ETPH was in the sample collected from SB-109 (AOC 19).

PCBs

PCBs were analyzed for one sample (SB-111) collected adjacent to the transformers (AOC 15). Analytical results indicate that PCBs were not detected in this sample.

Metals

A total of nineteen (19) samples were selected for metal analysis. Metals detected throughout the site include arsenic, barium, cadmium, chromium, copper, mercury, nickel, lead, selenium and zinc. A background range for these constituents was determined based on samples collected from the southern parking lot (upgradient) that did not appear to contain fill material. Lab results from the samples collected at SB-115 and SB-120, which contained small amounts of fill material, showed slightly elevated levels of the same metals detected in the background sample plus arsenic and selenium. The approximate ranges of detected metals in soil associated with fill quality are provided in the table below.



Metal	Concentration Range (mg/kg)
Arsenic	ND - 5.9
Barium	14 – 78.8
Cadmium	ND
Chromium	5.42 – 36.6
Copper	4.38 – 19
Mercury	ND - 0.21
Nickel	8.12 – 42
Lead	2.52 - 65.5
Selenium	ND – 26
Zinc	15.1 - 116

A summary of detected metal concentrations is provided as <u>Table 1</u>. An AOC-specific release of metals was suspected to occur if the concentration of a metal significantly exceeded the inferred background range in the table above. Releases of one or more metals consisting of arsenic, cadmium, chromium, copper, mercury, lead and zinc are suspected to have occurred at AOC 10, 13, 16, 17, 18 and 19. AOC 19 had the highest concentrations of metals detected above inferred site background. This may be due to the presence of metals in the fill at these AOCs or may be associated with releases that have occurred at the AOCs. Based on review of the mass metal analysis, samples were additionally analyzed for select metals after extraction via synthetic precipitation leaching procedure (SPLP). The results are summarized in the table below.

Area of Concern	AOC 10	AOC 12	AOC 13	AOC 17	AOC 18	AOC 19	AOC 22
Site LD.	SB-112	SB-104	SB-103	SB-107	SB-106	SB-109	813-115
Arsenic	10000	State		< 0.004		< 0.004	
Barium	****	****		2012	****	0.085	
Cadmium					Neve	< 0.005	
Chromium	2744	< 0.010	****		2000	< 0.010	< 0.010
Copper	20100 22.00					0.033	-
Mercury	COLUMN TO SERVICE STREET	< 0.001	< 0.001	2002		< 0.001	
Nickel		****			****	****	< 0.010
Lead	< 0.015	< 0.015	0.107	< 0.015	(excluse)	0.127	< 0.015
Selenium	****	****					<0.020

^{--- =} sample not analyzed for this constituent

SPLP analysis assesses the potential mobility and transport of contaminants in soil. A detection indicates that leaching of the constituent to groundwater may be a concern.

Formaldehyde

Formaldehyde was not detected in any of the five samples in which it was analyzed.

Glycols

Glycols, including ethylene glycol and propylene glycol, were not detected in the six samples in which they were analyzed.

<value = not detected above laboratory reporting limit</pre>



Ammonia

A total of five samples were analyzed for ammonia. Four of the five samples contained a detectable amount of ammonia. Concentrations ranged from non-detect to 190 mg/kg. Ammonia is commonly used to treat textiles. Detections are indicative of a release to the subsurface as a result of site operations.

Methanol

Methanol was not detected in any of the five samples in which it was analyzed.

5.2 Soil – Discussion of Conceptual Site Model

Releases of hazardous substances or petroleum products have been identified at ten areas of the site. The table below summarizes the potential source areas and the associated constituents of concern.

AOC	Area	Release Constituent(s)
10	Building 2, Loading Dock	PAHs, cadmium, lead
12	Building 3	PAHs, ETPH, metals
13	Solvent coaters	PAHs, ETPH, metals
14	Fuel Oil Above-ground Storage Tanks	ЕТРН
15	Transformers	PAHs, ETPH
16	Building 7, Loading Dock	Ammonia, arsenic, ETPH
17	Building 9	ETPH, metals
18	Building 8	PCE, PAHs, ETPH, ammonia, metals
19	Building 11, Former Dyeing/Current Chemical Storage	VOCs, ETPH, ammonia, metals
20	Building 11, Loading dock	PCE, TCE

Fill material was encountered at ten boring locations during this investigation up to a depth of five feet below the ground surface. Fill material consisted of asphalt and brick fragments and building material debris. Fill thickness at the site varies; however, according to boring logs, increases towards the east. Borings drilled in the Building 2 loading dock and southern parking lot indicate fill to a depth of two feet bgs. Borings drilled in the eastern buildings along East Main Street, which are used for chemical storage, indicate fill to a depth of three feet bgs. The maximum fill thickness (5 feet) observed during this investigation was at AOC 16. Metals associated with fill at the site include arsenic, barium, chromium, copper, mercury, nickel, lead, selenium and zinc. These metals are present throughout the site at various concentrations, however a background range has been determined based on analytical results of samples collected upgradient (the southeastern portion of the site) of site operations. Elevated metal detections at AOCs 10, 12, 13, 16, 17 and 18 are likely associated with fill material in soil.



Several of the borings where fill was encountered contain elevated ETPH and PAH concentrations when compared with the inferred background range for the site. At AOCs 12, 13, 16, 17 and 18, ETPH and/or PAH concentrations associated with fill exceeded one or more of the applicable RSR criteria. PAH concentrations at AOC 10 were also elevated when compared with the concentrations detected in upgradient, background samples. Since asphalt contains petroleum hydrocarbons, the detected constituents are these AOCs are inferred to be the result of fill material having impacted the surrounding soil. The presence of EPTH and PAHs in soil at these six AOCs is not likely indicative of a release of petroleum products associated with the AOC.

The release of ETPH at AOC 14 is inferred to be the result of a previous underground storage tank leak. Two 20,000-gallon fuel oil tanks were removed in 1989 along with petroleum contaminated soil. Tank closure samples were collected to document that soil remaining in place after the excavation did not contain petroleum concentrations above the RSR criteria. Petroleum compounds were not detected during this investigation and a release associated with the current above-ground storage tanks is not expected to have occurred.

Soil adjacent to the active concrete transformer pad (AOC 15) has been impacted by petroleum compounds (ETPH and PAHs). The transformer pad appeared to be in good condition and there was no evidence of staining on either the concrete pad or the adjacent asphalt pavement. The release may be the result of a minor surficial spill of non-PCB containing transformer oil.

VOCs (primarily PCE, TCE and VC) have impacted soil in the eastern portion of the site beneath Building 11 and Building 8. This area is used for chemical storage and was historically used to dry clean test fabric. Since PCE and TCE are typical compounds used in dry cleaning operations, the release of these constituents to the soil is likely a result of former site operations. The source of this contamination appears to be the central portion of Building 11 and has impacted downgradient areas, including Building 8 (AOC 18) and the Building 11 loading dock (AOC 20).

5.3 Groundwater Analytical Results

Three monitoring wells (MW-01 through MW-03) were installed on the subject site as part of the Limited Phase II/Limited Phase III investigation. Monitoring well MW-01 was installed in deeper bedrock and MW-02 and MW-03 were installed to intersect the shallow bedrock aquifer. Each well contains a 2-inch diameter 10 feet PVC screen and is finished with a flush-mount curb box.

Each of the three newly installed wells was sampled on July 13, 2009. Five existing wells were also sampled on this date. Groundwater flow at the site is towards the north and northwest. Flow direction is influenced by the raceway running across the site and the adjacent Paper Mill Pond and Hockanum River. The water table around MW-01 is elevated; this is likely due to water seepage from the raceway, located west of the monitoring well.

A site-wide groundwater evaluation is presented in the Technical Memoranda for AOC 23. Groundwater at the site contains metals, including arsenic, barium, cadmium, chromium, copper, nickel, lead, silver and zinc. Background metal concentrations in groundwater were determined based on the sample collected from upgradient monitoring well MW-03. A



summary of the metals detected at this location and the background concentration is provided in the table below.

Metal (mg/L)	Inferred Site Background Concentrations Detected at MW-03
Barium	0.457
Copper	0.005
Nickel	0.004
Silver	0.001
Zinc	0.056

Detected concentrations of metals throughout the site were generally within the same order of magnitude for each constituent, based on comparison with data collected at MW-03. Exceptions to this are summarized below:

- At monitoring well AM-7, all metals that were analyzed exceeded background.
- Concentrations of arsenic, chromium, copper, nickel and lead exceeded background at ME-2. Concentrations of the same metals, except for arsenic, only slightly exceeded background at MW-02, which is located downgradient of ME-2.
- At ME-6, detected chromium and copper concentrations exceeded background.
- Only the concentration of chromium exceeded the background concentration at AM-1.

A description of the current conceptual model for various areas of the site that have impacted groundwater is provided below. The summaries provide a description of the groundwater impact, the rationale for the source of the groundwater impact and current assessment of the fate and transport of the groundwater impact.

Building 1 and Building 2

During the subsurface investigation for AOC 11, Building1 and Building 2, a release to groundwater of the SVOC bis(2-ethylhexyl)phthalate and the metals arsenic, barium, cadmium, chromium, copper, nickel, lead, silver and zinc were identified, however the source of the release is not likely the result of AOC 11 operations. Blue tinted groundwater was encountered during a sewer line installation along Brooklyn Street and again when sampling well ME-2, located upgradient of Building 1 and Building 2. The presence of dye compounds such as aniline and formaldehyde at ME-2, as well as the presence of blue dye-tinted water, indicates that chemicals associated with Building 14 (AOC 4 and 5, which were not investigated during this mobilization) operations have impacted the groundwater. Both monitoring wells at which these constituents were detected screens groundwater in the shallow bedrock. Additional information pertaining to the source area for the detected constituents and the degree and extent of the groundwater contamination plume will be obtained during the investigation of AOC 04 and AOC 05.



Building 7

Groundwater at AOC 16, the Building 7 loading dock, contained detectable concentrations of the PAHs benzo(a)anthracene, benzo(b)fluoranthene, and phenanthrene. These constituents were not detected in the groundwater sample collected from the upgradient monitoring well MW-03, therefore their presence in groundwater at AOC 16 is indicative of a release. No other constituents detected in soil at this AOC were detected in groundwater at concentrations above background, with the exception of ammonia. Gasoline or automobile fluid spilled from trucks during loading and unloading may have migrated to the subsurface through cracks in the asphalt pavement. Since the monitoring well located in the Building 7 loading dock, AM-1, screens the shallow overburden, it is likely that the release to groundwater is the result of surficial spills.

Buildings 8, 9 and 11

VOCs are the primary concern in groundwater at AOC 19 and 20. Chlorinated VOCs consisting of tetrachloroethene (PCE), trichloroethene (TCE) and vinyl chloride (VC) have impacted the shallow bedrock groundwater downgradient from Building 11. Soil at AOC 20 only contains trace constituents of PCE and TCE, indicating that although groundwater in this location has been impacted by these constituents, the Building 11 loading dock is not the primary source of contamination. PCE and TCE are present in soil at AOC 19, primarily in the area of SB-109, at higher concentrations. The greatest concentrations of PCE and TCE detected in groundwater were at monitoring well ME-6 (210 ug/l and 220 ug/l, respectively). Vinyl chloride was only detected in the sample collected from ME-6. Monitoring well AM-7 is located slightly upgradient to this boring location and does not exhibit any detectable concentration of PCE or TCE. Groundwater contamination at AOC 20 is likely from an onsite source, possibly AOC 19. Monitoring well MW-01 is located downgradient of AOC 19 and 20 and screens groundwater in deep bedrock (40 to 50 feet below the ground surface). The samples collected from this well did not contain detectable concentrations of PCE or TCE, indicating that the plume does not extend vertically to this depth and in contained primarily in the shallow bedrock groundwater. The degree and the extent of the VOC plume in this area have not been fully delineated. Specifically, it is not known in the plume extends off-site to the north onto the Daniel Management, Inc. warehouse property.

Elevated concentrations of metals, PAHs and the SVOC bis(2-ethylhexyl)phthalate were also detected in overburden groundwater at AOC 19. A release of these constituents was identified from the results of shallow soil sampling at AOC 19 (SB-109 and SB-110). PAHs and SVOCs were not detected at the downgradient location ME-6, which is screened in the shallow bedrock and only the metals chromium and copper were detected at concentrations slightly above background.

6 Conclusions and Recommendations

Fuss & O'Neill conducted a Limited Phase II/Limited Phase III Environmental Site Assessment (ESA) of Amerbelle Textiles located at 104 East Main Street in Vernon, Connecticut to determine if releases of hazardous substances or hazardous wastes have occurred at sixteen previously identified AOCs. Our investigations included the advancement of soil borings, installation of monitoring wells and the collection of groundwater samples.



No evidence of releases of hazardous substances or petroleum products was found at the following AOCs:

- AOC 9 Building 13, Latex Coating
- AOC 11 Buildings 1 and 2
- AOC 21 Former Off-site Gasoline Station

The determination of "no release" was based on physical inspections, document reviews and analytical data from soil samples.

Based on the data collected during our Limited Phase II/Limited Phase III investigations as well as analytical data from previous investigations, we conclude that releases of hazardous substances or petroleum products have occurred at the following AOCs:

- AOC 10 Building 2, Loading Dock*
- AOC 12 Building 3
- AOC 13 Solvent coaters
- AOC 14 Fuel Oil Above-ground Storage Tanks
- AOC 15 Transformers
- AOC 16 Building 7, Loading Dock
- AOC 17 Building 9
- AOC 18 Building 8
- AOC 19 Building 11, Former Dyeing/Current Chemical Storage
- AOC 20 Building 11, Loading dock**
- AOC 23 Site Groundwater
- * Constituents of concern detected at these areas may be associated with fill material; however additional investigation must be conducted in order to confirm that the releases are not the result of site operations. Fill is discussed in the Technical Memorandum for AOC 22.
- ** Contamination at this AOC does not appear to be a result of loading dock operations. The source is likely a release that has occurred at AOC 19.

Technical memorandums for each AOC describing the investigation and sampling results is provided as an appendix to this report.

Several of the above-referenced AOCs contain releases that have the potential to impact the site buildings and/or adjacent properties. The presence of PCE in overburden groundwater at ME-6 suggests that there is a potential concern for vapor intrusion into Buildings 8 and 11. The PCE and SVOC (bis(2-ethylhexyl)phthalate) contamination plumes identified on the property north of Brooklyn Street are upgradient of the Paper Mill Pond. It is unknown whether these plumes have migrated off-site to affect either the Paper Mill Pond of the north abutting property. We recommend further investigation of the Building 11 PCE release to assess the possibility of vapor intrusion and off-site migration of the plume. The source of the SVOC plume was not identified during the first mobilization of the investigation because it is likely originating from a release below Building No. 14, the textile dyeing building, which is located on the southern portion of the site. We also recommend implementation of the EPA-approved scope of work in the QAPP Addendum for Buildings 12 and 14.



Further investigation at the above-referenced AOCs where a release of hazardous material was identified is needed to determine the degree and extent of contamination. Area-specific conceptual models (Technical Memoranda) are included as <u>Attachment A</u>. Each area of concern investigated as part of this Limited Phase II/Limited Phase III First Mobilization Investigation is described and the potential release mechanism is identified. Recommendations for future investigations at AOCs 9 through 23 are given in the Technical Memoranda.



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8 Limitations of Work Product

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- 13. Any use of or reliance on the work product shall constitute acceptance of the terms hereof.



Tables

Table 1 Summary of Detected Constituents in Soil Amerbelle Textiles 104 East Main Street Vemon, Connecticut

			Are	ea of Concern:	AO	C-9		AOC-10		AOC-12	AOC-13	AO	C-14	AO	C-15	I AO	C-16
			7110	Site I.D.:	SB-101	SB-102	SB-112	SB-113	SB-114	SB-104	SB-103	SB-116	SB-116	SB-111	SB-111	SB-117	SB-118
				Sample No.:	993090630-03		993090702-18	993090702-19	993090702-20	993090630-12	993090630-15	993090702-23		(993090630-14	993090702-25	993090702-26
				Date:	6/30/2009	6/30/2009	7/2/2009	7/2/2009	7/2/2009	6/30/2009	6/30/2009	7/2/2009	7/2/2009	6/30/2009	6/30/2009	7/2/2009	7/2/2009
				Depth (feet):	1.25	1.25	1.25	2.25	1.25	8	1.25	3	4.6	0.25	0.25 (DUP.)	1.25	1.25
CONSTITUENT	UNITS	GB PMC	I/C DEC	Res DEC													
Metals								7.5 2.5 1.0								A CANADA	
Arsenic	(mg/kg)	****	10	10	3.6	0.7	3.1	2.8	1	4.6	9.3					3.5	[15.0]
Barium	(mg/kg)	****	140000	4700	78.7	69.3	46.4	62.2	31	90.8	87.9					97.1	50.6
Cadmium	(mg/kg)	****	1000	34	< 0.34	< 0.33	< 0.35	0.41	< 0.37	0.56	< 0.36		0			< 0.42	< 0.35
Chromium	(mg/kg)		100	100	16.8	17.1	18.9	21.1	18.8	32.1	15.4					9.67	12.6
Copper	(mg/kg)	****	76000	2500	20.6	12.5	36.2	19.8	17.9	119	46.5					20.4	18.8
Mercury	(mg/kg)	4***	610	20	0.21	0.08	0.14	< 0.07	0.07	1.3	1.36					< 0.09	0.14
Nickel	(mg/kg)		7500	1400	12.9	12.5	8.45	15	12.2	11.6	9.87					11.3	10.5
Lead	(mg/kg)	aree.	1000	400	11.8	14.3	190	14.8	5.32	88.3	272					27.8	39.8
Selenium	(mg/kg)	****	10000	340	<1.7	<1.7	<1.8	<1.8	<1.9	<1.8	<1.8					<2.1	<1.7
Zinc	(mg/kg)		610000	20000	34.8	56	40.9	59.9	29.2	142	73.8					25.2	43.5
SPLP Barium	(mg/l)	10	5444	11114	****	****	2344	****									****
SPLP Copper	(mg/l)	13	****	****	****	****	-	****	(1000)	****	(4444)					FEERE	
SPLP Lead	(mg/l)	0.15					< 0.015	****		< 0.015	0.107						JANKS
Volatile Organic Compounds (V	OCs)						信以前权用的										
cis-1,2-Dichloroethene	(ug/kg)	14000	1000000	500000	<5.3	<5.4	< 5.0	< 5.0	<4.9	<6.0	<5.5	****		-5.75		<10	<10
Tetrachloroethene	(ug/kg)	1000	110000	12000	<5.3	< 5.4	< 5.0	< 5.0	<4.9	<6.0	<5.5	****		72227		<10	<10
Trichloroethene	(ug/kg)	1000	520000	56000	<5.3	<5.4	< 5.0	<5.0	<4.9	<6.0	<5.5	Total .				<10	<10
Polynuclear Aromatic Hydrocar												1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
Acenaphthene	(ug/kg)	84000	2500000	1000000	<340	<350	<250	<250	<270	<390	<340	<270	<260	1600	3200	630	<260
Anthracene	(ug/kg)	400000	2500000	1000000	<340	<350	<250	<250	<270	<390	<340	<270	<260	1500	3500	1300	540
Benzo(a)anthracene	(ug/kg)	1000	7800	1000	<340	620	<250	<250	<270	720	560	<270	<260	[3900]	[11000]	[3700]	[2700]
Benzo(a)pyrene	(ug/kg)	1000	1000	1000	<340	510	<250	<250	<270	760	560	<270	<260	[4000]	[10000]	[3300]	[2600]
Benzo(b)fluoranthene	(ug/kg)	1000	7800	1000	<340	640	300	<250	<270	[1000]	950	<270	<260	[5400]	[12000]	[4500]	[3200]
Benzo(ghi)perylene	(ug/kg)	42000	2500000	1000000	<340	<350	<250	<250	<270	410	<340	<270	<260	5500	8700	2000	1400
Benzo(k)fluoranthene	(ug/kg)	1000	78000	8400	<340	<350	<250	<250	<270	<390	<340	<270	<260	[2000]	[5900]	[1400]	[1200]
Chrysene	(ug/kg)	1000	780000	84000	<340	570	260	<250	<270	790	[1000]	<270	<260	[4200]	[11000]	[3800]	[2300]
Dibenzo(a,h)anthracene	(ug/kg)	1000	1000	1000	<340	<350	<250	<250	<270	<390	<340	<270	<260	<1300	[2100]	570	430
Fluoranthene	(ug/kg)	56000	2500000	1000000	<340	1300	380	<250	<270	1200	1300	<270	<260	7900	16000	7400	3800
Fluorene	(ug/kg)	56000	2500000	1000000	<340	<350	<250	<250	<270	<390	<340	<270	<260	1400	2100	580	<260
Indeno (1,2,3-cd)pyrene	(ug/kg)	1000 40000	7800 2500000	1000	<340 <340	<350 940	<250 380	<250 <250	<270	410 <390	<340 730	<270	<260	[3400]	[6700]	[1600]	[1300]
Phenanthrene	(ug/kg)			1000000	<340 <340		270	<250	<270	960		<270 <270	<260	9600	14000	6500	2000
Pyrene SPLP PAHs	(ug/kg)	40000	2500000	1000000	~34U	1100	2/0	~23U	<270	90U	1100	~270	<260	6200	12000	5600	3000
	(no/h	MARKET STATES		12 12 12 12 12 CE	1 Maria 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MISSESSIMENTS IN	Resident Person		COLUMN TO SERVICE STREET	WALL BOOK OF THE PARTY OF THE P		N. BOLLETING		<0.3	CO 2	<0.2	
Phenanthrene Extractable Petroleum Hydroca	(ug/l)		HOR STORES		SAESAN PARAME							ONE STATE A		< 0.3	<0.3	<0.3	
ETPH	(mg/kg)	2500	2500	500	<11	<10	<11	<11	<12	<12	[600]	<11	<11	[3900]	[2400]	58	_11
PCBs	(mg/ kg)	2300				-10			AND THE PERSON	-12	[000]			[3500]	[2400]	30	<11
None Detected	(ug/kg)		10000	1000	A NEEM WITCHER	新兴的地名的			HISTORY CHARGE	SHOWEN THE SAME A		MARKO ESTATISTA	RESIDENCE DE L'ORDE	<370	<360		
Other Parameters	(ug/ kg)	A A A LETTER	10000	1000					100		NEST WEST		A DE ANTONIO	-370	700		
Methanol	(mg/kg)				INSTITUTE AND CONTROL		MOTOLOGICAL MATERIAL	CONTRACTOR OF THE PARTY OF THE		<1.14	<1.07					<1.18	
Ethylene glycol	(mg/kg)				<10	<10	****	(market)		1.14	<10			0		<10	
Propylene glycol	(mg/kg)				<10	<10		****			<10					<10	****
Formaldehyde	(ug/kg)			****	-10	-10	****	**		<2000	<2000					<1200	
Ammonia	(mg/kg)	-	1222	4222	1977 (1977) 1984 (1977)		2775 2275	1000000 10000000		<52	100					140	
Notes:						_										110	
TMINN																	

UNITS: ug = microgram, mg = miligram, L = liter

---- = Constituent not analyzed
GB PMC = GB-area Pollutant Mobility Criteria

Res or I/C VC = Residential or Industrial/Commercial Volatilization Criteria

Bold denotes an exceedance of one of more criteria

<value = Constituent not detected above laboratory reporting limit

Table 1 Summary of Detected Constituents in Soil Amerbelle Textiles 104 East Main Street Vernon, Connecticut

			Are	a of Concern:	AOC-17	AO	C-18		AOC-19		AOC-20	T TOTAL TOTAL	AO	C-22	
1			- 320	Site I.D.:	SB-107	SB-105	SB-106	SB-108	SB-109	SB-110	SB-119	SB-115	SB-115	SB-120	SB-121
				Sample No.:		993090630-05	993090630-06	993090630-10		993090630-08	993090702-27	993090702-21		993090702-28	
1				Date:		6/30/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	7/2/2009	7/2/2009	7/2/2009	7/2/2009	7/2/2009
				Depth (feet):	1.25	1.25	1.25	1.75	1.75	1.75	2.25	1.25	1.25 (DUP.)	1.05	1.05
CONSTITUENT	UNITS	GB PMC	I/C DEC	Res DEC											
Metals													77 10 72	SO THE REAL PROPERTY.	
Arsenic	(mg/kg)	****	10	10	[22.9]	9.4	< 0.7	0.7	[10.8]	< 0.7	< 0.7	5.9	0.8	1.2	< 0.8
Barium	(mg/kg)	****	140000	4700	112	50.2	31.8	62.2	2310	86.1	95.2	61.4	60.7	32.2	14
Cadmium	(mg/kg)	****	1000	34	0.6	< 0.37	< 0.33	< 0.33	3.66	< 0.34	< 0.37	< 0.34	< 0.37	< 0.36	< 0.42
Chromium	(mg/kg)	****	100	100	17.8	17.5	19.1	11.9	30.5	16.4	22.6	36.3	16.2	8.69	5.42
Copper	(mg/kg)	****	76000	2500	49.8	40.2	17.1	49.6	304	13.2	30.4	15.4	19	16.4	4.38
Mercury	(mg/kg)	****	610	20	0.1	0.18	0.19	0.14	1.13	0.17	0.91	< 0.07	< 0.07	< 0.08	< 0.08
Nickel	(mg/kg)	*****	7500	1400	9.58	11.6	8.34	9.14	16.7	9.28	16.4	42	11.9	8.34	8.12
Lead	(mg/kg)		1000	400	113	65.5	21.9	65	[6030]	12.7	13.1	25	5.82	5.27	2.52
Selenium	(mg/kg)	****	10000	340	<1.8	<1.9	<1.7	<1.7	<1.9	<1.7	<1.8	26	<1.8	<1.8	<2.1
Zinc	(mg/kg)	****	610000	20000	99.9	107	386	52.8	675	31.4	135	116	36.1	31.8	15.1
SPLP Barium	(mg/l)	10	****	****	CHARACTER STATE OF THE STATE OF	34444	2700	(2444)	0.085			2000	2022	100000	200
SPLP Copper	(mg/l)	13					****	34944	0.033	****	Heren:	(879.6)	****	2114	****
SPLP Lead	(mg/l)	0.15		****	< 0.015		****		0.127			< 0.015			
Volatile Organic Compounds (VC					i contract										
cis-1,2-Dichloroethene	(ug/kg)	14000	1000000	500000	<5.8	< 5.0	<4.9	<4.7	430	< 5.4	<4.8		**************************************	****	
Tetrachloroethene	(ug/kg)	1000	110000	12000	< 5.8	41	<4.9	<4.7	[36000]	15	7.2	(4444)	****	****	
Trichloroethene	(ug/kg)	1000	520000	56000	<5.8	<5.0	<4.9	<4.7	[2000]	<5.4	<4.8	: -	****	William St.	
Polynuclear Aromatic Hydrocarbo	ons (PAHs)					12.		E Tall The							
Acenaphthene	(ug/kg)	84000	2500000	1000000		•••	<350		<1900	**************************************		<250	<240	<250	<280
Anthracene	(ug/kg)	400000	2500000	1000000		2000	<350	-	<1900	2222		<250	<240	<250	<280
Benzo(a)anthracene	(ug/kg)	1000	7800	1000		****	[1600]	****	<1900	200		<250	<240	<250	<280
Benzo(a)pyrene	(ug/kg)	1000	1000	1000		****	[1600]	****	<1900	34400	1	<250	<240	<250	<280
Benzo(b)fluoranthene	(ug/kg)	1000	7800	1000		2575	[2400]		<1900			<250	<240	<250	<280
Benzo(ghi)perylene	(ug/kg)	42000	2500000	1000000			1200		<1900			<250	<240	<250	<280
Benzo(k)fluoranthene	(ug/kg)	1000	78000	8400		****	[2400]		<1900	3444		<250	<240	<250	<280
Chrysene	(ug/kg)	1000	780000	84000		*****	[1500]	****	<1900	****		<250	<240	<250	<280
Dibenzo(a,h)anthracene	(ug/kg)	1000	1000	1000		****	<350		<1900			<250	<240	<250	<280
Fluoranthene	(ug/kg)	56000	2500000	1000000		****	2900	****	<1900	===		<250	<240	<250	<280
Fluorene	(ug/kg)	56000	2500000	1000000			<350	****	<1900	1425		<250	<240	<250	<280
Indeno (1,2,3-cd)pyrene	(ug/kg)	1000	7800	1000		****	[1000]	****	<1900	****		<250	<240	<250	<280
Phenanthrene	(ug/kg)	40000	2500000	1000000		*****	<350	****	<1900	****		<250	<240	<250	<280
Pyrene	(ug/kg)	40000	2500000	1000000	VOME TO SELECT AND SEL		2800	CASTLEMENT CONTROL OF THE CONTROL OF	<1900	THE THE PERSON OF THE PERSON O	VOT IT CONTRACTORS	<250	<240	<250	<280
SPLP PAHs	A some and the	and the second	Y DESTRUCTION					PERSONAL PROPERTY.			AND SHEET SEE				
Phenanthrene	(ug/l)	****			200000000000000000000000000000000000000		1.1	****				2444	TO COMPANY TO THE PARTY OF THE	TORON TO CONTAIN A VICTOR	THE CONTRACT OF STREET
Extractable Petroleum Hydrocarb						Experience of the second									NSb as a s
ЕТРН	(mg/kg)	2500	2500	500	[680]	<10	130	230	[4700]	<10	46	<10	<10	<10	<12
PCBs									And the San				BANASAX		
None Detected	(ug/kg)	with the same of the same of	10000	1000										****	
Other Parameters		and the same				and the second	经验证		ALL SECTION						
Methanol	(mg/kg)		****		(edde)	****	<1.05		<1.14				****	****	
Ethylene glycol	(mg/kg)		****	1.55	State	****	<10	****	<10	****		****	****	***-	
Propylene glycol	(mg/kg)		****	13775	15555		<10	****	<10	5555			****	555-	
Formaldehyde	(ug/kg)			1222	-112		<2000	2222	<2000				****		
Ammonia	(mg/kg)		****		(9449)		74	25.0	190				****		
Notes:															

UNITS: ug = microgram, mg = miligram, L = liter

---- = Constituent not analyzed

GB PMC = GB-area Pollutant Mobility Criteria

Res or I/C VC = Residential or Industrial/Commercial Volatilization Criteria

Bold dénotes an exceedance of one of more criteria

<value = Constituent not detected above laboratory reporting limit</p>

Summary of SPLP Analytical Results in Soil Amerbelle Textiles 104 East Main Street Vernon, Connecticut Table 1

	Area of Concern	AOC 10	AOC 12	AOC 13	AOA	AOC 15	AOC 16	AOC 17	AOC 19	01,004	2004
	Site I.D.	SB-112	SB-104	SB-103	SB-111	SB-111	SB-117	SB-107	SB-106	SB-109	SB-115
	Sample No.:	993090702-18	993090630-12	993090630-15	0	993090630-14	993090702-25	993090630-07	993	993090630-09	993090702-21
	Denth (foot):	1/2/2009	6/30/2009	6/30/2009	6/30/2009	6/30/2009	7/2/2009	6/30/2009	6/30/2009	8	7/2/2009
ENGI EEESTOO		}	,	j	3	0.43 (DOF.)	9:1	7	(7 :1	1./5	1.25
	UNITS GB PMC							*			
		Constitution of the last			CONT. S. L.				The second second		The State of the Control
		1	1	I	1	1		<0.004	1	<0.004	i
		I	ł	1			l	1	1	0.085	ı
		1	I	ı		1	1	1		<0.005	1
E .		1	<0.010	1		1	!	ľ	1	<0.010	<0.010
		ı	ı	I	!	ļ	i	1		0.033	ı
4	Ŭ	1	<0.001	<0.001	1	1	1	ı		<0.001	1
71		ı	1	ı			1	1	1	1	<0.010
	(mg/l) 0.15	<0.015	<0.015	0.107	i	1	1	<0.015		0.127	<0.015
		i	ı	ı	1	1	1	1			0000>
table Petroleum Hydrocarbons			The Part of the Pa		The state of the s	THE REAL PROPERTY.				THE PARTY OF THE P	
ETPH	(mg/l) 1	ı	i		<0.1	<0.1					
Polymedear Aromatic Hydrocarbons (PAHs)	(Hs)			The same of the sa				Was all the said of the	THE PERSON NAMED IN	Parket to Parket	STREET, STREET, ST.
2-Methylnaphthalene	(ug/l) 490*	ı	1		<10	<10	<10		<10		
				1	<10	<10	<10	1	<10	1	ı
lene	(ug/l) 4200*	1			<0.3	<0.3	<0.3	1	<0.3	1	1
	(1			1	<10	<10	<10	1	<10		1
cne		1	1		>0.06	<0.06	>0.06	1	>0.06	1	i
		1	1	1	<0.2	<0.2	<0.2	1	<0.2	1	
ne		1			<0.08	<0.08	<0.08		<0.08	1	
				1	<10	<10	<10	1	<10	1	
luoranthene	(ng/l) 5*	ı	1	1	<0.3	<0.3	<0.3		<0.3	1	
		ļ	1	!	<4.8	<4.8	<4.8	1	<4.8	l	
anthracene			1	1	<0.2	<0.2	<0.2		<0.2		1
icue		1		1	<10	<10	<10	1	<10	1	1
	7	1	1	1	<10	<10	<10	1	<10		
Hcd)pyrene	(ng/l) 5*	1	1		<0.2	<0.2	<0.2	1	<0.2		1
		1		1	<10	<10	<10	1	<10	1	
threne		1	ı	1	<0.3	<0.3	<0.3	1	1.1		
l'yrene	(ug/l) 200*	1	-		<10	<10	<10		<10	1	1
Notes:			1000								

UNITS: ug = microgram, mg = miligram, L = liter

--- = Constituent not analyzed

GB PMC = GB-area Pollutzant Mobility Criteria

< value = Constituent not detected above laboratory reporting limit Bold denotes an exceedance of one of more exiens

ND = Constituent not detected above laboratory reporting limit

* = Alternative pollutant mobility enteria equal to the RSR groundwater protection enteria (GWPC) multiplied by ten in accordance with RSR 22a-133k-2(c)2(d)

Table 2 Summary of Detected Constituent in Groundwater Amerbelle Corportation 104 East Main Street Vernon, Connecticut

				-	AM-01	AM-07	ME-01
					993090713-05	993090713-07	993090713-02
					7/13/2009	7/13/2009	7/13/2009
CONSTITUENT	UNITS	SWPC	I/C VC	Res VC	Primary	Primary	Primary
Field Parameters	CITIO	Historian	1/0.40	ICS VC	destinate	Finally	rinnary
pH	(SU)			AND THE STREET	6.61		5.99
Specific Conductance	(uMhos/cm)		8474		284		3886
Metals	and the second	SIEW ENGIN		MEST BEST	BAND SISTEMATE		3000
Silver	(mg/l)	0.012			<0.001	0.009	<0.001
Arsenic	(mg/l)	0.004		****	<0.004	[0.009]	<0.001
Barium	(mg/l)		-	****	0.111	6.24	0.203
Cadmium	(mg/l)	0.006			<0.001	[0.054]	<0.001
Chromium	(mg/l)	0.11	12000	****	0.006	[0.389]	<0.001
Copper	(mg/l)	0.048	12022		0.005	[3.99]	0.006
Nickel	(mg/l)	0.88	200000		0.003	0.244	0.002
Lead	(mg/l)	0.013			<0.003	[12.1]	<0.002
Zinc	(mg/l)	0.013			0.036		
Barium, Dissolved	(mg/l)	0.125		****	0.036	[26.0] 0.12	0.033
Chromium, Dissolved		0.11			<0.001	0.12	0.216
Copper, Dissolved	(mg/l)	0.11	-	3110	0.005		<0.001
Nickel, Dissolved	(mg/l)	0.048	7007	****	0.003	[0.059]	0.008
Lead, Dissolved	(mg/l)	0.013	====	****		0.004	0.003
Zinc, Dissolved	(mg/l)	0.013	2337F2		0.004	[0.099]	<0.002
Volatile Organic Compound	(mg/l)	0.125	PARTY NAME OF TAXABLE PARTY.	0 1000 KL NIS	0.021	[0.130]	0.027
1,2,4-Trichlorobenzene	The second secon	O DESCRIPTION OF THE PARTY OF T	3.00	1	14.0		
cis-1,2-Dichloroethene	(ug/l)		11000	020	<1.0	<1.0	<1.0
Tetrachloroethene	(ug/l)		11000	830	<1.0	<1.0	<1.0
	(ug/l)	88	810	340	<1.0	<1.0	<1.0
Trans-1,2-Dichloroethene Trichloroethene	(ug/l)		13000	1000	<1.0	<1.0	<1.0
	(ug/l)	2340	67	27	<1.0	<1.0	<1.0
Vinyl Chloride	(ug/l)	15750	52	1.6	<1.0	<1.0	<1.0
Semi-volatile Organic Com							
Benzo(a)anthracene	(ug/l)	0.3	****		0.19	[1.3]	<0.040
Benzo(a)pyrene	(ug/l)	0.3			<0.18	[1.3]	<0.16
Benzo(b)fluoranthene	(ug/l)	0.3	allowing as an		0.19	[2.4]	<0.064
Benzo(k)fluoranthene	(ug/l)	0.3			<0.28	[0.93]	<0.24
Bis(2-ethylhexyl)phthalate	(ug/l)	59			<1.8	8.4	<1.6
Indeno (1,2,3-cd)pyrene	(ug/l)				<0.2	0.93	<0.20
Phenanthrene	(ug/l)	0.3		1100-2100-010	0.28	[1.3]	<0.060
Other Parameters		as all a responsible	- Walter	7-17-1			
Ammonia	(mg/l)		****		0.05	0.75	0.07
Formaldehyde	(ug/l)		***		<100	<100	<100
Aniline	(ug/l)				<5	<5	<5
Phenol	(ug/l)	92000000			<10	<10	<10

Notes:

UNITS: ug = microgram, mg = miligram, L = liter

---- = Constituent not analyzed

SWPC = Surface Water Protection Criteria

Res or I/C VC = Residential or Industrial/Commercial Volatilization Criteria

Bold denotes an exceedance of one of more criteria

<value = Constituent not detected above laboratory reporting limit</p>

Table 2 Summary of Detected Constituent in Groundwater Amerbelle Corportation 104 East Main Street Vernon, Connecticut

CONSTITUENT UNITS SWPC I/C VC Res VC Primary Primary						ME-02	ME-06	ME-06
CONSTITUENT						The state of the s		993090713-08
Primary Pri							7/13/2009	7/13/2009
Field Parameters	CONSTITUENT	UNITS	SWPC	I/C VC	Res VC		Primary	Duplicate
PH								
Specific Conductance (uMhos/cm) 6165 1000 1000 Metals	THE RESIDENCE OF THE PARTY OF T	(SU)		****	****	7.45 .	2 222	****
Metals Silver (mg/l) 0.012	D*					6165	1000	1000
Silver			THE STATE OF	S 10 N 10 95 A				
Arsenic (mg/l) 0.004		(mg/l)	0.012	/ ====		< 0.001	< 0.001	< 0.001
Barium	5970000		0.004	3.70.00		[0.048]	< 0.004	<0.004
Cadmium		,		S 200000 0			0.15	0.102
Chromium			0.006			<0.010	<0.001	< 0.001
Copper			0.11	-		[1.75]	0.011	0.007
Nickel	Parameter and the second secon		0.048	Address)	****	[0.077]	0.02	0.014
Lead							< 0.001	< 0.001
Zinc (mg/l) 0.123 0.054 0.01 0.011 Barium, Dissolved (mg/l) 0.057 0.058 Chromium, Dissolved (mg/l) 0.11 0.002 0.003 Copper, Dissolved (mg/l) 0.048 0.006 0.006 Nickel, Dissolved (mg/l) 0.88 0.000 0.006 Lead, Dissolved (mg/l) 0.013 0.002 0.002 Zinc, Dissolved (mg/l) 0.123 0.002 0.002 Zinc, Dissolved (mg/l) 0.123 0.002 0.002 Zinc, Dissolved (mg/l) 0.123 0.002 0.002 Volatile Organic Compounds (VOCs) 0.00 0.006 1,2,4-Trichlorobenzene (ug/l) 11000 830 0.10 190 160 Tetrachloroethene (ug/l) 88 810 340 0.10 190 160 Tetrachloroethene (ug/l) 13000 1000 0.10 2.6 2.7 Trichloroethene (ug/l) 2340 67 27 0.10 [210] [160] Trans-1,2-Dichloroethene (ug/l) 2340 67 27 0.10 [220] [150] Vinyl Chloride (ug/l) 15750 52 1.6 0.10 [10] [9.4] Semi-volatile Organic Compounds (SVOCs) Benzo(a)antracene (ug/l) 0.3 0.10 0.040 0.040 Benzo(a)pyrene (ug/l) 0.3 0.10 0.064 0.064 Benzo(b)fluoranthene (ug/l) 0.3 0.10 0.064 0.064 Benzo(b)fluoranthene (ug/l) 0.3 0.15 0.16 0.16 Benzo(b)fluoranthene (ug/l) 0.3 0.5 0.064 0.064 Bis(2-ethylhexyl)phthalate (ug/l) 0.3 0.5 0.060 0.060 Phenanthrene (ug/l) 0.3 0.5 0.060 0.060 Other Parameters 0.060 0.060 0.060 Ammonia (mg/l) 0.68 0.06 0.08			0.013	-	>2000	[0.033]	<0.002	< 0.002
Barium, Dissolved (mg/l)	II .		0.123		Y	0.054	0.01	0.011
Chromium, Dissolved (mg/l) 0.11 0.002 0.003				****			0.057	0.058
Copper, Dissolved			0.11		****		0.002	0.003
Nickel, Dissolved			0.048				0.006	0.006
Lead, Dissolved (mg/l) 0.013			0.88	7557	10000		<0.001	< 0.001
Zinc, Dissolved			0.013	****			<0.002	< 0.002
Volatile Organic Compounds (VOCs) 1,2,4 Trichlorobenzene (ug/l) <10			0.123	HHEE!			< 0.002	<0.002
1,2,4-Trichlorobenzene (ug/l) <10	Volatile Organic Compoun							
Cis-1,2-Dichloroethene (ug/l) 11000 830 <10 190 160 Tetrachloroethene (ug/l) 88 810 340 <10 [210] [160] Trans-1,2-Dichloroethene (ug/l) 13000 1000 <10 2.6 2.7 Trichloroethene (ug/l) 2340 67 27 <10 [220] [150] Vinyl Chloride (ug/l) 15750 52 1.6 <10 [10] [9.4] Semi-volatile Organic Compounds (SVOCs) Benzo(a)anthracene (ug/l) 0.3 <10 <0.040 <0.040 Benzo(a)pyrene (ug/l) 0.3 <10 <0.064 <0.064 Benzo(b)fluoranthene (ug/l) 0.3 <10 <0.064 <0.064 Benzo(k)fluoranthene (ug/l) 0.3 <10 <0.24 <0.24 Bis(2-ethylhexyl)phthalate (ug/l) 59 15 <1.6 <1.6 Indeno (1,2,3-cd)pyrene (ug/l) 0.3 <10 <0.20 <0.20 Phenanthrene (ug/l) 0.3 <10 <0.060 <0.060 Other Parameters Ammonia (mg/l) 6.8 0.06 0.08						<10	3.2	<1.0
Tetrachloroethene				11000	830	<10	190	160
Trans-1,2-Dichloroethene (ug/l) 13000 1000 <10	Tetrachloroethene		88	810	340	<10	[210]	
Vinyl Chloride (ug/l) 15750 52 1.6 <10 [10] [9.4] Semi-volatile Organic Compounds (SVOCs) Benzo(a)anthracene (ug/l) 0.3 <10	Trans-1,2-Dichloroethene			13000	1000	<10	2.6	
Vinyl Chloride (ug/l) 15750 52 1.6 <10 [10] [9.4] Semi-volatile Organic Compounds (SVOCs) Benzo(a)anthracene (ug/l) 0.3 <10	Trichloroethene	(ug/l)	2340	67	27	<10	[220]	[150]
Semi-volatile Organic Compounds (SVOCs) Benzo(a)anthracene (ug/l) 0.3 <10 <0.040 <0.040 <0.040 Senzo(a)pyrene (ug/l) 0.3 <10 <0.16 <0.16 <0.16 <0.16 <0.16 <0.16 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064 <0.064	Vinyl Chloride		15750	52	1.6	<10	[10]	[9.4]
Benzo(a)pyrene	Semi-volatile Organic Com)					
Benzo(b)fluoranthene (ug/l) 0.3 <10 <0.064 <0.064 Benzo(k)fluoranthene (ug/l) 0.3 <10 <0.24 <0.24 Bis(2-ethylhexyl)phthalate (ug/l) 59 15 <1.6 <1.6 Indeno (1,2,3-cd)pyrene (ug/l) <10 <0.20 <0.20 Phenanthrene (ug/l) 0.3 <10 <0.060 <0.060 Other Parameters Ammonia (mg/l) 6.8 0.06 0.08	Benzo(a)anthracene	(ug/l)	0.3	25.55/		0	< 0.040	
Benzo(k)fluoranthene	Benzo(a)pyrene	(ug/l)	0.3	****	Janes (<10		
Bis(2-ethylhexyl)phthalate (ug/l) 59 15 <1.6 <1.6 Indeno (1,2,3-cd)pyrene (ug/l) <10 <0.20 <0.20 Phenanthrene (ug/l) 0.3 <10 <0.060 <0.060 Other Parameters Ammonia (mg/l) 6.8 0.06 0.08	Benzo(b)fluoranthene	(ug/l)	0.3	****		<10	<0.064	
Indeno (1,2,3-cd)pyrene	Benzo(k)fluoranthene	(ug/l)	0.3	****				
Phenanthrene (ug/l) 0.3 <10 <0.060 <0.060 Other Parameters Ammonia (mg/l) 6.8 0.06 0.08	Bis(2-ethylhexyl)phthalate	(ug/l)	59	******	·****			
Other Parameters Ammonia (mg/l) 6.8 0.06 0.08	Indeno (1,2,3-cd)pyrene	(ug/l)		****	****	16		
Other Parameters Ammonia (mg/l) 6.8 0.06 0.08	Phenanthrene		0.3		(Appel	<10	< 0.060	<0.060
h 111111111111111111111111111111111111	Other Parameters	21 -0-12			THE COLUMN			
	Ammonia	(mg/l)						
Ill Oximitation (487-7)	Formaldehyde	(ug/l)				930	<100	<100
Aniline (ug/l) 260 <5 <5	11		-0.55			260		
Phenol (ug/l) 92000000 780 <10 <10	Phenol		92000000			780	<10	<10

Notes:

UNITS: ug = microgram, mg = miligram, L = liter

---- = Constituent not analyzed

SWPC = Surface Water Protection Criteria

Res or I/C VC = Residential or Industrial/Commercial Volatilization Criteria

Bold denotes an exceedance of one of more criteria

«<value = Constituent not detected above laboratory reporting limit</p>

Table 2 Summary of Detected Constituent in Groundwater Amerbelle Corportation 104 East Main Street Vernon, Connecticut

					MW-01	MW-02	MW-03
l .					993090713-09	993090713-03	
					7/13/2009	7/13/2009	7/13/2009
CONSTITUENT	UNITS	SWPC	I/C VC	Res VC	Primary	Primary	Primary
Field Parameters							
pH	(SU)				6.82	7.39	5.76
Specific Conductance	(uMhos/cm)		****	25012	733	1373	5768
Metals				VIEW I			
Silver	(mg/l)	0.012	(####	****	< 0.001	< 0.001	0.001
Arsenic	(mg/l)	0.004	****	****	<0.004	<0.004	<0.004
Barium	(mg/l)			****	0.037	0.156	0.457
Cadmium	(mg/l)	0.006	:	****	< 0.001	< 0.001	<0.001
Chromium	(mg/l)	0.11			< 0.001	0.019	<0.001
Copper	(mg/l)	0.048	****		< 0.001	0.019	0.005
Nickel	(mg/l)	0.88		<u>Name</u> (0.003	0.076	0.004
Lead	(mg/l)	0.013	****	****	< 0.002	0.005	<0.002
Zinc	(mg/l)	0.123			0.004	0.048	0.056
Barium, Dissolved	(mg/l)	****	****	****	****	0.084	****
Chromium, Dissolved	(mg/l)	0.11	****	2000	****	0.001	
Copper, Dissolved	(mg/l)	0.048	****	200000	(4040)	0.005	
Nickel, Dissolved	(mg/l)	0.88		****	39996	0.071	****
Lead, Dissolved	(mg/l)	0.013			****	<0.002	*****
Zinc, Dissolved	(mg/l)	0.123	****	****		0.016	
Volatile Organic Compound							
1,2,4-Trichlorobenzene	(ug/l)		****		<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	(ug/l)	****	11000	830	<1.0	<1.0	<1.0
Tetrachloroethene	(ug/l)	88	810	340	<1.0	<1.0	<1.0
Trans-1,2-Dichloroethene	(ug/l)		13000	1000	<1.0	<1.0	<1.0
Trichloroethene	(ug/l)	2340	67	27	<1.0	<1.0	<1.0
Vinyl Chloride	(ug/l)	15750	52	1.6	<1.0	<1.0	<1.0
Semi-volatile Organic Com	pounds (SVOCs)					
Benzo(a)anthracene	(ug/l)	0.3			< 0.040	< 0.040	<0.040
Benzo(a)pyrene	(ug/l)	0.3	-		<0.16	< 0.16	<0.16
Benzo(b)fluoranthene	(ug/l)	0.3			<0.064	<0.064	<0.064
Benzo(k)fluoranthene	(ug/l)	0.3			<0.24	<0.24	<0.24
Bis(2-ethylhexyl)phthalate	(ug/l)	59			<1.6	7.2	<1.6
Indeno (1,2,3-cd)pyrene	(ug/l)				<0.20	< 0.20	<0.20
Phenanthrene	(ug/l)	0.3		****	<0.060	<0.060	<0.060
Other Parameters		Color of the last					
Ammonia	(mg/l)				0.04	0.14	0.04
Formaldehyde	(ug/l)	****	***		<100	<100	<100
Aniline	(ug/l)				<5	<5	<5
Phenol	(ug/l)	92000000			<10	<10	<10

Notes

UNITS: ug = microgram, mg = miligram, L = liter

--- = Constituent not analyzed

SWPC = Surface Water Protection Criteria

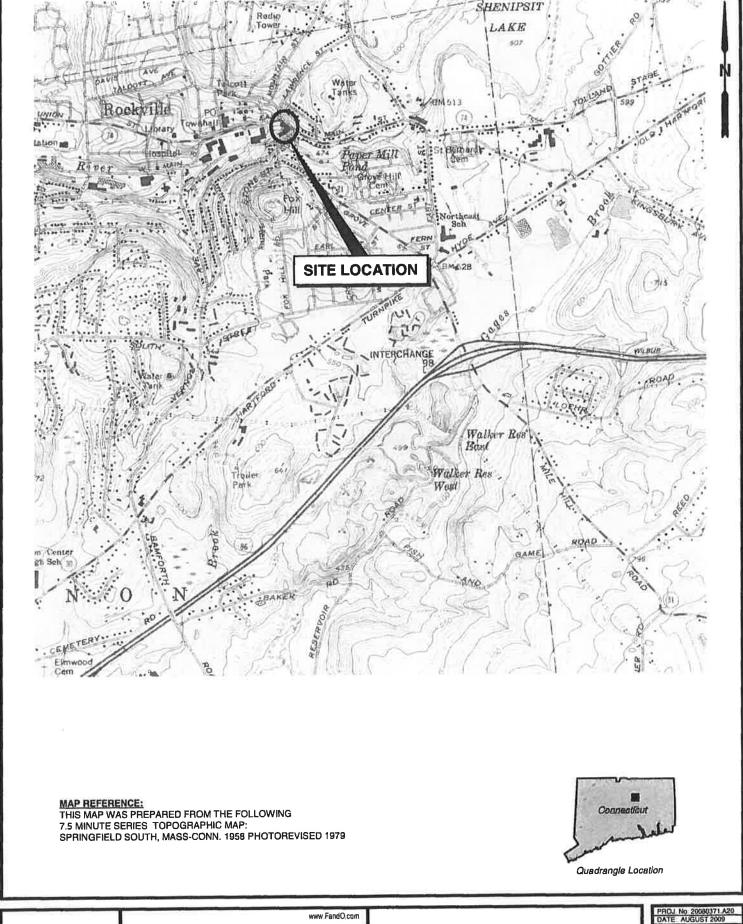
Res or I/C VC = Residential or Industrial/Commercial Volatilization Criteria

Bold denotes an exceedance of one of more criteria

<value = Constituent not detected above laboratory reporting limit</pre>



Figures



20080371\A20\SITELOC.PPT

SCALE: 1"=2000"

FUSS & O'NEILL Disciplines to Deliver

MANCHESTER, CT 06004

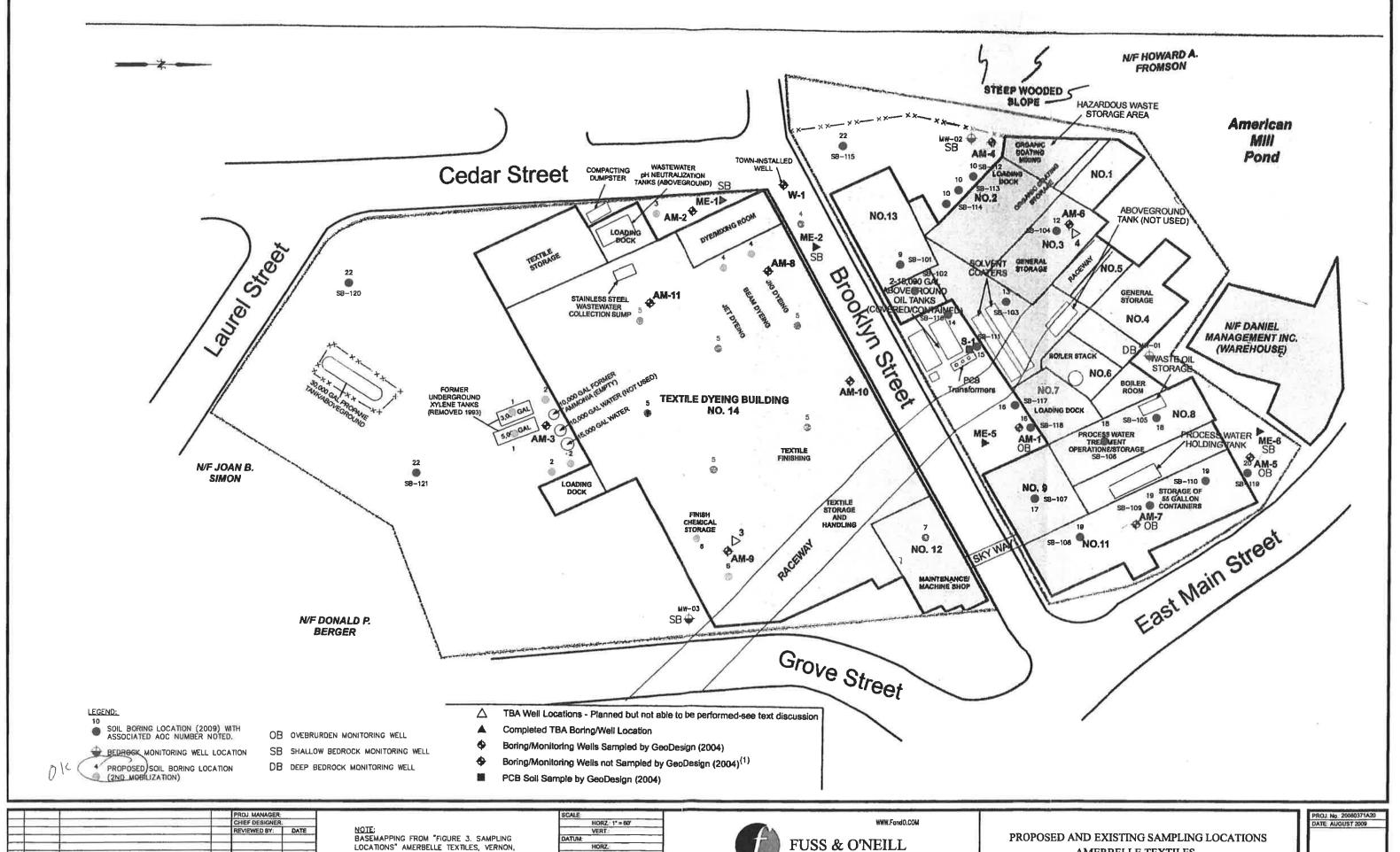
860 646 2469

VERNON

SITE LOCATION MAP AMERBELLE CORPORATION 104 EAST MAIN STREET

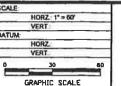
CONNECTICUT

FIGURE 1



\neg				PROJ MANAGER:	
				CHIEF DESIGNER.	
				REVIEWED BY:	DATE
-					
1.					
No	DATE	DESCRIPTION	BY		
		REVISIONS			

LOCATIONS" AMERBELLE TEXTILES, VERNON, CONNECTICUT, METCALF & EDDY/AECOM.





MANCHESTER, CT 06040

AMERBELLE TEXTILES

FIGURE 2

VERNON

CONNECTICUT

				SOII	VAPO	OR SA	MPLE FI	ELD L	OG				
GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402 Glastonbury, CT 06033 Phone (860)286-8900			PROJECT					Date:	3/26	/2015			
			Project Name: Amberbelle Vernon, CT				File No. PM:	45441 CJF		Page 1 of 1			
			i –	SAN	APLING E	QUIPMENT				(To be com	oleted at office)	
GZA Engineer: BR			Contractor/Lab: Phoenix					Depth to W	ater:			,	
			Analytic	Method:	TO-15			Ground Ele	vation:			•	
Weather:	Rain 50s		Operator					Water Eleva	ition:			•	
Barometric Press.			PID:	D: MiniRae lite lamp: 10.6 eV									
Previous Weather:			Calibratio		(start)	(finish							
Sample ID	Sample Depth (ft)	Vacuum Pressure (start/stop)	Purge Start	Purge Tin Purge Stop	Elapsed Time	Flow Rate (mL./min.)	Flow Volume (mL) (rate x time)	Sample Time (start/stop)	PID Reading (ppm)	Container Type	Surface Cover	Driving Effort	Mag Reading (inch water)
SV-1	1	-29/-4	910	911	1	8	8	913/1015	1.3	SC	CnCrt	Е	0.14
SV-2	1	-30/-4	935	936	1	8	8	937/1051	1.3	SC	CnCrt	Е	0.2
SV-3	I	-30/-4	947	947	1	8	8	950/1102	2.6	SC	CnCrt	E	0.57
SV-4	1	-27/-3.5	1001	1002	1	8	8	1003/1115	2.2	SC	CnCrt	E	0.28
SV-5	1	-30/-2.5	1023	1024	1	8	8	1025/1154	2	SC	CnCrt	Е	0.83
SV-6	1	-28.5/-4	1035	1036	1	8	8	1037/1155	2.7	SC	CnCrt	Е	0.78
SV-7	1	-30/-3.5	1058	1058	1	8	8	1059/1215	5.1	SC	CnCrt	Е	0.25
SV-8	1	-30/-4	1112	1113	1	8	8	1114/1239	2.5	SC	CnCrt	Е	0.22
SV-9 (1)	1	-27-29-30/-4-4 4	1150	1151	1	8	8	1152/1256 1303 1306	2.8	SC	CnCrt	Е	0.2
SV-10	1	-29/-4	1330	1331	1	8	8	1332/1443	1.5	SC	CnCrt	Е	0.71
SV-11	1	-29.5/-4	1347	1348	1	8	8	1349/1456	2	SC	CnCrt	Е	0.76

REMARKS:

1. MS/MSD

		ABBREVIATIONS	
CONTAINER TYPE	SURFACE COVER	PROBE DRIVING EFFORT	
TB - Tedlar Bag	G/L - Grass/Loam	E - Easy	
SC - SUMMA Canister	Asph - Asphalt	M - Moderate	
ST - Sorbant Tube	Cncrt - Concrete	D - Difficult	
Other:	Other:	R - Refusal	

				SOIL	VAP(OR SAI	MPLE FI	ELD L	OG				
GZA GeoEnviron 655 Winding Brod Glastonbury, CT Phone (860)286-8	ok Drive. S		PROJECT Project Name: Amberbelle Location: Vernon, CT					File No.	Date: 3/27/2015 File No. 45441 PM: CJF			1 of 1	
GZA Engineer: BR Contra								(To be completed at office) Depth to Water: Ground Elevation:					
Weather: Barometric Press. Previous Weather:	Rain 40s		Operator:	MiniRae		lamp:	10.6 eV	Water Eleva				100	
Sample ID	Sample Depth (ft)	Vacuum Pressure (start/stop)	Purge Start	Purge Tin Purge Stop	Elapsed Time	Flow Rate (mL,/min.)	Flow Volume (mL) (rate x time)	Sample Time (start/stop)	PID Reading (ppm)	Container Type	Surface Cover	Driving Effort	Mag Reading (inch water)
SV-12	1	-29/-4	843	844	1	8	8	845/958	2.2	SC	Cnert	Е	0.27
SV-13	1	-29/-3	920	921	1	8	8	922/1036	3.8	SC	Cncrt	M	0.1
SV-14	1	-28.5/-4	937	938	1	8	8	939/1048	3.6	SC	Cncrt	Е	0.72
SV-15	1	-28/-4	1004	1005	1	8	8	1006/1116	14.0	SC	Cncrt	Е	0.1
SV-16	1	-28/-4	1033	1034	1	8	8	1035/1140	4.4	SC	Cncrt	E	0.35
REMARKS: 1. Concrete in bad	condition.												
						ABBREV	VIATIONS						
CONTAINER	TYPE	SURFA	CE COVE	er e	P	ROBE DR	LIVING EFFOR	RT					
TB - Tedlar	Bag	G/L - 0	Grass/Loan	n		E	E - Easy						
SC - SUMMA C	Canister	Asph	- Asphalt			M -	Moderate						
ST - Sorbant	Гubе	Cnert	- Concrete			D -	Difficult						
Other:		Other:			R - Refusal								



Wednesday, April 01, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMBEBELLE

Sample ID#s: BH89042 - BH89046

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #MA-CT-007 ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

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



Environmental Laboratories, Inc.

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

Analysis Report

April 01, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:AIRCollected by:BR03/27/1510:36Location Code:GZA-AMERReceived by:LB03/27/1513:02

Rush Request: Standard Analyzed by: see "By" below

P.O.#: 45441 Canister Id: 12854 Laboratory Data

boratory Data SDG ID: GBH89042

Project ID: AMBEBELLE Phoenix ID: BH89042

Client ID: SV-13

1,1,2,2-Tetrachloroethane ND 0.500 ND 3.43 03/27/15 KCA TO 1,1,2-Trichloroethane ND 0.500 ND 2.73 03/27/15 KCA TO 1,1-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO 1,1-Dichloroethene ND 0.500 ND 1.98 03/27/15 KCA TO 1,2,4-Trichlorobenzene ND 0.500 ND 3.71 03/27/15 KCA TO 1,2,4-Trimethylbenzene 1.13 0.500 5.55 2.46 03/27/15 KCA TO 1,2-Dibromoethane(EDB) ND 0.500 ND 3.84 03/27/15 KCA TO 1,2-Dichlorobenzene ND 0.500 ND 3.00 03/27/15 KCA TO 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO	eference
1,1,1-Trichloroethane 0.615 0.500 3.35 2.73 03/27/15 KCA TC 1,1,2,2-Tetrachloroethane ND 0.500 ND 3.43 03/27/15 KCA TC 1,1,2-Trichloroethane ND 0.500 ND 2.73 03/27/15 KCA TC 1,1-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TC 1,1-Dichloroethane ND 0.500 ND 1.98 03/27/15 KCA TC 1,2,4-Trichlorobenzene ND 0.500 ND 3.71 03/27/15 KCA TC 1,2,4-Trimethylbenzene 1.13 0.500 5.55 2.46 03/27/15 KCA TC 1,2-Dibromoethane(EDB) ND 0.500 ND 3.84 03/27/15 KCA TC 1,2-Dichloroethane ND 0.500 ND 3.00 03/27/15 KCA TC 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TC	
1,1,2,2-Tetrachloroethane ND 0.500 ND 3.43 03/27/15 KCA TO 1,1,2-Trichloroethane ND 0.500 ND 2.73 03/27/15 KCA TO 1,1-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO 1,1-Dichloroethene ND 0.500 ND 1.98 03/27/15 KCA TO 1,2,4-Trichlorobenzene ND 0.500 ND 3.71 03/27/15 KCA TO 1,2,4-Trimethylbenzene 1.13 0.500 5.55 2.46 03/27/15 KCA TO 1,2-Dibromoethane(EDB) ND 0.500 ND 3.84 03/27/15 KCA TO 1,2-Dichloroethane ND 0.500 ND 3.00 03/27/15 KCA TO 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO	D15
1,1,2-Trichloroethane ND 0.500 ND 2.73 03/27/15 KCA TO 1,1-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO 1,1-Dichloroethane ND 0.500 ND 1.98 03/27/15 KCA TO 1,2,4-Trichlorobenzene ND 0.500 ND 3.71 03/27/15 KCA TO 1,2,4-Trimethylbenzene 1.13 0.500 5.55 2.46 03/27/15 KCA TO 1,2-Dibromoethane(EDB) ND 0.500 ND 3.84 03/27/15 KCA TO 1,2-Dichlorobenzene ND 0.500 ND 3.00 03/27/15 KCA TO 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO	015
1,1-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TC 1,1-Dichloroethane ND 0.500 ND 1.98 03/27/15 KCA TC 1,2,4-Trichlorobenzene ND 0.500 ND 3.71 03/27/15 KCA TC 1,2,4-Trimethylbenzene 1.13 0.500 5.55 2.46 03/27/15 KCA TC 1,2-Dibromoethane(EDB) ND 0.500 ND 3.84 03/27/15 KCA TC 1,2-Dichloroethane ND 0.500 ND 3.00 03/27/15 KCA TC 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TC	015
1,1-Dichloroethene ND 0.500 ND 1.98 03/27/15 KCA TO 1,2,4-Trichlorobenzene ND 0.500 ND 3.71 03/27/15 KCA TO 1,2,4-Trimethylbenzene 1.13 0.500 5.55 2.46 03/27/15 KCA TO 1,2-Dibromoethane(EDB) ND 0.500 ND 3.84 03/27/15 KCA TO 1,2-Dichlorobenzene ND 0.500 ND 3.00 03/27/15 KCA TO 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO	015
1,2,4-Trichlorobenzene ND 0.500 ND 3.71 03/27/15 KCA TC 1,2,4-Trimethylbenzene 1.13 0.500 5.55 2.46 03/27/15 KCA TC 1,2-Dibromoethane(EDB) ND 0.500 ND 3.84 03/27/15 KCA TC 1,2-Dichlorobenzene ND 0.500 ND 3.00 03/27/15 KCA TC 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TC)15
1,2,4-Trimethylbenzene 1.13 0.500 5.55 2.46 03/27/15 KCA TC 1,2-Dibromoethane(EDB) ND 0.500 ND 3.84 03/27/15 KCA TC 1,2-Dichlorobenzene ND 0.500 ND 3.00 03/27/15 KCA TC 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TC)15
1,2-Dibromoethane(EDB) ND 0.500 ND 3.84 03/27/15 KCA TO 1,2-Dichlorobenzene ND 0.500 ND 3.00 03/27/15 KCA TO 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO	015
1,2-Dichlorobenzene ND 0.500 ND 3.00 03/27/15 KCA TO 1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO	015
1,2-Dichloroethane ND 0.500 ND 2.02 03/27/15 KCA TO)15
	015
)15
1,2-dichloropropane ND 0.500 ND 2.31 03/27/15 KCA TC	015
1,2-Dichlorotetrafluoroethane ND 0.500 ND 3.49 03/27/15 KCA TO)15
1,3,5-Trimethylbenzene ND 0.500 ND 2.46 03/27/15 KCA TO)15
1,3-Butadiene ND 0.500 ND 1.11 03/27/15 KCA TO)15
1,3-Dichlorobenzene ND 0.500 ND 3.00 03/27/15 KCA TO)15
1,4-Dichlorobenzene ND 0.500 ND 3.00 03/27/15 KCA TO)15
1,4-Dioxane ND 0.500 ND 1.80 03/27/15 KCA TO)15
2-Hexanone(MBK) ND 0.500 ND 2.05 03/27/15 KCA TO)15
4-Ethyltoluene ND 0.500 ND 2.46 03/27/15 KCA TO)15
4-Isopropyltoluene ND 0.500 ND 2.74 03/27/15 KCA TO)15
4-Methyl-2-pentanone(MIBK) 0.608 0.500 2.49 2.05 03/27/15 KCA TC	015
Acetone 80.2 2.50 190 5.93 03/30/15 KCA TO	015
Acrylonitrile ND 0.500 ND 1.08 03/27/15 KCA TO	015
Benzene 3.15 0.500 10.1 1.60 03/27/15 KCA TO	015
Benzyl chloride ND 0.500 ND 2.59 03/27/15 KCA TO)15

Project ID: AMBEBELLE

Client ID: SV-13

Client ID: SV-13	ppbv	ppbv	ug/m3	ug/m3		_	
Parameter	Result	RL	Result	RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	1.52	0.500	7.42	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	1.49	0.500	5.13	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/27/15	KCA	TO15
Ethanol	26.2	0.500	49.3	0.94	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	1.92	0.500	8.33	2.17	03/27/15	KCA	TO15
Heptane	2.89	0.500	11.8	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	3.81	0.500	13.4	1.76	03/27/15	KCA	TO15
Isopropylalcohol	154	2.50	378	6.14	03/30/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	7.09	1.00	30.8	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	11.8	0.500	34.8	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	2.28	0.500	9.9	2.17	03/27/15	KCA	TO15
Propylene	14.0	0.500	24.1	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	5.48	0.500	37.1	3.39	03/27/15	KCA	TO15
Tetrahydrofuran	ND	0.500	ND	1.47	03/27/15		TO15
Toluene	15.9	0.500	59.9	1.88	03/27/15		TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15		TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15		TO15
Trichloroethene	0.636	0.500	3.42	2.69	03/27/15		TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15		TO15
	ND	0.500	ND	3.83	03/27/15		TO15
Trichlorotrifluoroethane	ND	0.500	ND	1.28	03/27/15		TO15
Vinyl Chloride	ND	0.000	ND	1.20	GOILITIO		. 5 . 6
QA/QC Surrogates % Bromofluorobenzene	105	%	105	%	03/27/15	KCA	70 - 130 %

Page 2 of 15 Ver 1

Phoenix I.D.: BH89042

Project ID: AMBEBELLE

Client ID: SV-13

Phoenix I.D.: BH89042

ppbv ug/m3 ug/m3 ppbv **Parameter** Result RL RL Result Date/Time Ву Reference

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

Comments:

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Page 3 of 15 Ver 1



Environmental Laboratories, Inc.

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

Analysis Report

Project ID:

April 01, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Custody Information Sample Information Date **Time** 9:58 Collected by: BR 03/27/15 Matrix: Received by: LB 03/27/15 13:02 **Location Code: GZA-AMER**

Rush Request: Standard Analyzed by: see "By" below

P.O.#: 45441 SDG ID: GBH89042 _aboratory Data Canister Id: 350

Phoenix ID: BH89043 **AMBEBELLE**

SV-12 Client ID:

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1,2-Tetrachloroethane	0.670	0.500	3.65	2.73	03/27/15		TO15
1,1,1-Trichloroethane	ND	0.500	ND	3.43	03/27/15		TO15
1,1,2,2-Tetrachloroethane		0.500	ND	2.73	03/27/15		TO15
1,1,2-Trichloroethane	ND		ND ND	2.73	03/27/15	KCA	
1,1-Dichloroethane	ND	0.500					TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15		
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15		TO15
1,2,4-Trimethylbenzene	2.52	0.500	12.4	2.46	03/27/15	KCA	
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15		TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15		TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15		TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	0.862	0.500	4.24	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	0.814	0.500	4.00	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	0.776	0.500	3.18	2.05	03/27/15	KCA	TO15
Acetone	74.8	2.50	178	5.93	03/27/15		TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15		TO15
Benzene	3.46	0.500	11.0	1.60	03/27/15		TO15
	ND	0.500	ND	2.59	03/27/15	KCA	
Benzyl chloride	ND	0.500	IAD	2.03	00/21/10	NOA	1010

Project ID: AMBEBELLE

Client ID: SV-12

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	0.500	0.500	1.56	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	ND	0.500	ND	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	1.17	0.500	4.02	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/27/15	KÇA	TO15
Ethanol	33.2	0.500	62.5	0.94	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	4.57	0.500	19.8	2.17	03/27/15	KCA	TO15
Heptane	3.14	0.500	12.9	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	3.85	0.500	13.6	1.76	03/27/15	KCA	TO15
Isopropylalcohol	282	E 2.50	693	6.14	03/27/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	16.2	1.00	70.3	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	10.5	0.500	30.9	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	5.33	0.500	23.1	2.17	03/27/15	KCA	TO15
Propylene	13.5	0.500	23.2	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	2.15	0.500	14.6	3.39	03/27/15	KCA	TO15
Tetrahydrofuran	ND	0.500	ND	1.47	03/27/15	KCA	TO15
Toluene	25.5	0.500	96.0	1.88	03/27/15	KCA	TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Trichloroethene	ND	0.500	ND	2.69	03/27/15	KCA	TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15	KCA	TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15		TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15	KCA	TO15
QA/QC Surrogates							
% Bromofluorobenzene	103	%	103	%	03/27/15	KCA	70 - 130 %

Page 5 of 15 Ver 1

Phoenix I.D.: BH89043

Project ID: AMBEBELLE

Client ID: SV-12

Phoenix I.D.: BH89043

ppbv Result ppbv RL

ug/m3 Result

ug/m3 RL

Date/Time

Reference Ву

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

Comments:

Parameter

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Page 6 of 15 Ver 1



Environmental Laboratories, Inc.

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

Analysis Report

April 01, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:AIRCollected by:BR03/27/1510:48Location Code:GZA-AMERReceived by:LB03/27/1513:02

Rush Request: Standard Analyzed by: see "By" below

P.O.#: 45441
Canister Id: 11286

Laboratory Data SDG ID: GBH89042
Phoenix ID: BH89044

Project ID: AMBEBELLE

Client ID: SV-14

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	1.28	0.500	6.29	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	0.724	0.500	2.96	2.05	03/27/15	KCA	TO15
Acetone	60.8	2.50	144	5.93	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	2.62	0.500	8.36	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Page 7 of 15 Ver 1

Client ID: SV-14

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	ND	0.500	ND	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	0.753	0.500	2.59	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	NĐ	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/27/15	KCA	TO15
Ethanol	33.7	0.500	63.5	0.94	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	1.91	0.500	8.29	2.17	03/27/15	KCA	TO15
Heptane	1.88	0.500	7.70	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	3.17	0.500	11.2	1.76	03/27/15	KCA	TO15
Isopropylalcohol	247	E 2.50	607	6.14	03/27/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	7.31	1.00	31.7	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	1.70	0.500	5.01	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	2.45	0.500	10.6	2.17	03/27/15	KCA	TO15
Propylene	9.74	0.500	16.8	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	4.07	0.500	27.6	3.39	03/27/15	KCA	TO15
Tetrahydrofuran	ND	0.500	ND	1.47	03/27/15	KCA	TO15
Toluene	15.0	0.500	56.5	1.88	03/27/15		TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15		TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15		TO15
Trichloroethene	ND	0.500	ND	2.69	03/27/15		TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15		TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15		TO15
	ND	0.500	ND	1.28	03/27/15		TO15
Vinyl Chloride QA/QC Surrogates	IAD	0.500	NO	1.20	00/2//10		.510
CAMPICAL COLLECTION INC.							

Page 8 of 15 Ver 1

Phoenix I.D.: BH89044

Project ID: AMBEBELLE

Client ID: SV-14

Phoenix I.D.: BH89044

ppbv Result ppbv ŘL

ug/m3 Result ug/m3 RL

Date/Time

By Reference

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

Comments:

Parameter

E = Estimated value quantitated above calibration range for this compound.

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Page 9 of 15 Ver 1



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

Analysis Report

April 01, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

<u>Time</u> **Custody Information** <u>Date</u> Sample Information 03/27/15 11:16 BR Matrix: AIR Collected by: **GZA-AMER** Received by: LB 03/27/15 13:02 **Location Code:**

Analyzed by: see "By" below Rush Request: Standard

45441 P.O.#: **Laboratory Data** SDG ID: GBH89042

11287 Canister Id: Phoenix ID: BH89045

Project ID: **AMBEBELLE**

Client ID: SV-15

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	1.61	0.500	7.91	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	0.514	0.500	2.53	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	0.520	0.500	2.55	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Acetone	15.8	0.500	37.5	1.19	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	1.80	0.500	5.75	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Ver 1 Page 10 of 15

Client ID: SV-15

Client ID: SV-15							
Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	12.2	0.500	59.5	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	4.66	0.500	18.5	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	0.913	0.500	3.14	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	0.678	0.500	3.35	2.47	03/27/15	KCA	TO15
Ethanol	31.1	0.500	58.6	0.94	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	2.52	0.500	10.9	2.17	03/27/15	KCA	TO15
Heptane	1.64	0.500	6.72	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	2.03	0.500	7.15	1.76	03/27/15	KCA	TO15
Isopropylalcohol	98.6	37.5	242	92.1	03/30/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	9.27	1.00	40.2	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	1.35	0.500	3.98	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	3.10	0.500	13.5	2.17	03/27/15	KCA	TO15
Propylene	4.84	0.500	8.32	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	756	37.5	5120	254	03/30/15	KCA	TO15
Tetrahydrofuran	ND	0.500	ND	1.47	03/27/15	KCA	TO15
Toluene	15.5	0.500	58.4	1.88	03/27/15	KCA	TO15
Trans-1,2-Dichloroethene	0.698	0.500	2.77	1.98	03/27/15	KCA	TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Trichloroethene	28.8	0.500	155	2.69	03/27/15	KCA	TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15	KCA	TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15	KCA	TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15		TO15
QA/QC Surrogates							
% Bromofluorobenzene	112	%	112	%	03/27/15	KCA	70 - 130 %

Page 11 of 15 Ver 1

Phoenix I.D.: BH89045

Project ID: AMBEBELLE

Client ID: SV-15

Phoenix I.D.: BH89045

ppbv Result ppbv RL

ug/m3 ug/m3 Result

RL

Date/Time

By

Reference

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

Comments:

Parameter

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

April 01, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Informa	<u>ation</u>	Custody Inform	nation		<u>Date</u>	<u>Time</u>
Matrix:	AIR	Collected by:	BR		03/27/15	11:40
Location Code:	GZA-AMER	Received by:	LB		03/27/15	13:02
Rush Request:	Standard	Analyzed by:	see "By	y" below		

P.O.#: 45441 Canister Id: 12867

Project ID: AMBEBELLE

Client ID: SV-16

Laboratory Data

SDG ID: GBH89042
Phoenix ID: BH89046

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	1.17	0.500	5.75	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	1.35	0.500	5.53	2.05	03/27/15	KCA	TO15
Acetone	35.8	0.500	85.0	1.19	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	1.16	0.500	3.70	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Page 13 of 15 Ver 1

Project ID: AMBEBELLE

Client ID: SV-16

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	ND	0.500	ND	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	6.85	0.500	27.1	1.98	03/27/15	KCA	TQ15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/27/15	KCA	TO15
Ethanol	48.5	5.00	91.3	9.42	03/28/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	1.53	0.500	6.64	2.17	03/27/15	KCA	TO15
Heptane	0.949	0.500	3.89	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	1.22	0.500	4.30	1.76	03/27/15	KCA	TO15
Isopropylalcohol	630	E 5.00	1550	12.3	03/28/15	KCA	TO15
isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	6.21	1.00	26.9	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	3.38	0.500	10.0	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	2.42	0.500	10.5	2.17	03/27/15	KCA	TO15
Propylene	3.64	0.500	6.26	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15		TO15
Tetrachloroethene	70.7	5.00	479	33.9	03/28/15	KCA	TO15
Tetrahydrofuran	ND	0.500	ND	1.47	03/27/15	KCA	TO15
Toluene	8.35	0.500	31.4	1.88	03/27/15	KCA	TO15
Trans-1,2-Dichloroethene	0.605	0.500	2.40	1.98	03/27/15		TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15		TO15
Trichloroethene	14.8	0.500	79.5	2.69	03/27/15		TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15		TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15		TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15	KCA	TO15
QA/QC Surrogates % Bromofluorobenzene	112	%	112	%	03/27/15	KCA	70 - 130 %

Page 14 of 15 Ver 1

Phoenix I.D.: BH89046

Project ID: AMBEBELLE

Client ID: SV-16

Phoenix I.D.: BH89046

ppbv ppbv Result RL ug/m3 ug/m3 Result RL

_ Date/Time

By Reference

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

Comments:

Parameter

E = Estimated value quantitated above calibration range for this compound.

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

QA/QC Report

Ethanol

QA/QC Data

April 01, 2015 SDG LD: GBH89042 Sample Sample Sample Sample DUP **RPD** Rec Blank Blank LCS Result Dup ug/m3 ug/m3 ug/m3 ppbv **RPD** Limits Limits ppbv Parameter QA/QC Batch 302804, QC Sample No: BH88574 (BH89042, BH89043 (1X, 5X), BH89044 (1X, 5X), BH89045, BH89046 (1X, 10X)) Volatiles 1,1,1,2-Tetrachloroethane ND ND 119 ND ND ND ND NC 70 - 130 20 ND NC ND ND ND ND 70 - 130 20 1,1,1-Trichloroethane ND 117 ND ND 111 ND ND ND ND NC 70 - 130 20 1,1,2,2-Tetrachloroethane ND ND 124 ND ND ND ND NC 70 - 130 20 1,1,2-Trichloroethane ND ND 104 ND ND ND ND NC 70 - 130 20 1,1-Dichloroethane 1.1-Dichloroethene ND ND 103 ND ND ND ND NC 70 - 130 20 97 ND ND ND NC ND ND ND 70 - 130 20 1,2,4-Trichlorobenzene 0.732 1,2,4-Trimethylbenzene ND ND 113 3.50 3.60 0.712 2.8 70 - 130 20 122 ND ND ND ND NC 1,2-Dibromoethane(EDB) ND ND 70 - 130 20 ND ND 102 ND ND ND ND NC 70 - 130 20 1,2-Dichlorobenzene ND ND 110 ND ND ND ND NC 70 - 130 20 1,2-Dichloroethane ND ND ND ND ND ND NC 112 70 - 13020 1,2-dichloropropane 1,2-Dichlorotetrafluoroethane ND ND 114 ND ND ND ND NC 70 - 130 20 ND ND ND ND ND NC 70 - 13020 ND 111 1,3,5-Trimethylbenzene ND ND 103 ND ND ND ND NC 70 - 130 20 1,3-Butadiene 70 - 130 1,3-Dichlorobenzene ND ND 105 ND ND ND ND NC 20 ND ND 104 ND ND ND ND NC 70 - 130 20 1,4-Dichlorobenzene ND ND 96 ND ND ND ND NC 70 - 130 20 1,4-Dioxane ND ND 130 ND ND ND ND NC 70 - 130 20 2-Hexanone(MBK) ND ND 117 ND ND ND ND NC 70 - 130 20 4-Ethyltoluene NC ND 90 ND ND ND ND 4-Isopropyltoluene ND 70 - 13020 131 ND ND ND ND NC 4-Methyl-2-pentanone(MIBK) ND ND 70 - 130 20 ND 108 90.4 95.7 38.1 40.3 5.6 70 - 130 Acetone ND 20 Acrylonitrile ND ND 90 ND ND ND ND NC 70 - 130 20 ND ND 103 ND ND ND ND NC 70 - 130 20 Benzene ND ND 128 ND ND ND ND NC 70 - 130 20 Benzyl chloride Bromodichloromethane ND ND 131 ND ND ND ND NC 70 - 130 20 ND 128 ND ND ND NC 70 - 130 20 ND ND **Bromoform** ND 100 ND ND ND NC Bromomethane ND ND 70 - 13020 ND 101 ND ND ND NC Carbon Disulfide ND ND 70 - 130 20 Carbon Tetrachloride ND ND 119 ND ND ND ND NC 70 - 130 20 Chlorobenzene ND ND 109 ND ND ND ND NC 70 - 130 20 ND ND ND NC 70 - 130 ND ND 104 ND 20 Chloroethane 104 3.48 0.691 0.714 3.3 70 - 130 20 Chloroform ND ND 3.37 NC 20 Chloromethane ND ND 115 ND ND ND ND 70 - 130Cis-1,2-Dichloroethene ND ND 107 35.4 37.6 8.94 9.48 5.9 70 - 130 20 ND 128 ND ND ND NC cis-1,3-Dichloropropene ND ND 70 - 13020 ND ND 108 ND ND ND ND NC 70 - 130 20 Cyclohexane ND ND 129 ND ND ND ND NC 70 - 130 20 Dibromochloromethane ND 112 2.47 ND 0.500 ND NC Dichlorodifluoromethane ND 70 - 13020

ND

ND

109

294

316

156

168

7.4

70 - 130

20

QA/QC Data

SDG I.D.: GBH89042

Parameter	Blank ppbv	Blank ug/m3		LCS %	Sample Result ug/m3	Sample Dup ug/m3	Sample Result ppbv	Sample Dup ppbv	DUP RPD	% Rec Limits	% RPD Limits	
Ethyl acetate	ND	ND		110	ND	ND	ND	ND	NC	70 - 130	20	_
Ethylbenzene	ND	ND		120	ND	ND	ND	ND	NC	70 - 130	20	
Heptane	ND	ND		119	ND	ND	ND	ND	NC	70 - 130	20	
Hexachlorobutadiene	ND	ND		87	ND	ND	ND	ND	NC	70 - 130	20	
Hexane	ND	ND		109	2.24	2.06	0.635	0.585	8.2	70 - 130	20	
Isopropylalcohol	ND	ND		105	779	825	317	336	5.8	70 - 130	20	
Isopropylbenzene	ND	ND		110	ND	ND	ND	ND	NC	70 - 130	20	
m,p-Xylene	ND	ND		120	6.73	7.03	1.55	1.62	4.4	70 - 130	20	
Methyl Ethyl Ketone	ND	ND		114	72.2	76.9	24.5	26.1	6.3	70 - 130	20	
Methyl tert-butyl ether(MTBE)	ND	ND		113	ND	ND	ND	ND	NC	70 - 130	20	
Methylene Chloride	ND	ND		99	ND	ND	ND	ND	NC	70 - 130	20	
n-Butylbenzene	ND	ND		80	ND	ND	ND	ND	NC	70 - 130	20	
o-Xylene	ND	ND		118	3.33	3.42	0.767	0.788	2.7	70 - 130	20	
Propylene	ND	ND		124	2.22	2.51	1.29	1.46	12.4	70 - 130	20	
sec-Butylbenzene	ND	ND		90	ND	ND	ND	ND	NC	70 - 130	20	
Styrene	ND	ND		116	ND	ND	ND	ND	NC	70 - 130	20	
Tetrachloroethene	ND	ND		118	1240	1290	183	191	4.3	70 - 130	20	
Tetrahydrofuran	ND	ND		111	15.6	16.2	5.30	5.51	3.9	70 - 130	20	
Toluene	ND	ND		123	4.75	4.93	1.26	1.31	3.9	70 - 130	20	
Trans-1,2-Dichloroethene	ND	ND		108	3.67	3.94	0.927	0.995	7.1	70 - 130	20	
trans-1,3-Dichloropropene	ND	ND		137	ND	ND	ND	ND	NC	70 - 130	20	1
Trichloroethene	ND	ND		114	249	260	46.4	48.4	4.2	70 - 130	20	
Trichlorofluoromethane	ND	ND		107	ND	ND	ND	ND	NC	70 - 130	20	
Trichlorotrifluoroethane	ND	ND		99	ND	ND	ND	ND	NC	70 - 130	20	
Vinyl Chloride	ND	ND		107	ND	ND	ND	ND	NC	70 - 130	20	
% Bromofluorobenzene	99	99		98	109	109	109	109	0.0	70 - 130	20	
QA/QC Batch 302965, QC Sam	nple No: BH8	9391 (BH	9042 (5X) , BI	H89045	5 (75X)))						
<u>Volatiles</u>												
Acetone	ND	ND		103	ND	ND	ND	ND	NC	70 - 130	20	
Isopropylalcohol	ND	ND		102	14.9	15.6	6.07	6.33	4.2	70 - 130	20	
Tetrachloroethene	ND	ND		101	37.3	36.2	5.51	5.34	3.1	70 - 130	20	

I = This parameter is outside laboratory lcs/lcsd 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

April 01, 2015

Page 1 of 1

Sample Criteria Exceedences Report

Criteria

GBH89042 - GZA-AMER

Criteria

Ζ

Result

RL Criteria

Analysis Units

Phoenix Analyte Acode Criteria: CT: RV State: CT

*** No Data to Display ***

SampNo

Wednesday, April 01, 2015

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labor	ratory Name:	Phoenix Enviror	imental Labs, Inc.	Client:	G	i∠A GeoEnvir	onmenta	I, Inc.
Proje	ct Location:	AMBEBELLE		Project	Number:			
_abor	ratory Sample	e ID(s): BH8904	2, BH89043, BH8	9044, BH8	9045, BH8904	16		
Samp	ling Date(s):	3/27/2015						
RCP I	Methods Used	d:						
] 131	11/1312 🔲 60	10 7000	7196	7470/7471	8081	☐ EPH	✓	TO15
808	32 🗌 81	51 🗌 8260	8270	ETPH	9010/9012	☐ VPH		
5	specified QA/QC any criteria fallin	control performance criter performance criter performance criter performance pe	nced in this laborato eria followed, includ table guidelines, as dence Protocol doc	ing the requ s specified in	irement to expla		□No	
a.	Were the metho	d specified presen	ation and holding t	ime require	ments met?	✓ Yes	□ No	
			the VPH or EPH mon 11.3 of respective			☐ Yes	□No	✓ NA
			aboratory in a cond -of-Custody docum		tent with that	✓ Yes	□ No	
.	Were samples r	eceived at an appr	opriate temperature	e (< 6 Degre	es C)?	□ Yes	□ No	✓ NA
			ria specified in the e Section: AIRSIM.	Reasonable	Confidence	□ Yes	☑ No	
a.	Were reporting	limits specified or r	eferenced on the cl	hain-of-cust	ody?	✓ Yes	□ No	
b.	Were these repo	orting limits met?				✓ Yes	□ No	\square NA
	results reported	for all constituents	nced in this laborato identified in the mo idence Protocol do	ethod-specif	ckage, were ic analyte lists	✓ Yes	□ No	□NA
	Are project-spec	cific matrix spikes a	and laboratory dupli	cates includ	led in the data	set?	✓ No	□NA
I, the	be provided in a the requirement be undersigned belief and bas	in attached narrative is for "Reasonable C din attest under the sed upon my pe	onse was "No" (with e. If the answer to q Confidence". ne pains and per rsonal inquiry of t, such informati	uestion #1, # nalties of p those res	erjury that, to	o the best of providing the	age does r	viedge
CONT	ained in this i	anaiyucai repon	., such informati	UII IS ACCU	iale allu coll	ihiere:		
		0.1.			Date: W	ednesday, Ap	oril 01, 20)15
	norized nature:	Look	some	Prir	ited Name: G	reg Lawrence)	
-	·	. 0			Position: As	ssistant Lab D	irector	



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

April 01, 2015

SDG I.D.: GBH89042

AIRSIM

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

QC Batch 302804 (Samples: BH89042, BH89043, BH89044, BH89045, BH89046): —

The LCS 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. (Bromodichloromethane, trans-1,3-Dichloropropene)

The LCS recovery is above the upper range for one analyte, therefore a slight high bias is possible. (4-Methyl-2-pentanone(MIBK))

Instrument: Chem24 03/27/15-1 (BH89042, BH89043, BH89044, BH89045, BH89046)

Initial Calibration Verification (CHEM24/AIR 0320):

98% of target compounds met criteria.

The following compounds had %RSDs >30%: 1,2,4-Trichlorobenzene (31%), Benzyl chloride (37%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification #1 (CHEM24/0326 19-AIR 0320):

100% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Continuing Calibration Verification #2 (CHEM24/0326_20-AIR_0320):

100% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Keith Aloisa Position: Chemist Date: 3/27/2015

Instrument: Chem24 03/30/15-1 (BH89042, BH89045)

Initial Calibration Verification (CHEM24/AIR_0320):

98% of target compounds met criteria.

The following compounds had %RSDs >30%: 1,2,4-Trichlorobenzene (31%), Benzyl chloride (37%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification #1 (CHEM24/0329 02-AIR 0320):

96% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: 1,1,1,2-Tetrachloroethane(sim) (-39%)[30%], Bromoform(sim) (-48%)[30%], Carbon

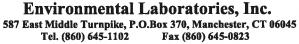
Tetrachloride(sim) (-31%)[30%], Dibromochloromethane(sim) (-31%)[30%]

The following compounds did not meet maximum % deviations: Bromoform(sim) (-48%)[40%]

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

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







RCP Certification Report

April 01, 2015

SDG I.D.: GBH89042

Continuing Calibration Verification #2 (CHEM24/0329_03-AIR_0320):

99% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: Benzyl chloride (-47%)[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.

Printed Name Keith Aloisa Position: Chemist 3/30/2015 Date:

de (baten Specine)
Sample No: BH88574, QA/QC Batch: 302804
All LCS recoveries were within 70 - 130 with the following exceptions: 4-Methyl-2-pentanone(MIBK)(131%), Bromodichloromethane(131%), trans-1,3-Dichloropropene(137%)
Sample No: BH89391, QA/QC Batch: 302965
All LCS recoveries were within 70 - 130 with the following exceptions: None.

Environmental Laboratories, Inc. 587 East Middle Tumpike, P.O. Box 370, Manchester, CT05040 Telephone: 860,645,1102. • Fax 860,645,0823

CHAIN OF CUSTODY RECOR AIR ANALYSES

800-827-5426

email: greg@phoenixlabs.com

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	Data Deliver	very:			
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Phoenix ID #	Client Sample ID	Canister ID # Size (I.)	Outgoing Canister Pressure (" Hg)	Incoming Canister Pressure R ("Hg)	w lator #	Flow Controller Setting (mL/min)	Sampling Start Time 1	Sampling End Time	Sample Start Date	Canister Canister Pressure at Pressure at Start (" Hg) End ("Hg)	Canister Pressure at End ("Hg)	Ambient/Indoo	Grab (G) Com	41-OT	či-OT
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Wednesday, April 01, 2015

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

Project ID: AMERBELLE

Sample ID#s: BH88565 - BH88577

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

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

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

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

Sincerely yours.

Phyllis Shiller

Laboratory Director

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



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

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Informa	ation .	Custody Inform	<u>nation</u>	<u>Date</u>	<u>Time</u>
Matrix:	AIR	Collected by:	BR	03/26/15	14:43
Location Code:	GZA-AMER	Received by:	LB	03/26/15	15:36
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#: 45441 Canister Id: 13638 Laboratory Data

SDG ID: GBH88565

Phoenix ID: BH88565

Project ID: AMERBELLE

Client ID: SV-10

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/26/15	KCA	TO15
1,1,1-Trichloroethane	0.652	0.500	3.56	2.73	03/26/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/26/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/26/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/26/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/26/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/26/15	KCA	TO15
1,2,4-Trimethylbenzene	0.574	0.500	2.82	2.46	03/26/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/26/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/26/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/26/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/26/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/26/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/26/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/26/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/26/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/26/15	KCA	TO15
Acetone	19.5	0.500	46.3	1.19	03/26/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/26/15	KCA	TO15
Benzene	ND	0.500	ND	1.60	03/26/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/26/15	KCA	TO15

Page 1 of 39 Ver 1

Client ID: SV-10

Client ID: 5V-10							
Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/26/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/26/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/26/15	KCA	TO15
Carbon Disulfide	1.68	0.500	5.23	1.56	03/26/15	KCA	TO15
Carbon Tetrachloride	ND '	0.500	ND	3.14	03/26/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/26/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/26/15	KCA	TO15
Chloroform	1.28	0.500	6.25	2.44	03/26/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/26/15	KCA	TO15
Cis-1,2-Dichloroethene	0.560	0.500	2.22	1.98	03/26/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/26/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/26/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/26/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/26/15	KCA	TO15
Ethanol	39.3	0.500	74.0	0.94	03/26/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/26/15	KCA	TO15
Ethylbenzene	ND	0.500	ND	2.17	03/26/15	KCA	TO15
Heptane	ND	0.500	ND	2.05	03/26/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/26/15	KCA	TO15
Hexane	ND	0.500	ND	1.76	03/26/15	KCA	TO15
Isopropylalcohol	179	E 0.500	440	1.23	03/26/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
m,p-Xylene	1.68	1.00	7.29	4.34	03/26/15	KCA	TO15
Methyl Ethyl Ketone	0.803	0.500	2.37	1.47	03/26/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/26/15	KCA	TO15
Methylene Chloride	ND	1.00	ND	3.47	03/26/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/26/15	KCA	TO15
o-Xylene	0.804	0.500	3.49	2.17	03/26/15	KCA	TO15
Propylene	7.65	0.500	13.2	0.86	03/26/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/26/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/26/15	KCA	TO15
Tetrachloroethene	3.73	0.500	25.3	3.39	03/26/15	KCA	TO15
Tetrahydrofuran	ND	0.500	ND	1.47	03/26/15	KCA	TO15
Toluene	1.17	0.500	4.41	1.88	03/26/15	KCA	TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/26/15	KCA	TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/26/15	KCA	TO15
Trichloroethene	ND	0.500	ND	2.69	03/26/15	KCA	TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/26/15	KCA	TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/26/15	KCA	TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/26/15	KCA	TO15
QA/QC Surrogates							
% Bromofluorobenzene	108	%	108	%	03/26/15	KCA	70 - 130 %

Page 2 of 39 Ver 1

Phoenix I.D.: BH88565

Project ID: AMERBELLE

Client ID: SV-10

Phoenix I.D.: BH88565

ug/m3 ug/m3 ppbv ppbv

Reference Date/Time By RL Result RL Result **Parameter**

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

Comments:

E = Estimated value quantitated above calibration range for this compound.

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 1 Page 3 of 39



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

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information Date** <u>Time</u> BR 03/26/15 10:15 **AIR** Collected by: Matrix: Received by: 03/26/15 15:36 **Location Code: GZA-AMER** LB

Rush Request: Standard Analyzed by: see "By" below

P.O.#: 45441
Canister Id: Laboratory Data SDG ID: GBH88565
Phoenix ID: BH88566

Project ID: AMERBELLE

Client ID: SV-1

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/26/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/26/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/26/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/26/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/26/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/26/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/26/15	KCA	TO15
1,2,4-Trimethylbenzene	2.83	0.500	13.9	2.46	03/26/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/26/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/26/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/26/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/26/15	KCA	TO15
1,3,5-Trimethylbenzene	0.760	0.500	3.73	2.46	03/26/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/26/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/26/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/26/15	KCA	TO15
4-Ethyltoluene	0.854	0.500	4.20	2.46	03/26/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/26/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/26/15	KCA	TO15
Acetone	28.0	0.500	66.5	1.19	03/26/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/26/15	KCA	TO15
Benzene	0.662	0.500	2.11	1.60	03/26/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/26/15	KCA	TO15

Page 4 of 39 Ver 1

Project ID: AMERBELLE

Client ID: SV-1

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/26/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/26/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/26/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/26/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/26/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/26/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/26/15	KCA	TO15
Chloroform	1.19	0.500	5.81	2.44	03/26/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/26/15	KCA	TO15
Cis-1,2-Dichloroethene	5.56	0.500	22.0	1.98	03/26/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/26/15	KCA	TO15
Cyclohexane	0.795	0.500	2.73	1.72	03/26/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/26/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/26/15	KCA	TO15
Ethanol	10.2	0.500	19.2	0.94	03/26/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/26/15	KCA	TO15
Ethylbenzene	2.38	0.500	10.3	2.17	03/26/15	KCA	TO15
Heptane	0.879	0.500	3.60	2.05	03/26/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/26/15	KCA	TO15
Hexane	0.839	0.500	2.96	1.76	03/26/15		TO15
Isopropylalcohol	15.6	0.500	38.3	1.23	03/26/15		TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
m,p-Xylene	8.46	1.00	36.7	4.34	03/26/15		TO15
Methyl Ethyl Ketone	7.68	0.500	22.6	1.47	03/26/15	KCA	
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/26/15	KCA	
Methylene Chloride	ND	0.500	ND	1.74	03/26/15		TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/26/15		TO15
o-Xylene	3.35	0.500	14.5	2.17	03/26/15		TO15
Propylene	1.73	0.500	2.98	0.86	03/26/15	KCA	
sec-Butylbenzene	ND	0.500	ND	2.74	03/26/15	KCA	
Styrene	ND	0.500	ND	2.13	03/26/15		TO15
Tetrachloroethene	15.6	0.500	106	3.39	03/26/15		TO15
	3.64	0.500	10.7	1.47	03/26/15		TO15
Tetrahydrofuran Toluene	7.72	0.500	29.1	1.88	03/26/15		TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/26/15		TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/26/15		TO15
	2.97	0.500	16.0	2.69	03/26/15		TO15
Trichloroethene	ND	0.500	ND	2.81	03/26/15		TO15
Trichlorofluoromethane				3.83	03/26/15		TO15
Trichlorotrifluoroethane	ND ND	0.500	ND ND				TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/26/15	NUA	1010
QA/QC Surrogates % Bromofluorobenzene	110	%	110	%	03/26/15	KCA	70 - 130 %

Page 5 of 39 Ver 1

Phoenix I.D.: BH88566

Project ID: AMERBELLE

Client ID: SV-1

Phoenix I.D.: BH88566

ppbv ug/m3 ug/m3 ppbv Result RL RL Date/Time Ву Reference Parameter Result

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

Comments:

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Page 6 of 39 Ver 1



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

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:AIRCollected by:BR03/26/1511:55Location Code:GZA-AMERReceived by:LB03/26/1515:36

Rush Request: Standard Analyzed by: see "By" below

P.O.#: 45441 Laboratory Data

Laboratory Data SDG ID: GBH88565

Canister Id: 13648 Laboratory Data Phoenix ID: BH88567

Project ID: AMERBELLE

Client ID: SV-6

Parameter	ppbv	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Farameter	Result	KL_	Resuit	- KL	Date/Time	Бу	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/26/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/26/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/26/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/26/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/26/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/26/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/26/15	KCA	TO15
1,2,4-Trimethylbenzene	1.47	0.500	7.22	2.46	03/26/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/26/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/26/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/26/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/26/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/26/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/26/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/26/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/26/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	0.656	0.500	2.69	2.05	03/26/15	KCA	TO15
Acetone	99.1	3.00	235	7.12	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/26/15	KCA	TO15
Benzene	0.501	0.500	1.60	1.60	03/26/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/26/15	KCA	TO15

Page 7 of 39 Ver 1

Project ID: AMERBELLE Phoenix I.D.: BH88567

Client ID: SV-6

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/26/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/26/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/26/15	KCA	TO15
Carbon Disulfide	0.608	0.500	1.89	1.56	03/26/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/26/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/26/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/26/15	KCA	TO15
Chloroform	ND	0.500	ND	2.44	03/26/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/26/15	KCA	TO15
Cis-1,2-Dichloroethene	3.06	0.500	12.1	1.98	03/26/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/26/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/26/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/26/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/26/15	KCA	TO15
Ethanol	150	E 0.500	282	0.94	03/26/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/26/15	KCA	TO15
Ethylbenzene	1.86	0.500	8.07	2.17	03/26/15	KCA	TO15
Heptane	NĎ	0.500	ND	2.05	03/26/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/26/15	KCA	TO15
Hexane	ND	0.500	ND	1.76	03/26/15	KCA	TO15
Isopropylalcohol	31.8	0.500	78.1	1.23	03/26/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
m,p-Xylene	6.28	1.00	27.3	4.34	03/26/15	KCA	TO15
Methyl Ethyl Ketone	77.7	3.00	229	8.84	03/27/15		TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/26/15		TO15
Methylene Chloride	ND	0.500	ND	1.74	03/26/15		TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/26/15	KCA	TO15
o-Xylene	2.32	0.500	10.1	2.17	03/26/15		TO15
Propylene	1.66	0.500	2.86	0.86	03/26/15	KCA	
sec-Butylbenzene	ND	0.500	ND	2.74	03/26/15		TO15
Styrene	ND	0.500	ND	2.13	03/26/15		TO15
Tetrachloroethene	135	3.00	915	20.3	03/27/15		TO15
Tetrahydrofuran	18.0	0.500	53.1	1.47	03/26/15		TO15
Toluene	5.58	0.500	21.0	1.88	03/26/15		TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/26/15		TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/26/15		TO15
Trichloroethene	12.9	0.500	69.3	2.69	03/26/15		TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/26/15		TO15
	ND	0.500	ND	3.83	03/26/15		TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.63 1.28	03/26/15		TO15
Vinyl Chloride	NU	0.500	ND	1.20	03/20/13	NOA	1010
QA/QC Surrogates % Bromofluorobenzene	109	%	109	%	03/26/15	KCA	70 - 130 %

Page 8 of 39 Ver 1

Project ID: AMERBELLE

Client ID: SV-6

Phoenix I.D.: BH88567

ug/m3 ug/m3 ppbv ppbv

Parameter Result ŔL Result RL Date/Time Reference By

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

Comments:

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 1 Page 9 of 39



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

Analysis Report

April 01, 2015

FOR:

Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

BR

LB

Glastonbury, CT 06033

see "By" below

Sample Information

AIR

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#: Canister Id:

Matrix:

45441

220

AMERBELLE

Project ID:

Acetone

Benzene

Acrylonitrile

Benzyl chloride

	•	-	
Lab	ora	tory	Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBH88565

Time

11:15

15:36

Phoenix ID: BH88568

KCA TO15

KCA TO15

KCA TO15

KCA TO15

03/27/15

03/26/15

03/26/15

03/26/15

Date 03/26/15

03/26/15

Client ID: SV-4							
Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/26/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/26/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/26/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/26/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/26/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/26/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/26/15	KCA	TO15
1,2,4-Trimethylbenzene	0.841	0.500	4.13	2.46	03/26/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/26/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/26/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/26/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/26/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/26/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/26/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/26/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/26/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/26/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/26/15	KCA	TO15

111

ND

ND

ND

46.9

ND

ND

ND

2.50

0.500

0.500

0.500

5.93

1.08

1.60

2.59

Phoenix I.D.: BH88568

Project ID: AMERBELLE

Client ID: SV-4

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/26/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/26/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/26/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/26/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/26/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/26/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/26/15	KCA	TO15
Chloroform	0.785	0.500	3.83	2.44	03/26/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/26/15	KCA	TO15
Cis-1,2-Dichloroethene	0.912	0.500	3.61	1.98	03/26/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/26/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/26/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/26/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/26/15	KCA	TO15
Ethanol	150	2.50	282	4.71	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/26/15	KCA	TO15
Ethylbenzene	0.512	0.500	2.22	2.17	03/26/15	KCA	TO15
Heptane	ND	0.500	ND	2.05	03/26/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/26/15	KCA	TO15
Hexane	ND	0.500	ND	1.76	03/26/15	KCA	TO15
Isopropylalcohol	16.7	0.500	41.0	1.23	03/26/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/26/15	KCA	TO15
m,p-Xylene	2.06	1.00	8.94	4.34	03/26/15	KCA	TO15
Methyl Ethyl Ketone	43.4	2.50	128	7.37	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/26/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/26/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/26/15	KCA	TO15
o-Xylene	0.909	0.500	3.94	2.17	03/26/15	KCA	TO15
Propylene	5.61	0.500	9.6	0.86	03/26/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/26/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/26/15	KCA	TO15
Tetrachloroethene	75.5	2.50	512	16.9	03/27/15	KCA	TO15
Tetrahydrofuran	10.4	0.500	30.7	1.47	03/26/15	KCA	TO15
Toluene	1.43	0.500	5.39	1.88	03/26/15	KCA	TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/26/15	KCA	TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/26/15	KCA	TO15
Trichloroethene	2.52	0.500	13.5	2.69	03/26/15	KCA	TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/26/15	KCA	TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/26/15	KCA	TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/26/15	KCA	TO15
QA/QC Surrogates							
% Bromofluorobenzene	110	%	110	%	03/26/15	KCA	70 - 130 %

Project ID: AMERBELLE

Client ID: SV-4

Phoenix I.D.: BH88568

ppbv Result ppbv ŔL

ug/m3 ug/m3 Result

RL

Date/Time Ву

Reference

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

Comments:

Parameter

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Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

BR

Glastonbury, CT 06033

Sample Information

Matrix:

Location Code: GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Canister Id:

496

AIR

.00

Project ID:

AMERBELLE

Client ID: SV-5

Received by: LB

Analyzed by: see "By" below

Custody Information

Collected by:

Laboratory Data

SDG ID: GBH88565

Time

11:54

15:36

Phoenix ID: BH88569

<u>Date</u>

03/26/15

03/26/15

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	1.45	0.500	7.12	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	0.510	0.500	2.51	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Acetone	113	2.50	268	5.93	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	ND	0.500	ND	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Client ID: SV-5							
5	ppbv	ppbv	ug/m3	ug/m3	Data Fire a	D	Deference
Parameter	Result	RL	Result	RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15		TO15
Bromoform	ND	0.500	ND	5.17	03/27/15		TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	ND	0.500	ND	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	3.53	0.500	14.0	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	0.546	0.500	2.70	2.47	03/27/15	KCA	TO15
Ethanol	234	E 2.50	441	4.71	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	1.84	0.500	7.98	2.17	03/27/15	KÇA	TO15
Heptane	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	ND	0.500	ND	1.76	03/27/15	KCA	TO15
Isopropylalcohol	147	2.50	361	6.14	03/27/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	6.56	1.00	28.5	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	118	2.50	348	7.37	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	2.35	0.500	10.2	2.17	03/27/15	KCA	TO15
Propylene	0.533	0.500	0.92	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	14.1	0.500	95.6	3.39	03/27/15	KCA	TO15
Tetrahydrofuran	33.8	0.500	100	1.47	03/27/15	KCA	TO15
Toluene	5.07	0.500	19.1	1.88	03/27/15	KCA	TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Trichloroethene	1.65	0.500	8.86	2.69	03/27/15	KCA	TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15	KCA	TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15	KCA	TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15	KCA	TO15
QA/QC Surrogates							
% Bromofluorobenzene	108	%	108	%	03/27/15	KCA	70 - 130 %

Ver 1

Phoenix I.D.: BH88569

Project ID: AMERBELLE

Client ID: SV-5

Phoenix I.D.: BH88569

Short ID. OV C

ppbv Result ppbv RL ug/m3 ug/m3 Result RL

Date/Time

By Reference

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

Comments:

Parameter

The canister was received under no vacuum.

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Informa	ation .	Custody Inforn	<u>nation</u>	<u>Date</u>	<u>Time</u>
Matrix:	AIR	Collected by:	BR	03/26/15	12:56
Location Code:	GZA-AMER	Received by:	LB	03/26/15	15:36
Rush Request:	Standard	Analyzed by:	see "Rv" helow		

45441 aboratory Data

SDG ID: GBH88565 Phoenix ID: BH88570

AMERBELLE Project ID:

11285

Client ID: SV-9

P.O.#:

Canister Id:

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	0.732	0.500	3.60	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Acetone	50.8	3.00	121	7.12	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	ND	0.500	ND	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Ver 1 Page 16 of 39

Client ID: SV-9

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	0.789	0.500	3.85	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	10.3	0.500	40.8	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	0.532	0.500	2.63	2.47	03/27/15	KCA	TO15
Ethanol	105	7.50	198	14.1	03/30/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	ND	0.500	ND	2.17	03/27/15	KCA	TO15
Heptane	ND	0.500	ND	2.05	03/27/15	KCA	TO15
- Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	ND	0.500	ND	1.76	03/27/15	KCA	TO15
Isopropylalcohol	406	7.50	997	18.4	03/30/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	1.62	1.00	7.03	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	29.5	0.500	86.9	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15		TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	0.761	0.500	3.30	2.17	03/27/15	KCA	TO15
Propylene	1.45	0.500	2.49	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	343	7.50	2320	50.8	03/30/15	KCA	TO15
Tetrahydrofuran	7.09	0.500	20.9	1.47	03/27/15		TO15
Toluene	1.40	0.500	5.27	1.88	03/27/15		TO15
Trans-1,2-Dichloroethene	1.06	0.500	4.20	1.98	03/27/15		TO15
rans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15		TO15
Trichloroethene	54.9	3.00	295	16.1	03/27/15		TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15		TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15		TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15		TO15
QA/QC Surrogates							
% Bromofluorobenzene	111	%	111	%	03/27/15	KCA	70 - 130 %

Phoenix I.D.: BH88570

Project ID: AMERBELLE Phoenix I.D.: BH88570

Client ID: SV-9

ppbv ppbv ug/m3 ug/m3
Parameter Result RL Result RL Date/Time By Reference

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

Comments:

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Time Sample Information **Custody Information** <u>Date</u> 03/26/15 10:51 Matrix: AIR Collected by: BR Received by: 15:36 **Location Code: GZA-AMER** LB 03/26/15

Rush Request: Standard Analyzed by: see "By" below

Laboratory Data SDG ID: GBH88565

Phoenix ID: BH88571

Project ID: AMERBELLE

45441

368

Client ID: SV-2

P.O.#:

Canister Id:

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
	Nosuit	111	Rosun		Date/Time		110.010100
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	2.90	0.500	14.2	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	0.782	0.500	3.84	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND =	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	0.866	0.500	4.25	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Acetone	31.5	0.500	74.8	1.19	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	ND	0.500	ND	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Page 19 of 39 Ver 1

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	0.758	0.500	3.70	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	1.96	0.500	7.77	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	0.514	0.500	2.54	2.47	03/27/15	KCA	TO15
Ethanol	42.8	E 0.500	80.6	0.94	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	2.04	0.500	8.85	2.17	03/27/15	KCA	TO15
Heptane	0.680	0.500	2.79	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	0.598	0.500	2.11	1.76	03/27/15	KCA	TO15
Isopropylalcohol	4.54	0.500	11.2	1.23	03/27/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	7.40	1.00	32.1	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	32.5	0.500	95.8	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	3.08	0.500	13.4	2.17	03/27/15	KCA	TO15
Propylene	ND	0.500	ND	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	7.50	0.500	50.8	3.39	03/27/15	KCA	TO15
Tetrahydrofuran	9.30	0.500	27.4	1.47	03/27/15	KCA	TO15
Toluene	6.29	0.500	23.7	1.88	03/27/15	KCA	TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Trichloroethene	0.742	0.500	3.98	2.69	03/27/15	KCA	TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15	KCA	TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15	KCA	TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15	KCA	TO15
QA/QC Surrogates % Bromofluorobenzene	106	%	106	%	03/27/15	KCA	70 - 130 %
	100	,,,	100	,,	55,21110		

Page 20 of 39 Ver 1

Phoenix I.D.: BH88571

Project ID: AMERBELLE

Client ID: SV-2

Phoenix I.D.: BH88571

ppbv ppbv

ug/m3 ug/m3

Parameter Result RL Result RL Date/Time Ву Reference

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

Comments:

E = Estimated value quantitated above calibration range for this compound.

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information		Custody Inform	<u>nation</u>	<u>Date</u>	<u>Time</u>
Matrix:	AIR	Collected by:	BR	03/26/15	12:15
Location Code:	GZA-AMER	Received by:	LB	03/26/15	15:36
Rush Request:	Standard	Analyzed by:	see "Bv" below		

P.O.#: 45441 Canister Id: 484 Laboratory Data

SDG ID: GBH88565

Phoenix ID: BH88572

Project ID: AMERBELLE

Client ID: SV-7

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	0.702	0.500	3.45	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Acetone	25.8	0.500	61.2	1.19	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	ND	0.500	ND	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Page 22 of 39 Ver 1

Client ID: SV-7

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	4.31	0.500	21.0	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	5.57	0.500	22.1	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/27/15	KCA	TO15
Ethanol	75.7	E 0.500	143	0.94	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	ND	0.500	ND	2.17	03/27/15	KCA	TO15
Heptane	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	ND	0.500	ND	1.76	03/27/15	KCA	TO15
Isopropylalcohol	46.4	E 0.500	114	1.23	03/27/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	1.44	1.00	6.25	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	14.9	0.500	43.9	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	0.669	0.500	2.90	2.17	03/27/15	KCA	TO15
Propylene	4.22	0.500	7.26	0.86	03/27/15		TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15		TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	711	15.0	4820	102	03/27/15		TO15
Tetrahydrofuran	3.05	0.500	8.99	1.47	03/27/15		TO15
Toluene	0.873	0.500	3.29	1.88	03/27/15		TO15
Trans-1,2-Dichloroethene	0.739	0.500	2.93	1.98	03/27/15		TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15		TO15
Trichloroethene	32.2	0.500	173	2.69	03/27/15		TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15		TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15		TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15		TO15
QA/QC Surrogates		0.000	110		00/21/10	NOA	.5.0
% Bromofluorobenzene	113	%	113	%	03/27/15	KCA	70 - 130 %

Phoenix I.D.: BH88572

Client ID: SV-7

Phoenix I.D.: BH88572

ug/m3 ug/m3 ppbv ppbv ŔL ŘL Date/Time Reference Result Result Ву **Parameter**

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

Comments:

E = Estimated value quantitated above calibration range for this compound.

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

Phyllis Shiller, Laboratory Director

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 1 Page 24 of 39



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

Custody Information

Collected by:

Received by:

Analyzed by:

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

AIR

Location Code:

GZA-AMER

Rush Request:

Standard

Canister Id:

P.O.#:

45441

218

Laboratory Data

Date

<u>Time</u>

see "By" below

BR LB

03/26/15

14:56

03/26/15

15:36

SDG ID: GBH88565

Phoenix ID: BH88573

Project ID:

AMERBELLE

Client ID:

SV-11

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	1.07	0.500	5.83	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	0.618	0.500	3.04	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	
4-Methyl-2-pentanone(MIBK)	0.531	0.500	2.17	2.05	03/27/15	KCA	
Acetone	36.1	0.500	85.7	1.19	03/27/15	KCA	
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	
Benzene	0.902	0.500	2.88	1.60	03/27/15	KCA	
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Client ID: SV-11

Parameter Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	0.869	0.500	2.70	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	0.572	0.500	2.79	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	ND	0.500	ND	2.47	03/27/15	KCA	TO15
Ethanol	53.5	E 0.500	101	0.94	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	ND	0.500	ND	2.17	03/27/15	KCA	TO15
Heptane	1.03	0.500	4.22	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	2.01	0.500	7.08	1.76	03/27/15	KCA	TO15
Isopropylalcohol	146	E 0.500	359	1.23	03/27/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	1.99	1.00	8.64	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	2.66	0.500	7.84	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	0.994	0.500	4.31	2.17	03/27/15	KCA	TO15
Propylene	7.48	0.500	12.9	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	1.77	0.500	12.0	3.39	03/27/15	KCA	TO15
Tetrahydrofuran	ND	0.500	ND	1.47	03/27/15	KCA	TO15
Toluene	1.96	0.500	7.38	1.88	03/27/15	KCA	TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Trichloroethene	ND	0.500	ND	2.69	03/27/15	KCA	TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15	KCA	TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15		TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15		TO15
QA/QC Surrogates							
% Bromofluorobenzene	105	%	105	%	03/27/15	KCA	70 - 130 %

Page 26 of 39 Ver 1

Phoenix I.D.: BH88573

Project ID: AMERBELLE Phoenix I.D.: BH88573

Client ID: SV-11

ppbv ppbv ug/m3 ug/m3
Parameter Result RL Result RL Date/Time By Reference

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

Comments:

E = Estimated value quantitated above calibration range for this compound.

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Page 27 of 39 Ver 1



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

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Time Sample Information **Custody Information** Date Collected by: BR 03/26/15 13:03 **AIR** Matrix: Received by: LB 03/26/15 15:36 **Location Code: GZA-AMER**

Rush Request: Standard Analyzed by: see "By" below

P.O.#: 45441
Canister Id: 458

Laboratory Data
SDG ID: GBH88565
Phoenix ID: BH88574

Project ID: AMERBELLE

Client ID: SV-9

Parameter	ppbv Result			ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	0.712	0.500	3.50	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Acetone	38.1	0.500	90.4	1.19	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	ND	0.500	ND	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Page 28 of 39 Ver 1

Client ID: SV-9

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	0.691	0.500	3.37	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	8.94	0.500	35.4	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	0.500	0.500	2.47	2.47	03/27/15	KCA	TO15
Ethanol	127	7.50	239	14.1	03/27/15		TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	
Ethylbenzene	ND	0.500	ND	2.17	03/27/15		TO15
Heptane	ND	0.500	ND	2.05	03/27/15		TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	0.635	0.500	2.24	1.76	03/27/15	KCA	TO15
Isopropylalcohol	385	7.50	946	18.4	03/27/15	KCA	TO15
Isopropylbenzene	ND	0.500	- ND	2.46	03/27/15		TO15
m,p-Xylene	1.55	1.00	6.73	4.34	03/27/15	KCA	
Methyl Ethyl Ketone	24.5	0.500	72.2	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	1.00	ND	3.47	03/27/15		TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	
o-Xylene	0.767	0.500	3.33	2.17	03/27/15	KCA	TO15
Propylene	1.29	0.500	2.22	0.86	03/27/15	KCA	
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15		TO15
Styrene	ND	0.500	ND	2.13	03/27/15		TO15
Tetrachloroethene	205	7.50	1390	50.8	03/27/15		TO15
Tetrahydrofuran	5.30	0.500	15.6	1.47	03/27/15		TO15
Toluene	1.26	0.500	4.75	1.88	03/27/15		TO15
Trans-1,2-Dichloroethene	0.927	0.500	3.67	1.98	03/27/15		TO15
	0. 92 7 ND		ND	2.27	03/27/15		TO15
trans-1,3-Dichloropropene	42.5	0.500 7.50	228	40.3	03/27/15		TO15
Trichloroethene							TO15
Trichlorofluoromethane	ND	0.500	ND ND	2.81	03/27/15		TO15
Trichlorotrifluoroethane	ND	0.500	ND ND	3.83	03/27/15		
Vinyl Chloride QA/QC Surrogates	ND	0.500	ND	1.28	03/27/15	NUA	TO15
% Bromofluorobenzene	109	%	109	%	03/27/15	KCA	70 - 130 %

Page 29 of 39 Ver 1

Phoenix I.D.: BH88574

Client ID: SV-9

Phoenix I.D.: BH88574

ug/m3 ppbv ppbv ug/m3

Date/Time RL Ву Reference Result **RL** Result Parameter

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

Comments:

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

April 01, 2015

FOR: Attn: Mr. Benjamin Rach

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information** <u>Date</u> **Time** Matrix: Collected by: BR 03/26/15 12:39 Received by: **Location Code: GZA-AMER** LB 03/26/15 15:36 Rush Request:

Standard Analyzed by: see "By" below

> **Laboratory Data** SDG ID: GBH88565 Phoenix ID: BH88575

Project ID: **AMERBELLE**

45441

369

Client ID: SV-8

P.O.#:

Canister Id:

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	1.15	0.500	5.65	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	0.712	0.500	2.91	2.05	03/27/15	KCA	TO15
Acetone	67.6	30.0	160	71.2	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	ND	0.500	ND	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Ver 1 Page 31 of 39

Client ID: SV-8

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	0.622	0.500	4.17	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	0.756	0.500	3.69	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	15.8	0.500	62.6	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	0.555	0.500	2.74	2.47	03/27/15	KCA	TO15
Ethanol	96.3	30.0	181	56.5	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	1.11	0.500	4.82	2.17	03/27/15	KCA	TO15
Heptane	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	0.580	0.500	2.04	1.76	03/27/15	KCA	TO15
Isopropylalcohol	243	30.0	597	73.7	03/27/15		TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15		TO15
m,p-Xylene	4.05	1.00	17.6	4.34	03/27/15		TO15
Methyl Ethyl Ketone	61.3	30.0	181	88.4	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	
Methylene Chloride	ND	0.500	ND	1.74	03/27/15		TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15		TO15
o-Xylene	1.56	0.500	6.77	2.17	03/27/15	KCA	
Propylene	1.25	0.500	2.15	0.86	03/27/15	KCA	
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	
Tetrachloroethene	469	30.0	3180	203	03/27/15		TO15
Tetrahydrofuran	19.7	0.500	58.1	1.47	03/27/15		TO15
Toluene	2.83	0.500	10.7	1.88	03/27/15		TO15
Trans-1,2-Dichloroethene	1.28	0.500	5.07	1.98	03/27/15		TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15		TO15
	79.7	30.0	428	161	03/27/15		TO15
Trichloroethene Trichloroethene	ND	0.500	ND	2.81	03/27/15		TO15
Trichlorofluoromethane	ND	0.500	ND	3.83	03/27/15		TO15
Trichlorotrifluoroethane			ND ND	3.83 1.28	03/27/15		TO15
Vinyl Chloride	ND	0.500	MD	1.20	USIZITIO	NOA	1010
% Bromofluorobenzene	111	%	111	%	03/27/15	KCA	70 - 130 %

Page 32 of 39 Ver 1

Phoenix I.D.: BH88575

Client ID: SV-8

Phoenix I.D.: BH88575

Olichi ID. GV-0

ppbv Result ppbv RL ug/m3 uç Result

ug/m3 RL

Date/Time

By Reference

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

Comments:

Parameter

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

Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

April 01, 2015

FOR: Attn: Mr.

Attn: Mr. Benjamin Rach GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

BR

LB

Glastonbury, CT 06033

see "By" below

Sample Information

Alf

AIR

Location Code:

Matrix:

P.O.#:

GZA-AMER

Rush Request:

Standard

Canister Id:

45441

Laboratory

<u>Date</u>

<u>Time</u>

03/26/15

13:06

03/26/15

15:36

461

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBH88565

Phoenix ID: BH88576

Project ID:

AMERBELLE

Client ID:

SV-9

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
	TOSUIT		rtoodit	1112	Batorrino		7.070.0100
Volatiles (TO15)							
1,1,1,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,2-Trichloroethane	ND	0.500	ND	2.73	03/27/15	KCA	TO15
1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,1-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15	KCA	TO15
1,2,4-Trimethylbenzene	0.675	0.500	3.32	2.46	03/27/15	KCA	TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	TO15
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	TO15
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1,3,5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Acetone	38.2	0.500	90.7	1.19	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	ND	0.500	ND	1.60	03/27/15	KCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Phoenix I.D.: BH88576

Project ID: AMERBELLE

Client ID: SV-9

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KCA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	0.651	0.500	3.18	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	8.84	0.500	35.0	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	0.510	0.500	2.52	2.47	03/27/15	KCA	TO15
Ethanol	147	7.50	277	14.1	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	ND	0.500	ND	2.17	03/27/15	KCA	TO15
Heptane	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	ND	0.500	ND	1.76	03/27/15	KCA	TO15
Isopropylalcohol	350	7.50	860	18.4	03/27/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	1.53	1.00	6.64	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	23.1	0.500	68.1	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	ND	0.500	ND	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	0.726	0.500	3.15	2.17	03/27/15	KCA	TO15
Propylene	1.34	0.500	2.30	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	161	7.50	1090	50.8	03/27/15	KCA	TO15
Tetrahydrofuran	4.72	0.500	13.9	1.47	03/27/15	KCA	TO15
Toluene	1.33	0.500	5.01	1.88	03/27/15	KCA	TO15
Trans-1,2-Dichloroethene	0.942	0.500	3.73	1.98	03/27/15	KCA	TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Trichloroethene	41.3	7.50	222	40.3	03/27/15	KCA	TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15	KCA	TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15	KCA	TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15	KCA	TO15
QA/QC Surrogates							
% Bromofluorobenzene	111	%	111	%	03/27/15	KCA	70 - 130 %

Client ID: SV-9

Phoenix I.D.: BH88576

ppbv Result ppbv RL

ug/m3 ug/m3 Result

RL

Date/Time

Ву Reference

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

Comments:

Parameter

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Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



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

Analysis Report

April 01, 2015

Attn: Mr. Benjamin Rach FOR:

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Time <u>Date</u> **Custody Information** Sample Information 03/26/15 11:02 BR Collected by: **AIR** Matrix: 15:36 Received by: LB 03/26/15 **Location Code: GZA-AMER** see "By" below

Analyzed by: Rush Request: Standard

45441

SDG ID: GBH88565 **Laboratory Data**

Phoenix ID: BH88577

AMERBELLE Project ID:

471

SV-3 Client ID:

P.O.#:

Canister Id:

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Volatiles (TO15)							
	ND	0.500	ND	3.43	03/27/15	KCA	TO15
1,1,1,2-Tetrachloroethane	ND	0.500	ND	2.73	03/27/15	KCA	
1,1,1-Trichloroethane	ND	0.500	ND	3.43	03/27/15		TO15
1,1,2,2-Tetrachloroethane	ND	0.500	ND	2.73	03/27/15	KCA	
1,1,2-Trichloroethane 1,1-Dichloroethane	ND	0.500	ND	2.02	03/27/15	KCA	
•	ND	0.500	ND	1.98	03/27/15		TO15
1,1-Dichloroethene 1,2,4-Trichlorobenzene	ND	0.500	ND	3.71	03/27/15		TO15
1,2,4-Trimethylbenzene	0.858	0.500	4,22	2.46	03/27/15		TO15
1,2-Dibromoethane(EDB)	ND	0.500	ND	3.84	03/27/15	KCA	
1,2-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,2-Dichloroethane	ND	0.500	ND	2.02	03/27/15		TO15
1,2-dichloropropane	ND	0.500	ND	2.31	03/27/15	KCA	
1,2-Dichlorotetrafluoroethane	ND	0.500	ND	3.49	03/27/15	KCA	TO15
1.3.5-Trimethylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
1,3-Butadiene	ND	0.500	ND	1.11	03/27/15	KCA	TO15
1,3-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dichlorobenzene	ND	0.500	ND	3.00	03/27/15	KCA	TO15
1,4-Dioxane	ND	0.500	ND	1.80	03/27/15	KCA	TO15
2-Hexanone(MBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
4-Ethyltoluene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
4-Isopropyltoluene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
4-Methyl-2-pentanone(MIBK)	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Acetone	36.9	1.00	87.6	2.37	03/27/15	KCA	TO15
Acrylonitrile	ND	0.500	ND	1.08	03/27/15	KCA	TO15
Benzene	ND	0.500	ND	1.60	03/27/15	ĶCA	TO15
Benzyl chloride	ND	0.500	ND	2.59	03/27/15	KCA	TO15

Client ID: SV-3

Client ID: 5V-3							
Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	Ву	Reference
Bromodichloromethane	ND	0.500	ND	3.35	03/27/15	KCA	TO15
Bromoform	ND	0.500	ND	5.17	03/27/15	KCA	TO15
Bromomethane	ND	0.500	ND	1.94	03/27/15	KCA	TO15
Carbon Disulfide	ND	0.500	ND	1.56	03/27/15	KCA	TO15
Carbon Tetrachloride	ND	0.500	ND	3.14	03/27/15	KCA	TO15
Chlorobenzene	ND	0.500	ND	2.30	03/27/15	KÇA	TO15
Chloroethane	ND	0.500	ND	1.32	03/27/15	KCA	TO15
Chloroform	ND	0.500	ND	2.44	03/27/15	KCA	TO15
Chloromethane	ND	0.500	ND	1.03	03/27/15	KCA	TO15
Cis-1,2-Dichloroethene	2.49	0.500	9.9	1.98	03/27/15	KCA	TO15
cis-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Cyclohexane	ND	0.500	ND	1.72	03/27/15	KCA	TO15
Dibromochloromethane	ND	0.500	ND	4.26	03/27/15	KCA	TO15
Dichlorodifluoromethane	0.530	0.500	2.62	2.47	03/27/15	KCA	TO15
Ethanol	71.3	1.00	134	1.88	03/27/15	KCA	TO15
Ethyl acetate	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Ethylbenzene	7.81	0.500	33.9	2.17	03/27/15	KCA	TO15
Heptane	ND	0.500	ND	2.05	03/27/15	KCA	TO15
Hexachlorobutadiene	ND	0.500	ND	5.33	03/27/15	KCA	TO15
Hexane	0.725	0.500	2.55	1.76	03/27/15	KCA	TO15
Isopropylalcohol	15.8	0.500	38.8	1.23	03/27/15	KCA	TO15
Isopropylbenzene	ND	0.500	ND	2.46	03/27/15	KCA	TO15
m,p-Xylene	28.8	1.00	125	4.34	03/27/15	KCA	TO15
Methyl Ethyl Ketone	38.2	0.500	113	1.47	03/27/15	KCA	TO15
Methyl tert-butyl ether(MTBE)	ND	0.500	ND	1.80	03/27/15	KCA	TO15
Methylene Chloride	0.549	0.500	1.91	1.74	03/27/15	KCA	TO15
n-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
o-Xylene	13.9	0.500	60.3	2.17	03/27/15	KCA	TO15
Propylene	1.35	0.500	2.32	0.86	03/27/15	KCA	TO15
sec-Butylbenzene	ND	0.500	ND	2.74	03/27/15	KCA	TO15
Styrene	ND	0.500	ND	2.13	03/27/15	KCA	TO15
Tetrachloroethene	11.7	0.500	79.3	3.39	03/27/15	KCA	TO15
Tetrahydrofuran	6.70	0.500	19.7	1.47	03/27/15	KCA	TO15
Toluene	6.90	0.500	26.0	1.88	03/27/15	KCA	TO15
Trans-1,2-Dichloroethene	ND	0.500	ND	1.98	03/27/15	KCA	TO15
trans-1,3-Dichloropropene	ND	0.500	ND	2.27	03/27/15	KCA	TO15
Trichloroethene	0.782	0.500	4.20	2.69	03/27/15	KCA	TO15
Trichlorofluoromethane	ND	0.500	ND	2.81	03/27/15	KCA	TO15
Trichlorotrifluoroethane	ND	0.500	ND	3.83	03/27/15	KCA	TO15
Vinyl Chloride	ND	0.500	ND	1.28	03/27/15	KCA	TO15
QA/QC Surrogates							
% Bromofluorobenzene	108	%	108	%	03/27/15	KCA	70 - 130 %

Phoenix I.D.: BH88577

Client ID: SV-3

Phoenix I.D.: BH88577

ppbv ppbv ug/m3 ug/m3 Result RL **Parameter** Result RL Date/Time Ву Reference

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

Comments:

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Phyllis Shiller, Laboratory Director

April 01, 2015

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 1



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

QA/QC Report

QA/QC Data

April 01, 2015		QA/QC Data					SDG I.D.: GBH88565					
Parameter	Blank ppbv	Blank ug/m3		LCS %	Sample Result ug/m3	Sample Dup ug/m3	Sample Result ppbv	Sample Dup ppbv	DUP RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 302728, QC San	nple No: BH8	8565 (BH	8565, BH88566	6, BH8	88567, E	3H8856	8, BH8	3569, BI	H88570), BH8857	71,	
BH88572, BH88573)												
<u>Volatiles</u>												
1,1,1,2-Tetrachloroethane	ND	ND		121	ND	ND	ND	ND	NC	70 - 130	20	
1,1,1-Trichloroethane	ND	ND		112	3.56	3.52	0.652	0.646	0.9	70 - 130	20	
1,1,2,2-Tetrachloroethane	ND	ND		113	ND	ND	ND	ND	NC	70 - 130	20	
1,1,2-Trichloroethane	ND	ND		109	ND	ND	ND	ND	NC	70 - 130	20	
1,1-Dichloroethane	ND	ND		102	ND	ND	ND	ND	NC	70 - 130	20	
1,1-Dichloroethene	ND	ND		99	ND	ND	ND	ND	NC	70 - 130	20	
1,2,4-Trichlorobenzene	ND	ND		101	ND	ND	ND	ND	NC	70 - 130	20	
1,2,4-Trimethylbenzene	ND	ND		114	2.82	2.80	0.574	0.570	0.7	70 - 130	20	
1,2-Dibromoethane(EDB)	ND	ND		108	ND	ND	ND	ND	NC	70 - 130	20	
1,2-Dichlorobenzene	ND	ND		102	ND	ND	ND	ND	NC	70 - 130	20	
1,2-Dichloroethane	ND	ND		108	ND	ND	ND	ND	NC	70 - 130	20	
1,2-dichloropropane	ND	ND		99	ND	ND	ND	ND	NC	70 - 130	20	
1,2-Dichlorotetrafluoroethane	ND	ND		110	ND	ND	ND	ND	NC	70 - 130	20	
1,3,5-Trimethylbenzene	ND	ND		114	ND	ND	ND	ND	NC	70 - 130	20	
1,3-Butadiene	ND	ND		98	ND	ND	ND	ND	NC	70 - 130	20	
1,3-Dichlorobenzene	ND	ND		108	ND	ND	ND	ND	NC	70 - 130	20	
1,4-Dichlorobenzene	ND	ND		109	ND	ND	ND	ND	NC	70 - 130	20	
1,4-Dioxane	ND	ND		85	ND	ND	ND	ND	NC	70 - 130	20	
2-Hexanone(MBK)	ND	ND		114	ND	ND	ND	ND	NC	70 - 130	20	
4-Ethyltoluene	ND	ND		118	ND	ND	ND	ND	NC	70 - 130	20	
4-Isopropyltoluene	ND	ND		91	ND	ND	ND	ND	NC	70 - 130	20	
4-Methyl-2-pentanone(MIBK)	ND	ND		113	ND	ND	ND	ND	NC	70 - 130	20	
Acetone	ND	ND		104	46.3	46.1	19.5	19.4	0.5	70 - 130	20	
Acrylonitrile	ND	ND		88	ND	ND	ND	ND	NC	70 - 130	20	
Benzene	ND	ND		102	ND	ND	ND	ND	NC	70 - 130	20	
Benzyl chloride	ND	ND		135	ND	ND	ND	ND	NC	70 - 130	20	ı
Bromodichloromethane	ND	ND		116	ND	ND	ND	ND	NC	70 - 130	20	
Bromoform	ND	ND		132	ND	ND	ND	ND	NC	70 - 130	20	1
Bromomethane	ND	ND		98	ND	ND	ND	ND	NC	70 - 130	20	
Carbon Disulfide	ND	ND		98	5.23	5.35	1.68	1.72	2.4	70 - 130	20	
Carbon Tetrachloride	ND	ND		118	ND	ND	ND	ND	NC	70 - 130	20	
Chlorobenzene	ND	ND		112	ND	ND	ND	ND	NC	70 - 130	20	
Chloroethane	ND	ND		102	ND	ND	ND	ND	NC	70 - 130	20	
Chloroform	ND	ND		103	6.20	6.15	1.27	1.26	8.0	70 - 130	20	
Chloromethane	ND	ND		115	ND	ND	ND	ND	NC	70 - 130	20	
Cis-1,2-Dichloroethene	ND	ND		105	2.22	2.28	0.560	0.576	2.8	70 - 130	20	
cis-1,3-Dichloropropene	ND	ND		112	ND	ND	ND	ND	NC	70 - 130	20	
Cyclohexane	ND	ND		99	ND	ND	ND	ND	NC	70 - 130	20	
Dibromochloromethane	ND	ND		116	ND	ND	ND	ND	NC	70 - 130	20	
Dichlorodifluoromethane	ND	ND		107	ND	ND	ND	ND	NC	70 - 130	20	

			QA/QC	Dat	a			SDG	i I.D.:	GBH885	565
Parameter	Blank ppbv	Blank ug/m3		LCS %	Sample Result ug/m3	Sample Dup ug/m3	Sample Result ppbv	Sample Dup ppbv	DUP RPD	% Rec Limits	% RPD Limits
Ethanol	ND	ND		106	74.0	75.5	39.3	40.1	2.0	70 - 130	20
Ethyl acetate	ND	ND		106	ND	ND	ND	ND	NC	70 - 130	20
Ethylbenzene	ND	ND		121	ND	ND	ND	ND	NC	70 - 130	20
Heptane	ND	ND		105	ND	ND	ND	ND	NC	70 - 130	20
Hexachlorobutadiene	ND	ND		91	ND	ND	ND	ND	NC	70 - 130	20
Hexane	ND	ND		105	ND	ND	ND	ND	NC	70 - 130	20
sopropylalcohol	ND	ND		100	440	447	179	182	1.7	70 - 130	20
sopropylbenzene	ND	ND		113	ND	ND	ND	ND	NC	70 - 130	20
m,p-Xylene	ND	ND		122	7.29	7.16	1.68	1.65	1.8	70 - 130	20
Methyl Ethyl Ketone	ND	ND		109	2.37	2.35	0.803	0.798	0.6	70 - 130	20
Methyl tert-butyl ether(MTBE)	ND	ND		110	ND	ND	ND	ND	NC	70 - 130	20
Methylene Chloride	ND	ND		96	ND	ND	ND	ND	NC	70 - 130	20
n-Butylbenzene	ND	ND		82	ND	ND	ND	ND	NC	70 - 130	20
o-Xylene	ND	ND		120	3.49	3.51	0.804	0.809	0.6	70 - 130	20
Propylene	ND	ND		119	13.2	13.2	7.65	7.66	0.1	70 - 130	20
sec-Butylbenzene	ND	ND		92	ND	ND	ND	ND	NC	70 - 130	20
Styrene	ND	ND		120	ND	ND	ND	ND	NC	70 - 130	20
Tetrachloroethene	ND	ND		104	25.3	24.5	3.73	3.62	3.0	70 - 130	20
Tetrahydrofuran	ND	ND		107	ND	ND	ND	ND	NC	70 - 130	20
Toluene	ND	ND		109	4.41	4.37	1.17	1.16	0.9	70 - 130	20
Trans-1,2-Dichloroethene	ND	ND		104	ND	ND	ND	ND	NC	70 - 130	20
trans-1,3-Dichloropropene	ND	ND		120	ND	ND	ND	ND	NC	70 - 130	20
Trichloroethene	ND	ND		104	ND	ND	ND	ND	NC	70 - 130	20
Trichlorofluoromethane	ND	ND		107	ND	ND	ND	ND	NC	70 - 130	20
Trichlorotrifluoroethane	ND	ND		98	ND	ND	ND	ND	NC	70 - 130	20
Vinyl Chloride	ND	ND		104	ND	ND	ND	ND	NC	70 - 130	20
% Bromofluorobenzene	99	99		102	108	108	108	108	0.0	70 - 130	20
QA/QC Batch 302804, QC Sam BH88574 (1X, 15X) , BH88575 <u>Volatiles</u>	nple No: BH8 (1X, 60X) , I	88574 (BI 3H88576	Н88567 (6X) , E (1X, 15X) , ВН	8H8856 88577 (8 (5X) , (1X, 2X)	BH885))	69 (5X)	, BH88	570 (6X	() , BH885	
1,1,1,2-Tetrachloroethane	ND	ND		119	ND	ND	ND	ND	NC	70 - 130	20
1,1,1-Trichloroethane	ND	ND		117	ND	ND	ND	ND	NC	70 - 130	20
1,1,2,2-Tetrachloroethane	ND	ND		111	ND	ND	ND	ND	NC	70 - 130	20
1,1,2-Trichloroethane	ND	ND		124	ND	ND	ND	ND	NC	70 - 130	20
1,1-Dichloroethane	ND	ND		104	ND	ND	ND	ND	NC	70 - 130	20
1,1-Dichloroethene	ND	ND		103	ND	ND	ND	ND	NC	70 - 130	20
1,2,4-Trichlorobenzene	ND	ND		97	ND	ND	ND	ND	NC	70 - 130	20
1,2,4-Trimethylbenzene	ND	ND		113	3.50	3.60	0.712	0.732	2.8	70 - 130	20
1,2-Dibromoethane(EDB)	ND	ND		122	ND	ND	ND	ND	NC	70 - 130	20
1,2-Dichlorobenzene	ND	ND		102	ND	ND	ND	ND	NC	70 - 130	20
1,2-Dichloroethane	ND	ND		110	ND	ND	ND	ND	NC	70 - 130	20
1,2-dichloropropane	ND	ND		112	ND	ND	ND	ND	NC	70 - 130	20
1,2-Dichlorotetrafluoroethane	ND	ND		114	ND	ND	ND	ND	NC	70 - 130	20
1,3,5-Trimethylbenzene	ND	ND		111	ND	ND	ND	ND	NC	70 - 130	20
1,3-Butadiene	ND	ND		103	ND	ND	ND	ND	NC	70 - 130	20
1,3-Dichlorobenzene	ND	ND		105	ND	ND	ND	ND	NC	70 - 130	20
1,4-Dichlorobenzene	ND	ND		104		ND	ND	ND	NC	70 - 130	20
1,4-Dioxane	ND	ND		96	ND	ND	ND	ND	NC	70 - 130	20
2-Hexanone(MBK)	ND	ND		130		ND	ND	ND	NC	70 - 130	20
4-Ethyltoluene	ND	ND		117		ND	ND	ND	NC	70 - 130	20
4 Incorpositoly and	ND	ND		90	ND	ND	ND	ND	NC	70 - 130	

90

131

ND

ND

ND

ND

4-Isopropyltoluene

4-Methyl-2-pentanone(MIBK)

ND

ND

ND

ND

ND

ND

ND

ND

NC

NC

70 - 130

70 - 130

20

20

1

SDG I.D.: GBH88565

Parameter	Blank ppbv	Blank ug/m3	LCS %	Sample Result ug/m3	Sample Dup ug/m3	Sample Result ppbv	Sample Dup ppbv	DUP RPD	% Rec Limits	% RPD Limits	
Acetone	ND	ND	108	90.4	95.7	38.1	40.3	5.6	70 - 130	20	
Acrylonitrile	ND	ND	90	ND	ND	ND	ND	NC	70 - 130	20	
Benzene	ND	ND	103	ND	ND	ND	ND	NC	70 - 130	20	
Benzyl chloride	ND	ND	128	ND	ND	ND	ND	NC	70 - 130	20	
Bromodichloromethane	ND	ND	131	ND	ND	ND	ND	NC	70 - 130	20	1
Bromoform	ND	ND	128	ND	ND	ND	ND	NC	70 - 130	20	
Bromomethane	ND	ND	100	ND	ND	ND	ND	NC	70 - 130	20	
Carbon Disulfide	ND	ND	101	ND	ND	ND	ND	NC	70 - 130	20	
Carbon Tetrachloride	ND	ND	119	ND	ND	ND	ND	NC	70 - 130	20	
Chlorobenzene	ND	ND	109	ND	ND	ND	ND	NC	70 - 130	20	
Chloroethane	ND	ND	104	ND	ND	ND	ND	NC	70 - 130	20	
Chloroform	ND	ND	104	3.37	3.48	0.691	0.714	3.3	70 - 130	20	
Chloromethane	ND	ND	115	ND	ND	ND	ND	NC	70 - 130	20	
Cis-1,2-Dichloroethene	ND	ND	107	35.4	37.6	8.94	9.48	5.9	70 - 130	20	
cis-1,3-Dichloropropene	ND	ND	128	ND	ND	ND	ND	NC	70 - 130	20	
Cyclohexane	ND	ND	108	ND	ND	ND	ND	NC	70 - 130	20	
Dibromochloromethane	ND	ND	129	ND	ND	ND	ND	NC	70 - 130	20	
Dichlorodifluoromethane	ND	ND	112	2.47	ND	0.500	ND	NC	70 - 130	20	
Ethanol	ND	ND	109	294	316	156	168	7.4	70 - 130	20	
Ethyl acetate	ND	ND	110	ND	ND	ND	ND	NC	70 - 130	20	
Ethylbenzene	ND	ND	120	ND	ND	ND	ND	NC	70 - 130	20	
Heptane	ND	ND	119	ND	ND	ND	ND	NC	70 - 130	20	
Hexachlorobutadiene	ND	ND	87	ND	ND	ND	ND	NC	70 - 130	20	
Hexane	ND	ND	109	2.24	2.06	0.635	0.585	8.2	70 - 130	20	
Isopropylalcohol	ND	ND	105	779	825	317	336	5.8	70 - 130	20	
Isopropylbenzene	ND	ND	110	ND	ND	ND	ND	NC	70 - 130	20	
m,p-Xylene	ND	ND	120	6.73	7.03	1.55	1.62	4.4	70 - 130	20	
Methyl Ethyl Ketone	ND	ND	114	72.2	76.9	24.5	26.1	6.3	70 - 130	20	
Methyl tert-butyl ether(MTBE)	ND	ND	113	ND	ND	ND	ND	NC	70 - 130	20	
Methylene Chloride	ND	ND	99	ND	ND	ND	ND	NC	70 - 130	20	
n-Butylbenzene	ND	ND	80	ND	ND	ND	ND	NC	70 - 130	20	
o-Xylene	ND	ND	118	3.33	3.42	0.767	0.788	2.7	70 - 130	20	
Propylene	ND	ND	124	2.22	2.51	1.29	1.46	12.4	70 - 130	20	
sec-Butylbenzene	ND	ND	90	ND	ND	ND	ND	NC	70 - 130	20	
Styrene	ND	ND	116	ND	ND	ND	ND	NC	70 - 130	20	
Tetrachloroethene	ND	ND	118	1240	1290	183	191	4.3	70 - 130	20	
Tetrahydrofuran	ND	ND	111	15.6	16.2	5.30	5.51	3.9	70 - 130	20	
Toluene	ND	ND	123	4.75	4.93	1.26	1.31	3.9	70 - 130	20	
Trans-1,2-Dichloroethene	ND	ND	108	3.67	3.94	0.927	0.995	7.1	70 - 130	20	
trans-1,3-Dichloropropene	ND	ND	137	ND	ND	ND	ND	NÇ	70 - 130	20	1
Trichloroethene	ND	ND	114	249	260	46.4	48.4	4.2	70 - 130	20	
Trichlorofluoromethane	ND	ND	107	ND	ND	ND	ND	NC	70 - 130	20	
Trichlorotrifluoroethane	ND	ND	99	ND	ND	ND	ND	NC	70 - 130	20	
Vinyl Chloride	ND	ND	107	ND	ND	ND	ND	NC	70 - 130	20	
% Bromofluorobenzene	99	99	98	109	109	109	109	0.0	70 - 130	20	
QA/QC Batch 302965, QC Samp	ole No: BH8	9391 (BH88	570 (15X))								
Volatiles											
Ethanol	ND	ND	104	65.3	67.4	34.7	35.8	3.1	70 - 130	20	
Isopropylalcohol	ND	ND	102	14.9	15.6	6.07	6.33	4.2	70 - 130	20	
Tetrachloroethene	ND	ND	101	37.3	36.2	5.51	5.34	3.1	70 - 130	20	

I = This parameter is outside laboratory lcs/lcsd specified recovery limits.

QA/QC Data

SDG I.D.: GBH88565

% Sample Sample Sample RPD Dup DUP Rec LCS Result Dup Result Blank Blank RPD Limits Limits ppbv ug/m3 ppbv ug/m3 ppbv ug/m3 Parameter

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

April 01, 2015

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Sample Criteria Exceedences Report

GBH88565 - GZA-AMER

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

Criteria

Phoenix Analyte

SampNo Acode
*** No Data to Display ***

Wednesday, April 01, 2015

Criteria: CT: RV State: CT

RL Criteria Criteria

Analysis Units

ح

Result

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

GZA GeoEnvironmental, Inc.

Laboratory Name: Phoenix Environmental Labs, Inc. Client:

Proje	ect Location:	AME	RBELLE		P	roject I	Numl	ber:			
Labo	oratory Samp	le ID(s):		BH88566, I BH88573, I						BH8857	١,
Sam	pling Date(s)	3/26/2	2015								
RCP	Methods Use	ed:									
<u> </u>	311/1312 🔲 6	010	7000	7196	7470	/7471	□ 8	081	☐ EPH	✓	TO15
<u> </u>	082 🔲 8	151	8260	8270	ETP	Н	<u> </u>	010/9012	☐ VPH		
1.	For each analy specified QA/O any criteria fall method-specifi	C perfor	mance criteri de of accepta	a followed, in ible guideline	cluding the	e requir	remer	nt to explain	✓ Yes	□ No	
1a.	Were the meth	od speci	fied preserva	tion and hold	ing time r	equirem	ents	met?	✓ Yes	□ No	
1b.	EPH and VPH significant mod							without	☐ Yes	□ No	✓ NA
2.	Were all samp described on t						ent wit	th that	✓ Yes	□ No	
3.	Were samples	received	l at an approp	oriate temper	ature (< 6	Degree	s C)?		☐ Yes	□ No	✓ NA
4.	Were all QA/Q Protocol docur					onable (Confid	dence	☐ Yes	✓ No	
5a.	Were reporting	ı limits sp	pecified or ref	erenced on t	he chain-c	of-custo	dy?		✓ Yes	□ No	
5b.	Were these re	porting li	mits met?						✓ Yes	□ No	□NA
6.	For each analy results reporte presented in the	d for all c	constituents id	dentified in th	e method	-specific			✓ Yes	□ No	□NA
7.	Are project-spo	ecific ma	trix spikes an	d laboratory	duplicates	include	d in t	he data set?	✓ Yes	□ No	□NA
l, th	For all question be provided in the requirement the requirement belief and ba	an attach nts for "Ro d, attes nsed up	ned narrative. easonable Con it under the on my pers	If the answernfidence". pains and onal inquir	penaltie	on #1, #1 s of pe	A or 1 erjury oonsi	B is "No", the state of the sta	e data packa se best of a viding the	nge does n	ot meet
con	tained in this	analyti	cai report,	such inforn	nation is	accur	ate a	na comple	te.		
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11	horized nature:		Toopou	me		Printe	ed Na	ame: Greg	Lawrence		
			0.				Posi	ition: Assis	tant Lab Di	irector	



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



RCP Certification Report

April 01, 2015

SDG I.D.: GBH88565

AIRSIM

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

OC Batch 302728 (Samples: BH88565, BH88566, BH88567, BH88568, BH88569, BH88570, BH88571, BH88572, BH88573): —

The LCS 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. (Benzyl chloride, Bromoform)

QC Batch 302804 (Samples: BH88567, BH88568, BH88569, BH88570, BH88572, BH88574, BH88575, BH88576, BH88577): —

The LCS recovery is just above the upper range for one analyte that was not reported in the sample(s), therefore no significant bias is suspected. (trans-1,3-Dichloropropene)

The LCS recovery is just above the upper range for several analytes, therefore a slight high bias is possible. (4-Methyl-2-pentanone(MIBK), Bromodichloromethane)

Instrument:

Chem24 03/26/15-2 (BH88565, BH88566, BH88567, BH88568, BH88569, BH88570,

BH88571, BH88572, BH88573)

Initial Calibration Verification (CHEM24/AIR 0320):

98% of target compounds met criteria.

The following compounds had %RSDs >30%: 1,2,4-Trichlorobenzene (31%), Benzyl chloride (37%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification #1 (CHEM24/0326 02-AIR 0320):

100% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Continuing Calibration Verification #2 (CHEM24/0326 03-AIR 0320):

100% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Keith Aloisa Position: Chemist Date: 3/26/2015

Instrument:

Chem24 03/27/15-1 (BH88567, BH88568, BH88569, BH88570, BH88572, BH88574,

BH88575, BH88576, BH88577)

Initial Calibration Verification (CHEM24/AIR 0320):

98% of target compounds met criteria.

The following compounds had %RSDs >30%: 1,2,4-Trichlorobenzene (31%), Benzyl chloride (37%)

The following compounds did not meet a minimum response factor of 0.01: None.



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



RCP Certification Report

April 01, 2015

SDG I.D.: GBH88565

Continuing Calibration Verification #1 (CHEM24/0326 19-AIR 0320):

100% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Continuing Calibration Verification #2 (CHEM24/0326_20-AIR_0320):

100% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Keith Aloisa

Position:

Chemist

Date:

3/27/2015

Instrument:

Chem24 03/30/15-1 (BH88570)

Initial Calibration Verification (CHEM24/AIR 0320):

98% of target compounds met criteria.

The following compounds had %RSDs >30%: 1,2,4-Trichlorobenzene (31%), Benzyl chloride (37%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification #1 (CHEM24/0329_02-AIR_0320):

96% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: 1,1,1,2-Tetrachloroethane(sim) (-39%)[30%], Bromoform(sim) (-48%)[30%], Carbon

Tetrachloride(sim) (-31%)[30%], Dibromochloromethane(sim) (-31%)[30%]

The following compounds did not meet maximum % deviations: Bromoform(sim) (-48%)[40%]

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

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

Continuing Calibration Verification #2 (CHEM24/0329_03-AIR_0320):

99% of target compounds met criteria. Internal standards were within the 60%-140% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: Benzyl chloride (-47%)[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.

Printed Name

Keith Aloisa

Position:

Chemist

Date:

3/30/2015







RCP Certification Report

April 01, 2015

SDG I.D.: GBH88565

QC (Site Specific)
Sample No: BH88565, QA/QC Batch: 302728
All LCS recoveries were within 70 - 130 with the following exceptions: Benzyl chloride(135%), Bromoform(132%)
Sample No: BH88574, QA/QC Batch: 302804
All LCS recoveries were within 70 - 130 with the following exceptions: 4-Methyl-2-pentanone(MIBK)(131%), Bromodichloromethane(131%), trans-1,3-Dichloropropene(137%)
QC (Batch Specific)
Sample No: BH89391, QA/QC Batch: 302965
All LCS recoveries were within 70 - 130 with the following exceptions: None.

CHAIN OF CUSTODY RECORD AIR ANALYSES

800-827-5426

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Phone #:	X Email:			
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587 Esst Middle Tumpike, P.O. 80x 370, Manchester, CT 05040 Telephone: 860.645,1102. • Fax: 860.645,0823	ox 370, Manchester, CT 06040 2 • Fax: 860.645.0823	email: g	email: greg@phoenixlabs.com		Email:						
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Page × × X X Soil Gas Ambient/Indoor Air -24 not gen Pressure at Pressure at Start (" Hg) Canister 7 7 7 Equis NJ Deliverables 7 7 -hSh ASP CAT B 74543-26-10-29-5 postor Canister -30 1152 1256 3-2614 -3U 33615 -30 3-35-17 +37 Data Delivery: Phone #: State where samples collected: K Email: Sampling Sampling Sample Start Time End Time Start Date 950 1103 32EM ☐ Fax #: P.O. # Requested Deliverable: Excel 🕅 Amerbelle Data Format: 1339 MCP 1303 Project Name: 15:30 1349 Ē CHAIN OF CUSTODY RECORD Setting (mL/min) 833 Flow Controller email: greg@phoenixlabs.com 3000 1983V 5350 **1989** AIR ANALYSES 250 340 5353 0331 1888 3415 Regulator # 800-827-5426 THIS SECTION FOR LAB USE ONLY Pressure Canister ("Hg) 4 1 1 1 Outgoing Canister Pressure -30 R (" Hg) RR 8 8 Ben Rel THEMOTOR Invoice to: 0,9 Canister Size (L) 369 - 60 458- 6.0 09 858e 490 CB 471.60 918 · [6:0 0,9-18611 11386 **6**.0 Canister ID # ٠ اعار Sampled by: Accepted by: 6 IN @ Client Sample ID 587 East Middle Tumpike, P.O. Box 370, Manchester, CT 06040 Telepinone: 860,645,1102 • Fax: 860,645,0823 This Frey 5V-9 x SV-8 5-15 - M25 88674 38576 88573 SL588 28517 Relinquished Phoenix ID # Customer: Report to: Address:

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APPENDIX D BORING LOGS, SOIL SAMPLING SHEETS AND LABORATORY ANALYTICAL REPORTS

GEOPROBE LOG EXPLORATION NO.: AOC-1-1 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 GZ\ Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 11.3 Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type Macro Date Time Water Depth Stab. Time Sampler O.D. (in.):2.0 Rig Model: 6610 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Sample Equipment Installed Stratum (#) Remark Depth Sample Description Pen Rec Depth (ft) Modified Burmister (in) (in) Description (ft.) No. (ppm) No Equipment Installed S-1 0 - 448 28 S-1: Top 7": CONCRETE 0 Middle 16": Brown, fine to medium SAND, some Silt, little Gravel Bottom 5": Brown, fine to medium SAND, little 0 31 4-8 48 S-2: Top 20": Brown, fine to medium SAND, S-2 5 little Silt **FILL** Bottom 11": Brown, fine to coarse SAND, some 0 fine Gravel, little Silt 0 35 S-3 8-11.3 39 S-3: Top 4": Brown, fine to medium SAND, 2 trace fine Gravel, trace Silt 10 Middle 18": Brown, fine to coarse SAND, some 0 WEATHERED fine Gravel, trace Silt BEDROCK¹¹ Bottom 13": Grey-black weathered ROCK End of exploration at 11.3 feet. 15

20 25

1 - Soil samples screened with a 10,0 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.

2 - Refusal at 8 feet offset, 2 feet east and attempt on 8-10 foot sample - refusal at 9 feet, attempt 2 feet of original - refusal at 11.3'.

5/27/2015; 11:16:41

GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO;

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.

GEOPROBE LOG **EXPLORATION NO.: AOC-1-2 GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 GZ۱ Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 14.7 Foreman: Jeremy Dube Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Sampler O.D. (in.):2.0 Rig Model: 6610 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister Description (in) (in) No. (ft.) (ppm) No Equipment Installed 48 36 S-1: Top 6";: ASPHALT S-1 0-4 0 Middle 6": Brown, fine to medium SAND, little 0 Bottom 24": Brown, fine to medium SAND, trace Silt 0 48 32 S-2: Top 4": Brown, fine to medium SAND, S-2 4-8 5 trace Silt Next 6": Brown SILT and CLAY 0 Next 12": Brown, fine to mediuim SAND, trace **FILL** 0 Bottom 10": Brown, fine to coarse SAND and 17 24 S-3 8-10 fine GRAVEL S-3: Top 3": Brown, fine to medium SAND, 10 0 10-12 24 20 trace Silt S-4 Bottom 14": Brown, fine to coarse SAND and fine GRAVEL, trace Silt 0 33 33 12-14.7 S-5 S-4: Top 6": Brown SILT and fine GRAVEL Bottom 14": Brown, fine to coarse SAND, trace 14.7 15 S-5: Top 20": Brown, fine to coarse SAND, trace Silt, Wet Bottom 13": Brown, fine SAND, trace Silt, Wet End of exploration at 14.7 feet. 20 W/EQUIP & SAMP NO; 25 1 - Soil samples screened with a 10.0 eV Thermo Environmental Instruments Model 580B organic vapor meter (OVM). OVM values represent meter response in parts per million (ppm) relative to REMARKS benzene in air and above background readings

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.

GEOPROBE LOG EXPLORATION NO.: AOC-2-1 Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 4 Foreman: Jeremy Dube Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2,0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Remark Stratum (#) Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 48 25 S-1: Top 2": ASPHALT No Equipment Installed S-1 0 - 40 Middle 5": Brown SILT and fine GRAVEL Bottom 18": Brown, fine to coarse SAND and **FILL** fine Gravel, some Silt End of exploration at 4 feet. 5 10 15 GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:18:52 AM 20 25 1 - Soil samples screened with a 10.0 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. 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. AOC-2-1

GZA TEMPLATE

GEOPROBE LOG EXPLORATION NO.: AOC-2-2 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Final Geoprobe Depth (ft.): 4 Foreman: Jeremy Dube Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Sampler O.D. (in.):2.0 Rig Model: 6610 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Depth (ft) Sample Description Pen. Rec. PID* Depth Modified Burmister (in) (in) Description No (ft.) (ppm) 25 No Equipment Installed S-1 0-4 48 S-1: Top 4": ASPHALT 0 Bottom 21": Brown SILT, some fine Sand, some fine Gravel FILL End of exploration at 4 feet. 5 10 15 GZADEPTH.GDT. GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO. 5/27/2015, 11:18:55 AM 20 25 30 1 - Soil samples screened with a 10.0 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. 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. AOC-2-2

GEOPROBE LOG EXPLORATION NO.: AOC-2-3 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 GZI Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 4 Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Stratum (#) Equipment Installed Sample Remark Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister (ft.) (in) (in) Description No. (ppm) 48 26 S-1: Top 3": ASPHALT No Equipment Installed S-1 0-4 0 Bottom 23": Brown SILT, some fine to coarse Sand, little fine Gravel, trace Brick FILL End of exploration at 4 feet. 5 10 15 20 25 1 - Soil samples screened with a 10:0 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. 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. **AOC-2-3**

W/EQUIP & SAMP NO. 5/27/2015, 11:18:58 AM

GZA TEMPLATE

GZADEPTH.GDT

GEOPROBE LOG EXPLORATION NO.: AOC-3-1 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Ground Surface Elev. (ft.): V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 4 Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 Rock Core Size: Equipment Installed Sample Stratum (#) Depth Sample Description Pen. Rec. (in) (in) PID* Depth (ft) Modified Burmister Description No (ft.) (ppm) S-1 48 26 S-1: Top 6": CONCRETE No Equipment Installed Bottom 20": Brown, fine to medium SAND, little Silt, trace fine Gravel, purple staining in top 2" FILL End of exploration at 4 feet. 5 10 15 GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:19:16 AM 20 25 30 GZA TEMPLATE 1 - Soil samples screened with a 10.0 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. 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. AOC-3-1

GEOPROBE LOG EXPLORATION NO.: AOC-3-2 **GZA** SHEET: Amerbelle Mills 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 6 3/30/2015 - 3/30/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type: Macro Water Depth Date Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Stratum (#) Sample Remark Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister Description (in) (in) No. (ft.) (ppm) S-1: Top 3": ASPHALT No Equipment Installed 48 25 S-1 0 - 40 Middle 15": Brown, fine to coarse SAND, some fine Gravel, little Silt Bottom 7": Brown SILT and CLAY, Wet, FILL Staining, odor - petroleum 0 S-2 4-6 24 24 S-2: Brown, fine to coarse SAND, some fine 5 Gravel, little Silt, Wet, staining, petroleum odor in bottom 7" End of exploration at 6 feet. 10 15 GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:19:19 AM 20 25 1 - Soil samples screened with a 10.0 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. 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. AOC-3-2

GEOPROBE LOG EXPLORATION NO.: AOC-4-1 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 6 Foreman: Jeremy Dube Date Start - Finish: 4/8/2015 - 4/8/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type Macro Water Depth Date Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 Rock Core Size: Equipment Installed Stratum 5 Stratum Sample Remark Depth Sample Description Pen. Rec Depth PID* (ft) Modified Burmister (in) (in) Description (ppm) No. (ft.) No Equipment Installed S-1 0-4 48 37 S-1: Top 3": ASPHALT 0 Next 14": Brown, fine to medium SAND and fine GRAVEL, little Silt Next 6": Grey ROCK (Cobbles) FILL Bottom 14": Brown, fine to medium SAND and 0 fine GRAVEL, little Silt, Wet at 37" S-2 4-6 24 14 5 S-2: Top 13": Brown, fine to medium SAND and BEDROCK 5.9 fine GRAVEL, little Silt, trace Brick, Wet Bottom 1": Grey ROCK, Schist End of exploration at 6 feet. 10 15 GZADEPTH GDT, GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO. 5/27/2015, 11:19:22 AM 20 25 1 - Soil samples screened with a 10,0 eV Thermo Environmental Instruments Model 580B organic vapor meter (OVM), OVM values represent meter response in parts per million (ppm) relative to REMARKS benzene in air and above background readings

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.

GEOPROBE LOG EXPLORATION NO.: AOC-4-2 **GZA** Amerbelle Mills SHEET: 1 of 1 PROJECT NO: 05.0045441.00 SHEET: GeoEnvironmental, Inc. Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Ground Surface Elev. (ft.): Drilling Co.: Not Applicable Foreman: Not Applicable Final Geoprobe Depth (ft.): 2 Date Start - Finish: 4/16/2015 - 4/16/2015 Groundwater Depth (ft.) Sampler Type Macro Type of Rig:Hammer Drill Water Depth Stab. Time Date Time Rig Model: Sampler O.D. (in.): 1.0 Drilling Method:Direct Push Sampler Length (in.)24 **Rock Core Size:** Equipment Installed Sample Stratum de (#) Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister Description (in) (in) No (ft.) (ppm) No Equipment Installed 24 21 S-1: Top 6": CONCRETE 0-2 S-1 0 Bottom 15": Brown, fine to medium SAND, some **FILL** fine little Silt End of exploration at 2 feet. 5 10 15 20 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO: 25 1 - Soil samples screened with a 10.0 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. REMARKS GZADEPTH.GDT. 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. **AOC-4-2**

GEOPROBE LOG EXPLORATION NO.: AOC-4-3 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Not Applicable Ground Surface Elev. (ft.): Foreman: Not Applicable Final Geoprobe Depth (ft.): 2 4/16/2015 - 4/16/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:Hand Tools Sampler Type: Macro Date Time Water Depth Stab. Time Rig Model: Sampler O.D. (in.): 1.0 **Drilling Method:**Direct Push Sampler Length (in.)24 **Rock Core Size:** Equipment Installed Stratum & (#) Sample Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 20 S-1: Top 5": CONCRETE No Equipment Installed S-1 0 - 20 Middle 4": Brown, fine to medium SAND, some **FILL** fine Gravel, little Silt Bottom 11": Brown SILT, some fine to medium Sand, little fine Gravel End of exploration at 2 feet. 5 10 15 20 GEOPROBE W/EQUIP & SAMP NO. 25 1 - Soil samples screened with a 10.0 eV Thermo Environmental Instruments Model 5808 organic vapor meter (OVM). OVM values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. 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. **AOC-4-3**

GEOPROBE LOG EXPLORATION NO.: AOC-4-4 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT GZ۱ Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani Drilling Co.: Not Applicable V. Datum: Ground Surface Elev. (ft.): Foreman: Not Applicable Final Geoprobe Depth (ft.): 3.8 Date Start - Finish: 4/16/2015 - 4/16/2015 Groundwater Depth (ft.) Type of Rig: Hand Tools Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: Sampler O.D. (in.): 1.0 **Drilling Method:**Direct Push Sampler Length (in.)24 **Rock Core Size:** Equipment Installed Remark Stratum (#) Sample Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister (in) Description (in) (ft.) (ppm) Nο No Equipment Installed 24 21 S-1: Top 5": CONCRETE S-1 0 - 20 Next 7": Brown SILT, Cobble, Dry to Moist Next 3": Brown, medium to fine SAND and SILT, FILL 0 22 16 S-2 2-3.8 Dry Bottom 6": Brown SILT, little medium to fine 3.8 Sand, some medium Gravel, Dry S-2: Top 8": Dark-brown SILT, some medium to 5 fine Sand in first 3", Moist Next 1": Olive, medium to fine SAND and SILT, little coarse Gravel, Dry Next 1": Black, medium to fine SAND and SILT, Dry Bottom 6": Brown SILT, some fine Gravel, little 10 medium to fine Sand, Dry End of exploration at 3.8 feet. 15 20 GEOPROBE W/EQUIP & SAMP NO. 25 30 1 - Soil samples screened with a 10,0 eV Thermo Environmental Instruments Model 580B organic vapor meter (OVM), OVM values represent meter response in parts per million (ppm) relative to REMARKS benzene in air and above background readings.

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.

AOC-4-4

GEOPROBE LOG EXPLORATION NO.: AOC-4-5 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani Drilling Co.: Not Applicable Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 6 Foreman: Not Applicable Date Start - Finish: 4/16/2015 - 4/16/2015 Groundwater Depth (ft.) Type of Rig: Hand Tools Sampler Type:Macro Water Depth Date Time Stab. Time Rig Model: Sampler O.D. (in.): 1.0 **Drilling Method:**Direct Push Sampler Length (in.)24 **Rock Core Size:** Equipment Installed Sample Remark Stratum (#) Depth Sample Description Pen. Rec. PID* Depth (ft) Modified Burmister (in) (in) Description No (ft.) (ppm) S-1: Top 6": CONCRETE No Equipment Installed 19 S-1 0 - 224 0 Middle 10": Brown SILT, some fine to medium Sand and coarse Gravel, Dry 0 S-2 2-4 24 21 Bottom 3": Tan, fine to medium SAND, some **FILL** Silt, little fine Gravel, Dry 0 S-2: Top 1": Tan, fine to medium SAND, some 24 22 4-6 S-3' 5 Silt, little fine Gravel, Dry Bottom 20": Brown SILT, fine to medium Sand, little medium to fine Gravel, Dry S-3*: Top 5": Brown SILT, trace fine to medium Sand, Moist Next 2": Tan, fine to medium Sand, Dry Next 6": Brown SILT, trace fine to medium Sand, 10 Dry Next 7": Tan, fine to medium SAND, some dry, brown SILT, Dry Bottom 2": SILT and fine to medium GRAVEL End of exploration at 6 feet. 15 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:19:33 AM 20 25 30

1 - Soil samples screened with a 10.0 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

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.

REMARKS

GZADEPTH,GDT

AOC-4-5

GEOPROBE LOG EXPLORATION NO.: AOC-5-1 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. Vernon, CT PROJECT NO: 05.0045441.00 Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani Drilling Co.: Not Applicable Foreman: Not Applicable Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 2 Date Start - Finish: 4/15/2015 - 4/15/2015 Groundwater Depth (ft.) Type of Rig:Hand Tools Sampler Type:Macro Water Depth Stab. Time Date Time Sampler O.D. (in.): 1.0 Rig Model: Sampler Length (in.)24 **Drilling Method:**Direct Push **Rock Core Size:** Equipment Installed Remark Sample Stratum D Stratum Depth Sample Description Pen. Rec. PID* Depth (ft) Modified Burmister Description (in) (in) (ft.) (ppm) No No Equipment Installed S-1: Top 5": CONCRETE S-1 0-2 24 19 0 Bottom 14"; Brown, fine to medium SAND, some FILL Silt, little fine Gravel End of exploration at 2 feet. 5 10 15 20 25 30 GZA TEMPLATE 1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID), PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS GZADEPTH.GDT. 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. **AOC-5-1**

GEOPROBE LOG EXPLORATION NO.: AOC-5-2 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** H. Datum: Geoprobe Location: See Plan Logged By: Anthony Trani Drilling Co.: Not Applicable Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 6.8 Foreman: Not Applicable Date Start - Finish: 4/15/2015 - 4/15/2015 Groundwater Depth (ft.) Type of Rig: Hand Tools Sampler Type:Macro Stab. Time Date Time Water Depth Sampler O.D. (in.): 1.0 Rig Model: **Drilling Method:**Direct Push Sampler Length (in.)24 Rock Core Size: Equipment Installed Stratum & (#) Sample Remark Depth Sample Description Pen. Rec. PID* Depth (ft) Modified Burmister Description (in) (in) (ppm) No. (ft.) No Equipment Installed S-1: No Sample Used Solid Point S-1 0-2 24 0 0 0 24 20 S-2: Brown, fine to medium SAND, fine Gravel, S-2 2-4 little Silt FILL 0 S-3: Brown, fine to medium SAND and fine 24 19 4-6 S-3 5 GRAVEL, little Silt 0 8 S-4: Top 6": Brown, fine to medium SAND and 8 6-6.8 S-4 fine GRAVEL, little Silt 2 **BEDROCK** Bottom 2": Weathered ROCK End of exploration at 6.8 feet. 10 15 5/27/2015; 11:19:39 AM 20 25 30 GZA TEMPLATE 1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS readings 2 - Refusal at 6.8 feet

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.

GZADEPTH.GDT

GEOPROBE LOG EXPLORATION NO.: AOC-5-3 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** H. Datum: Logged By: Anthony Trani Geoprobe Location: See Plan Drilling Co.: Not Applicable Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 4 Foreman: Not Applicable 4/16/2015 - 4/16/2015 Date Start - Finish: Groundwater Depth (ft.) Sampler Type:Macro Type of Rig:Hand Tools Water Depth Stab. Time Date Time Sampler O.D. (in.): 1.0 Rig Model: **Drilling Method:**Direct Push Sampler Length (in.)24 **Rock Core Size:** Stratum G (#) Equipment Installed Remark Sample Depth Sample Description Pen. Rec PID* Depth (ft) Modified Burmister Description (in) (in) No (ft.) (ppm) No Equipment Installed S-1: Top 6": CONCRETE S-1 0-2 24 18 0 Bottom 12": Fine to medium SAND, some fine Gravel, little Silt 0 FILL 24 18 2 S-2 2-4 S-2: Brown SILT, little fine to medium Gravel, 3 little fine to medium Sand, Dry End of exploration at 4 feet. 5 10 15 PROBE W/EQUIP & SAMP NO. 5/27/2015 11:19:42 AM 20 25 30 GZA TEMPLATE REMARKS

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background 1 - 301 samples accessed that a second will a second secon

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.

GEOPROBE LOG

GZA

GeoEnvironmental, Inc. Engineers and Scientists

Amerbelle Mills Vernon, CT

EXPLORATION NO.: AOC-5-4 SHEET: 1 of 1 PROJECT NO: 05.0045441.00

REVIEWED BY:

Logged By: Anthony Trani Drilling Co.: Not Applicable Foreman: Not Applicable

Geoprobe Location: See Plan Ground Surface Elev. (ft.): Final Geoprobe Depth (ft.): 8 4/20/2015 - 4/20/2015 Date Start - Finish:

H. Datum: V. Datum:

Type of Rig:Hand Tools

Rig Model:

Drilling Method:Direct Push

Sampler Type:Macro Sampler O.D. (in.): 1.0 Sampler Length (in.):24 Rock Core Size:

Groundwater Depth (ft.) Date Stab. Time Time Water Depth

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(ft)	No.	(ft.)	(in)		(ppm)	Modified Burmister		e e	Description	on		
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_	S-1	0-2	27	27	0		1:441 -	٠.			. To Equipmont in	
-	1			ll		Bottom 19": Brown, fine to medium SAND,	little					
					0	fine Gravel, little Silt	- 1					
- 7	S-2	2-4	24	24	U	S-2 : Brown, fine to medium SAND, little fine	ا د	2				
-0			1	1 1			١ ١					
						Gravel, little Silt						
- 3	٠.,	4.6	24	18	0	S-3 : Top 7": Brown fine to medium SAND,	little		FILL			
5	S-3	4-6	27	''			THE P					
						fine Gravel	- 1					
_				١ ا	0	Bottom 11": Brown, fine to medium SAND	- 1					
	S-4	6-8	24	24		S-4: Top 7": Brown, fine to medium SAND,	. little					
-						Silt, little fine Gravel	,					
										8		
-						Next 3": Brown ROCK (Cobble)	f					
J						Next 6": Brown SILT, Wet	- 1					
٦.,			1			Bottom 8": Brown SILT, fine Sand, trace fin	ا م					
10							~					
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1.5						End of exploration at 8 feet.						
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준	oeri∠ene 2 - 1st at	tempt cored co	ncrete to	17". C	ould not get thr	ough floor						
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REMARKS						(2) 2 (g) 2 (d) (Q) (Q) (Q) (Q) (Q) (Q) (Q) (Q) (Q) (Q	aras reso		majori viren	T		
	ificatio	n lines rep	reser	nt app	roximate b	oundaries between soil types. Actual transition	ons may	be g	radual. Water	ur		
	ificatio	on lines rep	reser een n	nt app	roximate b at the time present at t	oundaries between soil types. Actual transitics and under the conditions stated. Fluctuation times the measurements were made.	ons may	be g	radual. Water vater may occ	ur	AOC-5-	4

GEOPROBE LOG EXPLORATION NO.: AOC-5-5 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. Vernon, CT GZ۱ Engineers and Scientists **REVIEWED BY:** H. Datum: Geoprobe Location: See Plan Logged By: Anthony Trani V. Datum: Drilling Co.: Not Applicable Ground Surface Elev. (ft.): Foreman: Not Applicable Final Geoprobe Depth (ft.): 5.5 4/17/2015 - 4/17/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:Hand Tools Sampler Type:Macro Water Depth Date Time Stab. Time Rig Model: Sampler O.D. (in.): 1.0 **Drilling Method:**Direct Push Sampler Length (in.):24 Rock Core Size: Equipment Installed ∰ Stratum de (±) Sample Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister Description (in) (in) (ft.) No (mqq) No Equipment Installed 24 22.5 S-1: Top 7": CONCRETE S-1 0-2Next 7,5": Brown SILT, some medium to coarse Gravel, Dry 0 24 3 S-2 2-4 Bottom 8: Brown SILT, some medium to coarse FILL Gravel, some medium to fine Sand, Dry 0 S-2: Brown SILT and medium to fine SAND, Dry 4-5.5 18 18.5 S-3 5 S-3: Top 12": Brown SILT, little fine to fine 5.5 Sand, Dry 2 0 Next 3": Grey SILT and fine to medium SAND, Dry Next 1": Brown ROCK (Cobble) Bottom 2.5": Brown SILT, some coarse Gravel, little fine to medium Sand, Dry 10 End of exploration at 5.5 feet. 15 W/EQUIP & SAMP NO; 5/27/2015; 11:20:03 AM 20 25 GZA TEMPLATE REMARKS

1 - Soil samples screened with a 10.0 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 2 - Refusal at 5.5 feet.

GZADEPTH.GDT.

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.

GEOPROBE LOG EXPLORATION NO.: AOC-5-6 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: **Drilling Co.:** Not Applicable Ground Surface Elev. (ft.): Foreman: Not Applicable Final Geoprobe Depth (ft.): 6.5 4/20/2015 - 4/20/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:Hand Tools Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: Sampler O.D. (in.): 1.0 **Drilling Method:**Direct Push Sampler Length (in.):24 Rock Core Size: Equipment Installed Sample Stratum Stratum Remark Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister (in) (in) Description No (ft.) (ppm) 24 24 S-1: Top 7": CONCRETE No Equipment Installed 0-2 S-1 0 Bottom 17": Brown, fine to medium SAND, some Silt, little fine Gravel 0 24 22 S-2 2-4 S-2: Brown, fine to medium SAND, trace Silt, 2 FILL trace fine Gravel 0 S-3 4-6 24 15 S-3: Brown, fine to medium SAND and little fine 5 GRAVEL, little Silt 0 6.5 6-6.5 6 6 S-4: Brown, fine to medium SAND and fine S-4 GRAVEL, little Silt End of exploration at 6.5 feet. 10 15 20 GEOPROBE W/EQUIP & SAMP NO. 25 30 1 - Soil samples screened with a 10.0 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. 2 - 1st attempt - refusal at 3'. 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.

GEOPROBE LOG EXPLORATION NO.: AOC-6-1 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. Vernon, CT **REVIEWED BY:** Engineers and Scientists Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Ground Surface Elev. (ft.): Final Geoprobe Depth (ft.): 2 Foreman: 4/14/2015 - 4/14/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig: Hand Tools Sampler Type Macro Water Depth Date Time Stab. Time Rig Model: Sampler O.D. (in.): 1.0 **Drilling Method:**Direct Push Sampler Length (in.)24 **Rock Core Size:** Equipment Installed Remark Stratum (#) Sample Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister Description (in) (in) (ppm) No. (ft.) No Equipment Installed 24 19 S-1: Top 4": CONCRETE S-1 0 - 20 Middle 3" Void space under CONCRETE **FILL** Bottom 12": Brown SILT, little fine to medium Sand, trace fine Gravel End of exploration at 2 feet. 5 2 10 15 20 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO. 25 1 - Soil samples screened with a 10,6 eV MiniRAE photoionization detector (PID), PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS readings. 2 - Refusal at 6.5 feet. 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. **AOC-6-1**

GEOPROBE LOG EXPLORATION NO.: AOC-6-2 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 **Amerbelle Mills** GeoEnvironmental, Inc. Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 2 Date Start - Finish: 4/14/2015 - 4/14/2015 Groundwater Depth (ft.) Type of Rig:Hand Tools Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: Sampler O.D. (in.):2.0 **Drilling Method:** Sampler Length (in.)24 **Rock Core Size:** Equipment Installed Sample Stratum (#) Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister Description (in) (in) No. (ft.) (ppm) 24 19 S-1: Top 5": CONCRETE No Equipment Installed S-1 0-2 Next 4": Brown SILT and fine to medium SAND Next 4": Tan SILT and some fine GRAVEL, trace Sand Bottom 6": Brown SILT, some fine Gravel, little Cobble, trace fine to medium Sand 5 End of exploration at 2 feet. 10 15 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO. 5/27/2015, 11:20:15 AM 20 25 1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. 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. **AOC-6-2**

GEOPROBE LOG EXPLORATION NO.: AOC-7-1 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. Vernon, CT PROJECT NO: 05.0045441.00 Engineers and Scientists **REVIEWED BY:** H. Datum: Geoprobe Location: See Plan Logged By: Anthony Trani Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 4 3/30/2015 - 3/30/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Stab. Time Date Time Water Depth Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Remark Stratum (#) Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister (in) (in) Description (ft.) No (ppm) No Equipment Installed S-1: Top 3": CONCRETE 24 12 S-1 0 - 20 Bottom 9": Brown, fine to medium SAND, little Silt, little fine Gravel, trace Brick 0 FILL S-2 2-4 24 16 S-2: Top 12": Brown, fine to mediuim SAND, little Silt, little fine Gravel, trace Brick Bottom 4": Brown, fine to medium SAND, trace 5 Silt End of exploration at 4 feet. 10 15 GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:20:17 AM 20 25 30 GZA TEMPLATE 1 - Soil samples screened with a 10.0 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. 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.

AOC-7-1

GEOPROBE LOG EXPLORATION NO.: AOC-7-2 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists REVIEWED BY: Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 4 Foreman: Jeremy Dube 3/30/2015 - 3/30/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Water Depth Date Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Remark Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister (in) (in) Description (ft.) No. (ppm) No Equipment Installed 24 12 S-1: Top 3": CONCRETE S-1 0-2 0 Bottom 9": Brown, fine to medium SAND, little fine Gravel, little Silt 0 FILL 24 12 S-2 2-4 S-2: Brown, fine to medium SAND, little Gravel, little Silt End of exploration at 4 feet. 5 10 15 W/EQUIP & SAMP NO; 5/27/2015; 11:20:20 AM 20 25 GEOPROBE GZA TEMPLATE 1 - Soil samples screened with a 10.0 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. REMARKS GZADEPTH.GDT

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.

AOC-7-2

GEOPROBE LOG



GZA GeoEnvironmental, Inc. Engineers and Scientists

Amerbelle Mills Vernon, CT

EXPLORATION NO.: AOC-13-1/GZ-3 SHEET: 1 of 1

PROJECT NO: 05.0045441.00

REVIEWED BY:

Logged By: Anthony Trani

Drilling Co.: Aquifer Drilling and Testing, Inc.

Foreman: Jeremy Dube

Geoprobe Location: See Plan Ground Surface Elev. (ft.):

Final Geoprobe Depth (ft.): 20.5

4/3/2015 - 4/9/2015 Date Start - Finish:

H. Datum: V. Datum:

Type of Rig:GeoProbe Rig Model: 6610

Drilling Method: HSA/Air Rotary

Sampler Type:Macro Sampler O.D. (in.):2.0 Sampler Length (in.)48 **Rock Core Size:**

Groundwater Depth (ft.) Date Time Water Depth Stab. Time 4/30/15 11,89 27 days 5/7/15 11.93 34 days

	Sample						¥	ਤੂੰ ਦੂੰ Stratum	€£	Equipment Installed		
Depth (ft)	No.	Depth (ft.)	Pen. (in)	(in)	PID* (ppm)	Sample Description Modified Burmister	Remark	ங் [≝] Stratum Descripti	on Dn ⊠€			
	S-1 S-2	0-3 3-6	36	36 27	0	S-1: Top 4": CONCRETE Middle 12": Brown, fine to coarse SAND, some fine Gravel, little Silt, little Asphalt, trace Brick Bottom 20": Brown, fine to coarse SAND, little fine Gravel, little Silt S-2: Top 23": Brown, fine to medium SAND,	1	FILL			Native Soil (0-3') Bentonite	
5_	S-3	6-8.8	34	15	0	little fine Gravel, little Silt Bottom 4": Brown, fine to coarse SAND, little fine Gravel, trace Silt S-3: Brown, fine to coarse SAND, some fine Gravel, little Silt, Damp		FILL			(3-5') PVC Riser (0-10') Filter Sand (5-6')	
10 _							2		8.8		PVC Pipe (6-12')	
15_							3	BEDROO	СК		Well Screen (10-20') Filter Sand (12-20')	
20 _						End of exploration at 20,5 feet.	4		20.5			
8												
25 _												
30												

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and 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.

AOC-13-1/GZ-3

GZADEPTH.GDT; GZA TEMPLATE GEO

REMARKS

^{1 -} Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per minion (ppin) relative to beingened and above background.
2 - Boring was drilled with a geoprobe direct push to refusal at 8.8 feet.
3 - Well installed via air rotary. Drove 4" casing to 7.5" - refusal then air rotary to 20".
4 - Set at 2" well at 20.51" with a 10" screen and 10.51" riser. Sand from 20.51 to the bottom of a 2" void at 12 feet. A 4" solid PVC pipe was placed around well from 12 to 6" to bridge void. Sand was then placed on top of 4" PVC pipe from 5 to 6", bentonite was placed upon the sand from 5.3". The remaining annulus was filled with native sand to grade and well was finished with a flush mount road box.

GEOPROBE LOG EXPLORATION NO.: AOC-13-2 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT $GZ \setminus$ Engineers and Scientists **REVIEWED BY:** H. Datum: Geoprobe Location: See Plan Logged By: Anthony Trani Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 13 Foreman: Jeremy Dube Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 Drilling Method:Direct Push Sampler Length (in.)36 **Rock Core Size:** Equipment Installed Stratum Ged (#) Sample Depth Sample Description Pen. Rec. (in) (in) Depth PID* (ft) Modified Burmister Description No. (ft.) (ppm) No Equipment Installed 36 29 S-1: Top 4": CONCRETE S-1 0 - 30 Middle 17": Brown, fine to coarse SAND, some fine Gravel, little Silt, little Asphalt, trace Brick, trace Ash, trace Glass 0 27 36 Bottom 8": Brown, fine to medium SAND, little S-2 3-6 fine Gravel, trace Silt 5 S-2: Top 2": Pulverized ROCK (Cobble) Bottom 25": Brown, fine to medium SAND, little 0 36 17 fine Gravel, trace Silt S-3 6-9 FILL S-3: Brown, fine to coarse SAND, some fine Gravel, trace Silt 0 36 0 S-4: No Recovery S-4 9-12 10 12 12 S-5: Top 5": Brown, fine SAND, some Silt, Wet S-5 12-13

Bottom 7": Brown, fine to medium SAND, some

Silt, some fine Gravel, Wet.

End of exploration at 13 feet.

15

20

25

5/27/2015: 11:17:02 AM

2

GEOPROBE W/EQUIP & SAMP NO; GZA TEMPLATE 1 - Soil samples screened with a 10,6 eV MiniRAE photoionization detector (PID), PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS readings 2 - Refusal at 13 feet

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.

AOC-13-2

GEOPROBE LOG EXPLORATION NO.: AOC-13-3 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 10 Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 Drilling Method:Direct Push Sampler Length (in.):48 **Rock Core Size:** Equipment Installed Sample E Stratum E (±) Depti Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 29 No Equipment Installed 36 S-1: Top 4": CONCRETE S-1 0 - 30 Bottom 25": Brown, fine to medium SAND, some fine Gravel, little Silt 0 36 17 S-2: Brown, fine to medium SAND, some Silt, S-2 3-6 0 some fine to coarse Gravel 5 FILL 0 S-3 6-9 36 31 S-3: Top 14": Brown, fine to coarse SAND, some fine Gravel, trace Silt Middle 10": Grey, fine to medium SAND, little Silt Bottom 7": Brown, fine to medium SAND, some 12 12 fine Gravel, little Silt S-4 9-10 10 10 S-4: Brown, fine to medium SAND, some fine to coares Gravel, little Silt End of exploration at 10 feet. 2 15 GEOPROBE W/EQUIP & SAMP NO. 5/27/2015; 11:17:05 AM 20 25 GZA TEMPLATE

1 - Soil samples screened with a 10.0 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.
2 - Refusal at 10'...

REMARKS

GZADEPTH.GDT

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.

GEOPROBE LOG AOC-15-1 **EXPLORATION NO.: GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 **Amerbelle Mills** GeoEnvironmental, Inc. GZ\ Vernon, CT Engineers and Scientists **REVIEWED BY:** H. Datum: Logged By: Anthony Trani Geoprobe Location: See Plan V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 4 Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Water Depth Date Time Stab. Time Sampler O.D. (in.):2.0 Rig Model: 6610 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Remark Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister Description (in) (in) No. (ft.) (ppm) No Equipment Installed 48 34 S-1: Top 3": CONCRETE S-1 0 - 40 Bottom 31": Brown, fine to medium SAND, some fine Gravel, little Silt 0 End of exploration at 4 feet. 5 10 15 PROBE W/EQUIP & SAMP NO; 5/27/2015; 11:17:07 AM 20 25 30 GZA TEMPLATE 1 - Soil samples screened with a 10.0 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. 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.

GEOPROBE LOG EXPLORATION NO.: AOC-15-2 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 REVIEWED BY: Amerbelle Mills GeoEnvironmental, Inc. Vernon, CT Engineers and Scientists H. Datum: Logged By: Anthony Trani Geoprobe Location: See Plan V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 4 Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Remark Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 48 39 S-1: Top 3": CONCRETE No Equipment Installed S-1 0 - 40 Middle 14": Brown, fine to coarse SAND, some fine Gravel, little Silt, trace Brick, Wet 0 Bottom 22": Brown, fine to medium SAND, some Silt, little fine Gravel, trace Asphalt in Upper 2" End of exploration at 4 feet. 5 10 15 20 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO: 25 30 1 - Soil samples screened with a 10.0 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. 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. AOC-15-2

GEOPROBE LOG EXPLORATION NO.: AOC-15-3 **GZA** SHEET: Amerbelle Mills 1 of 1 **GeoEnvironmental, Inc.** Engineers and Scientists PROJECT NO: 05.0045441.00 Vernon, CT **GZ**\ **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 2.5 Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Water Depth Date Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 Drilling Method:Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Stratum (#) Sample Remark Sample Description Modified Burmister Depti Pen. Rec. (in) (in) Depth PID* (ft) Description (ft.) (ppm) No. No Equipment Installed S-1: Top 6": CONCRETE 30 15 S-1 0 - 2.50 Bottom 9": Brown, fine to medium SAND, some FILL Silt, some fine Gravel, Wet in tip. 2.5 End of exploration at 2.5 feet. 5 10 15 W/EQUIP & SAMP NO. 5/27/2015, 11:17-13 AM 20 25 1 - Soil samples screened with a 10.0 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. GZA TEMPLATE REMARKS Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the limes and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made. AOC-15-3

GEOPROBE LOG EXPLORATION NO.: AOC-16-1 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. GZ\ Vernon, CT Engineers and Scientists **REVIEWED BY:** H. Datum: Logged By: Anthony Trani Geoprobe Location: See Plan V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 11 Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Water Depth Date Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 Rock Core Size: Equipment Installed Sample Stratum (#) Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister Description (in) (in) No. (ft.) (ppm) No Equipment Installed 48 37 S-1: Top 2": ASPHALT S-1 0 - 40 Next 5": Brown, fine to medium SAND, little fine Gravel, little Silt 0 Next 7": ASPHALT Next 10": Brown, fine to medium SAND, little Silt, n little fine Gravel 27 S-2 4-8 48 5 Bottom 13": Tan, brown Silt S-2: Brown, fine to medium SAND, some Silt, FILL 0 little fine Gravel 0 36 28 S-3: Top 25": Brown, fine to medium SAND, S-3 8-11 little fine Gravel, little Silt, Wet 10 Bottom 3": Grey ROCK 0 End of exploration at 11 feet. 15 20 5/27/2015 11:17:15 GEOPROBE WIEQUIP & SAMP NO. 25 GZA TEMPLATE 1 - Soil samples screened with a 10.0 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. 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.

GEOPROBE LOG EXPLORATION NO.: AOC-17-1 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 4.5 4/3/2015 - 4/3/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Stratum (#) Sample Remark Depth Sample Description Pen. Rec. (in) (in) Depth PID* (ft) Modified Burmister Description No. (ft.) (ppm) 48 27 S-1: Top 6": CONCRETE No Equipment Installed S-1 0-40 Next 3": BRICK and CONCRETE Fill Next 2": Black, fine to coarse SAND, some Silt 2 0 FILL Next 7": Brown, fine to coarse SAND, some Silt, little Gravel 0 Next 3": Grey ROCK 4-4.5 6 6 BEDROCK S-2 5 Bottom 6": Brown, fine to coarse SAND, some Silt, some Gravel S-2: Brown, fine to coarse SAND, some Silt, weathered Schist End of exploration at 4.5 feet. 10 15 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:17:19 AM 20 25 1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS readings... 2 - First attempt refusal at 1.5' and 2nd attempt resusal at 3'... 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. AOC-17-1

GEOPROBE LOG EXPLORATION NO.: AOC-18-1 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 10 Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Water Depth Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2,0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample ∰ Stratum (± € € € Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister Description (in) (in) No. (ft.) (ppm) No Equipment Installed 48 33 S-1: Top 8": CONCRETE S-1 0 Bottom 25": Brown, fine to coarse SAND, some fine Gravel, little Silt, trace Asphalt 0 0 35 S-2 4-8 48 S-2 : Brown, fine to medium SAND, little Silt, little 5 FILL fine Gravel 0 0 S-3: Top 20": Brown, fine to medium SAND, 22 8-10 24 S-3 little Silt, little fine Gravel, Wet at 2" 10 Bottom 2": Gray-orange SCHIST, weathered BEDROCK 2 End of exploration at 10 feet. 15 20 GEOPROBE W/EQUIP & SAMP NO; 25 1 - Soil samples screened with a 10.6 eV MinifRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS readings... 2 - Refusal at 10'... 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. AOC-18-1

GEOPROBE LOG EXPLORATION NO.: AOC-18-2 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT GZ۱ Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 7.5 Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Stratum & (#) Sample Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister (in) Description (ft.) (in) No. (ppm) 35 No Equipment Installed 48 S-1: Top 3": CONCRETE S-1 0-40 Next 6": Brown, fine to medium SAND and fine GRAVEL, little Silt Next 6": BRICK Bottom 20": Brown, fine to coarse SAND, little FILL 0 fine Gravel, little Silt, Asphalt at 19-21" S-2 4-7.5 42 23 5 S-2: Brown, fine to medium SAND, some fine Gravel, little Silt, Wet at 16". 7.5 2 End of exploration at 7.5 feet. 10 15 5/27/2015; 11:17:44 AM 20 GEOPROBE W/EQUIP & SAMP NO; 25 GZA TEMPLATE 1 - Soil samples screened with a 10,6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS readings. 2 - Refusal at 7.5'. GZADEPTH GDT. 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. AOC-18-2

GEOPROBE LOG EXPLORATION NO.: AOC-18-3 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. Vernon, CT GZ\ Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 17.8 4/3/2015 - 4/3/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Stratum de (:) Sample Remark Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister Description (in) (in) (ft.) No. (ppm) 40 S-1: Top 4": CONCRETE No Equipment Installed 48 S-1 0-40 Next 4": BRICK Next 10": CONCRETE Next 3": BRICK Bottom 19": Brown, fine to mediumSAND, some 0 fine Gravel, little Silt, Asphalt from 34-35" 4-8 48 35 S-2 5 S-2: Top 9": Brown, fine to medium SAND, trace Silt Bottom 26": Brown, fine to coarse SAND, some fine Gravel, little Silt 0 48 30 S-3: Brown, fine to medium SAND, little fine 8-12 S-3 Gravel, little Silt, Wet at 24" **FILL** 10 0 48 19 S-4: Brown, fine to medium SAND, little fine S-4 12-16 Gravel, little Silt, Wet 15 0 7 S-5: Brown, fine to medium SAND, little fine 22 S-5 16-17.8 Gravel, little Silt, Wet 17.8 End of exploration at 17.8 feet. 2 5/27/2015; 11:17:46 AM 20 W/EQUIP & SAMP NO; 25 GZA TEMPLATE GEOPROBE 1 - Soil samples screened with a 10,6 eV MiniRAE photolonization detector (PID), PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS readings 2 - Refusal at 17.8 feet

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.

AOC-18-3

GEOPROBE LOG EXPLORATION NO.: AOC-18-4 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. GZ\ Vernon, CT Engineers and Scientists **REVIEWED BY:** H. Datum: Geoprobe Location: See Plan Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 16 4/3/2015 - 4/3/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Water Depth Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Depth Sample Description Pen. Rec. PID* Depth (ft) Modified Burmister Description (in) (in) No. (ft.) (ppm) 48 24 S-1: Top 4": CONCRETE No Equipment Installed S-1 0 Next 2": Brown, fine to coarse SAND, little Silt, little fine Gravel 0 Next 2": CONCRETE Bottom 16": Brown, fine to coarse SAND, some 0 fine Gravel, little Silt. Coal at 23-24" 36 S-2 4-8 48 5 S-2: Top 4": Brown-grey, fine to coarse SAND, and fine GRAVEL, Wet 0 Bottom 32": Brown, fine to coarse SAND, some fine Gravel, little Silt 0 **FILL** 24 S-3 8-12 48 S-3: Brown, fine to coarse SAND, some fine Gravel, little Silt, Wet 10 0 0 12-16 48 48 S-4: Top 40": Brown, fine to coarse SAND and S-4 fine GRAVEL, trace Silt, Wet Bottom 8": Brown, fine to medium SAND, some 0 fine Gravel, little Silt, Wet 15 End of exploration at 16 feet. WEQUIP & SAMP NO; 5/27/2015; 11:17:49 AM 20 25 1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. 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.

AOC-18-4

GEOPROBE LOG EXPLORATION NO.: AOC-18-5 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 25 Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Rig Model: 6610 Sampler O.D. (in.):2.0 Sampler Length (in.)48 **Drilling Method:**Direct Push **Rock Core Size:** Equipment Installed Sample ¥ >~

Depth			Pen	Rec.	PID*	Sample Description	nar	Stratum (Fig. 2)	Equipment installed
(ft)	No.	Depth (ft.)	(in)	(in)	(ppm)	Modified Burmister	Remar	Description	
	S-1	0-4	48	35	2	S-1 : Top 4": CONCRETE	1		No Equipment Installed
						Bottom 31": Brown, fine to medium SAND, some fine Gravel, little Silt, Asphalt from 12-14"			
			1		2	inte Graver, fittle Girt, Aspiralt from 12-14			
-					_				
5	S-2	4-8	48	27	0	S-2 : Brown, fine to medium SAND, some fine			
3 -						Gravel, little Silt, trace Coal at 9"			
3					0				
:=	S-3	8-12	48	38	0	S-3 : Top 36": Brown SILT, little fine Sand, little			
- 3		•				fine Gravel			
10 _					0	Bottom 2": Brown, fine to medium SAND, some			
						Silt, trace Brick			
	C 4	12-16	48	39	0	S-4 : Brown, fine to medium SAND, little fine		FILL	
- 1	S-4	12-10	40	35		Gravel, little Silt		1166	
					0				
15 _									
			1		0				
- 2	S-5	16-20	48	27	_	S-5 : Brown SILT, little fine Sand, little fine Gravel, Wet			
					0	Glaver, vvet			
					•				
20					0				
	S-6	20-24	48	18		S-6: Brown, fine to medium SAND, little fine			
(*					0	Gravel, little Silt, Wet			
					"				
8	1								
25 _	S-7	24-25	12	12	0	S-7 : Top 5": Brown, fine to medium SAND, little		24.4 BEDROCK	
						fine Gravel, little Silt, Wet	2	BEDROCK	
	Ī					Bottom 7": Grey, pulverized ROCK End of exploration at 25 feet.	1		
	1					Lind of exploration at 20 leet.			
20			1						
30				L	1				
8	1 - Soil s readings	amples screen	ed with a	а 10,6 е	V MiniRAE phol	toionization detector (PID) $_{\scriptscriptstyle\parallel}$ PID values represent meter response in parts p	er millior	(ppm) relative to benzene in	air and above background
REMARKS	2 - Refus	sal at 25 feet							
EM,									
۱ ۲									

GZADEPTH.GDT.

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.

AOC-18-5

Stab. Time

GEOPROBE LOG EXPLORATION NO.: AOC-19-1 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. GZ\ Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 11 Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Water Depth Time Stab. Time Sampler O.D. (in.):2.0 Rig Model: 6610 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample ≧ Stratum = (± Remark Depth Sample Description Pen. Rec. PID* Depth (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 48 24 S-1: Top 4": CONCRETE No Equipment Installed S-1 0 Next 5": Dark brown, fine to coarse SAND and SILT, trace Coal 0 Next 9": Tan, fine to coarse SAND and SILT, little Gravel Bottom 6": Brown, fine to medium SAND, some S-2 4-8 48 14 5 Silt, little Gravel **FILL** S-2: Top 6": Brown, fine to medium SAND, 0 some Silt, little fine Gravel Bottom 8": Gray ROCK (Cobble) 0 36 21 8-11 S-3: Top 6": Brown, fine to coarse SAND, some S-3 Silt, little fine Gravel 10 Middle 8": Brown, fine to medium SAND and 10.5 SILT, little fine Gravel, Wet SAND 2 Bottom 7": Light brown, fine to coarse SAND, some Gravel, little Silt, Wet End of exploration at 11 feet. 15 WEQUIP & SAMP NO. 5/27/2015; 11:17:55 AM 20 25 GEOPROBE 30 GZA TEMPI ATE 1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS readings 2 - Refusal at 11 feet 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. AOC-19-1

GEOPROBE LOG EXPLORATION NO.: AOC-19-2 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT GZN Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 10 Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 Drilling Method:Direct Push Sampler Length (in.)48 Rock Core Size: Equipment Installed Remark Stratum de (#) Sample Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 48 29 No Equipment Installed S-1: Top 2": CONCRETE S-1 0 - 40 Middle 14": TRAPROCK Bottom 13": Brown, fine to medium SAND and 0 fine to coarse GRAVEL, little Silt, trace Brick 0 4-8 48 24 S-2: Brown SILT, some fine Sand, little fine FILL S-2 5 Gravel, Wet at 22" 0 0 15 S-3: Top 5": Brown SILT, some fine Sand some 8-10 24 S-3 fine Gravel, Wet **BEDROCK** Bottom 10": Gray weathered ROCK 10 2 End of exploration at 10 feet. 15 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO; 5/27/2015, 11:17:58 AM 20

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID), PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. 2 - Refusal at 10 feet

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.

25

REMARKS

GZADEPTH GDT:

AOC-19-2

GEOPROBE LOG EXPLORATION NO.: AOC-19-3 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 GZ۱ Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 7.5 Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Sample Equipment Installed Stratum (#) Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 48 24 S-1: Top 5": CONCRETE No Equipment Installed S-1 0 - 4Next 5": Brown, fine to coarse GRAVEL, some fine to coarse Sand, little Silt Next 6": Gray ROCK Bottom 8": Brown, fine to coarse SAND, little Silt, **FILL** little fine Gravel S-2 4-7.5 42 24 5 S-2: Brown, fine to coarse SAND and fine to coarse GRAVEL, little Silt, Wet at 18" 7.5 End of exploration at 7.5 feet. 10 15 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:18:00 AM 20 25 1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID), PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. 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. AOC-19-3

GEOPROBE LOG **EXPLORATION NO.:** AOC-19-4 **GZA** Amerbelle Mills SHEET: 1 of 1 PROJECT NO: 05.0045441.00 GeoEnvironmental, Inc. GZ\ Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. V. Datum: Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 12 Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Sampler O.D. (in.):2,0 Rig Model: 6610 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Remark Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 48 25 S-1: Top 5": CONCRETE No Equipment Installed S-1 0 Middle 10": Brown, fine to coarse GRAVEL, some fine to coarse Sand, little Silt 0 Bottom 10": Brown, fine to medium SAND, some Silt, little fine Gravel 0 42 S-2 4-8 48 S-2: Brown, fine to medium SAND, some fine 5 Gravel, little Silt, Wet at 10.5" 0 **FILL** 4.4 48 35 S-3: Top 5": Brown, fine to medium SAND, S-3 8-12 some fine Gravel, little Silt, Wet 10 6.3* Next 14": Brown/black, fine SAND and SILT, Wet, Odor Next 14": Brown, fine to medium SAND, some 4.6 fine Gravel, little Silt, Wet, odor BEDROCK 2 Bottom 2": Gray, weathered ROCK End of exploration at 12 feet. 15 GEOPROBE W/EQUIP & SAMP NO. 5/27/2015; 11:18:03 AM 20 25 30 GZA TEMPLATE 1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background REMARKS readings. * - Extra soil placed in a baggie after sample collection -and screened with a PID = 178 ppm. 2 - Refusal at 12 feet.

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.

GEOPROBE LOG

GZA GeoEnvironmental, Inc. GZ\ Engineers and Scientists

Amerbelle Mills Vernon, CT

EXPLORATION NO.: AOC-19-5 SHEET: 1 of 1

PROJECT NO: 05.0045441.00

REVIEWED BY:

Logged By: Anthony Trani

Drilling Co.: Aquifer Drilling and Testing, Inc.

Foreman: Jeremy Dube

Geoprobe Location: See Plan Ground Surface Elev. (ft.):

Final Geoprobe Depth (ft.): 15.5

4/3/2015 - 4/3/2015 Date Start - Finish:

H. Datum: V. Datum:

Type of Rig:GeoProbe Rig Model: 6610

Drilling Method:Direct Push

Sampler Type:Macro Sampler O.D. (in.):2.0 Sampler Length (in.)48 Rock Core Size:

Groundwater Depth (ft.) Date Time Water Depth Stab. Time

		San	nple					¥	<u></u>	€ ∵	Equipment Installed
epth (ft)	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)	Sample Description Modified Burmister		Remark	≳ (: E Stratum Descriptio	on Der E	
-	S-1	0-4	48	16	36.3	S-1 : Top 4": CONCRETE Bottom 12": Brown, fine to coarse SAND, so coarse Gravel, trace Silt	ome	1			No Equipment Installe
5	S-2	4-8	48	36	391.3 395.1	395.1 396.7 S-2 : Brown, fine to coarse SAND, some fine Gravel, little Silt, trace Coal FILL FILL FILL					
10	S-3	8-12	48	43	396.7 395.1				FILL		
	S-4	12-15.5	42	28	393.8	Bottom 16": Dark brown SAND, some Silt, I fine Gravel, black staining, Wet. S-4: Top 15": Brown, fine to coarse SAND, some Silt, little fine Gravel, Wet Bottom 13": Dark brown, fine to coarse SAN	ND,				
15 _					386.4 —	some Silt, little Gravel, black staining, Wet, (End of exploration at 15.5 feet.	Jaoi	3		15.5	
20											
25 _											
30		-									

1 - Soil samples screened with a 10,6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
2 - Sustained PID readings dropped from around 390 ppm to at approximately 17 ppm, lamp may be dirty.
3 - Refusal at 15.5 feet.

REMARKS

GZA TEMPLATE

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.

AOC-19-5

GEOPROBE LOG EXPLORATION NO.: AOC-19-6 GZA Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Final Geoprobe Depth (ft.): 7.8 Foreman: Jeremy Dube Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type: Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister (in) (in) Description No (ft.) (ppm) 31 No Equipment Installed 48 S-1: Top 2": CONCRETE S-1 0-40 Next 4": Grey, ROCK -TRAPROCK Next 20": Brown, fine SAND and SILT, some 0 fine to coarse Gravel **FILL** Bottom 5": Red BRICK S-2 4-7.8 46 32 S-2: Top 16": Brown SILT and little fine SAND, 5 0 5.3 little fine to coarse Gravel, Damp Bottom 16": Tan/brown, weathered ROCK, Schist, Mica **BEDROCK** End of exploration at 7.8 feet. 10 15 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:18:08 AM 20 25 1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID), PID values represent meter response in parts per million (ppm) relative to benzene in air and above background 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.

AOC-19-6

GEOPROBE LOG AOC-19-7 EXPLORATION NO.: **GZA Amerbelle Mills** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 GeoEnvironmental, Inc. Vernon, CT GZ۱ Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Ground Surface Elev. (ft.): Drilling Co.: Aquifer Drilling and Testing, Inc. Final Geoprobe Depth (ft.): 10 Foreman: Jeremy Dube 4/3/2015 - 4/24/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Water Depth Date Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 Rock Core Size: Equipment Installed Stratum (#) Sample Remark Depth Sample Description Pen Rec. Depth PID* (ft) Modified Burmister (in) (in) Description (ft.) (mqq) No. 31 S-1: Top 2": CONCRETE 48 Native Sand S-1 0 - 4705.2 Next 10": Brown, fine to coarse SAND, little Silt (0-1')Bentonite Next 7": CONCRETE (1-1.5')Bottom 12": Brown SILT, little fine Sand, trace **PVC Riser** fine Gravel, Damp in tip (0-3.3')735 4-8 48 31 S-2: Brown SILT, little fine to medium Sand, S-2 5 **FILL** trace fine Gravel, Wet, staining from 22-26" 1200 Filter Sand (1.5-11.3')**PVC Well** 300 Screen 24 21 S-3: Top 16": Brown SILT, little fine to medium 3 8-10 S-3 (3.3-11.3')Sand, trace fine Gravel, Wet 10 Bottom 5": Gray, weathered ROCK, Schist BEDROCK 4 End of exploration at 10 feet. 15 20 25 Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID), PID values represent meter response in parls per million (ppm) relative to benzene in air and above background 3 - Well installed via hollow stem auger. 4 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 11.3 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser, Filter sand placed in annulus around well from 13.3 to 2.3 feet below grade. Bentonite seal installed from 2.3 to 1.3 feet below grade. Remaining annulus filted to surface with sand. Well protected with flush-mounted road box. 4 - Refusal at 10 feet.

GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:18:27 AM

GZADEPTH.GDT.

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.

GEOPROBE LOG EXPLORATION NO.: AOC-19-7/GZ-4 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 GZ۱ Vernon, CT Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Levelle Tatum Final Geoprobe Depth (ft.): 11.3 4/3/2015 - 4/24/2015 Date Start - Finish: Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 4/30/15 9.44 6 days Drilling Method: HSA/Air Rotary Sampler Length (in.)48 5/7/15 9.44 13 days **Rock Core Size:** Equipment Installed Sample Remark Stratum (#) Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister Description (in) (in) No. (ft.) (ppm) 48 31 S-1: Top 2": CONCRETE S-1 0-5 Native Sand Next 10": Brown, fine to coarse SAND, little Silt 2 (0-1')**Bentonite** Next 7": CONCRETE (1-1.5')Bottom 12": Brown SILT, little fine Sand, trace **PVC Well** fine Gravel, Damp in tip Screen (3.09-11.09')**PVC Riser** 5 FILL (0-3.09') S-2 5-8 48 31 S-2: Brown SILT, little fine to medium Sand, **WEATHERED** trace fine Gravel, Wet, staining from 22-26' **BEDROCK** Filter Sand (1.5-11.09)24 21 S-3: Top 16": Brown SILT, little fine to medium S-3 8-10 Sand, trace fine Gravel, Wet 9.5 10 Bottom 5": Gray, weathered ROCK, Schist 11.09 3 End of exploration at 11.3 feet. 15 GZA TEMPLATE GEOPROBE W//EQUIP & SAMP NO; 5/27/2015; 11:18:31 AM 20 25

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID 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.
2 - Paving was sampled with a 2" MacroCore and well installed with a HSA.
3 - 8 feet of 2 Inch diameter, Schedule 40, Ihreaded, flush joint, 10-stot PVC well screen set at approximately 11.09 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 1.5 to 11.09 feel below grade. Bentonite seal installed from 1 to 1.5 feet below grade. Remaining annulus filled with native sand from 0 to 1 feet below grade. Well protected with flush mount road box.

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.

AOC-19-7/GZ-4

GEOPROBE LOG EXPLORATION NO.: AOC-19-8 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. Vernon, CT GZ۱ Engineers and Scientists **REVIEWED BY:** Geoprobe Location: See Plan H. Datum: Logged By: Anthony Trani V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Final Geoprobe Depth (ft.): 2.5 Foreman: Jeremy Dube Date Start - Finish: 4/7/2015 - 4/7/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 Rock Core Size: Equipment Installed Remark Stratum (#) Sample Sample Description Modified Burmister Depth Depth Pen. Rec. PID* (ft) Description (ft.) (in) (in) No (ppm) No Equipment Installed 30 21 S-1: Top 5": CONCRETE S-1 0 - 2.50 Bottom 16": Brown, fine to medium SAND and FILL fine to coarse GRAVEL, little Silt 2.5 End of exploration at 2.5 feet. 2 5 10 15 GZADEPTH.GDT, GZA TEMPLATE GEOPROBE W/FQUIP & SAMP NO; 5/27/2015; 11:18:35 AM 20 25 1 - Soil samples screened with a 10.0 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... 2 - Refusal at 2.5 feet. 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.

AOC-19-8

GEOPROBE LOG EXPLORATION NO.: AOC-19-9 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 **Amerbelle Mills** GeoEnvironmental, Inc. GZ\ Vernon, CT Engineers and Scientists REVIEWED BY: Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: V. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 2 Date Start - Finish: 4/7/2015 - 4/7/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Sampler O.D. (in.):2,0 Rig Model: 6610 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Remark Stratum (#) Depth Sample Description Pen. Rec. PID* Depth (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 24 16 S-1: Top 5": CONCRETE No Equipment Installed S-1 0-2 0 Bottom 11": Brown, fine to coarse SAND and **FILL** fine GRAVEL, little Silt 2 End of exploration at 2 feet. 5 10 15 GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO. 5/27/2015; 11.18:38 AM 20 25 30 1 - Soil samples screened with a 10.0 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. 2 - Refusal at 2.0 feet. REMARKS GZADEPTH.GDT. 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. AOC-19-9

GEOPROBE LOG EXPLORATION NO.: AOC-20-1 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 **Amerbelle Mills** GeoEnvironmental, Inc. GZI Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. V. Datum: Ground Surface Elev. (ft.): Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 11 Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 Rock Core Size: Equipment Installed Sample Remark Stratum (#) Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 48 33 S-1: Top 2": ASPHALT No Equipment Installed S-1 0 Bottom 31": Brown, fine to medium SAND and fine GRAVEL, little Silt, Wet 2-14" 0 35 S-2 4-8 48 S-2: Brown, fine to mediuim SAND and fine 5 GRAVEL, little Silt, Wet **FILL** 0 36 16 S-3 8-11 S-3: Top 5": Brown, fine to medium SAND and fine GRAVEL, little Silt, Wet 10 Bottom 11": Brown, fine to medium SAND and weathered BEDROCK, little Silt BEDROCK End of exploration at 11 feet. 15 GEOPROBE W/EQUIP & SAMP NO; 5/27/2015; 11:18:41 AM 20 25 30 GZA TEMPLATE 1 - Soil samples screened with a 10.0 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. 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.

AOC-20-1

GEOPROBE LOG **EXPLORATION NO.:** AOC-20-2 **GZA** Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 27 Date Start - Finish: 4/3/2015 - 4/3/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Sampler O.D. (in.):2,0 Rig Model: 6610 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Depth Sample Description Pen. Rec. PID* Depth (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) No Equipment Installed S-1 0-4 48 37 S-1: Top 2": ASPHALT 0 Bottom 35": Brown, fine to medium SAND, some fine Gravel, little Silt, trace Brick, trace Asphalt 0 21 48 S-2: Brown, fine to medium SAND, some fine S-2 4-8 5 Gravel, little Silt 0 31 S-3 8-12 48 S-3: Brown, fine to medium SAND, little fine Gravel, little Silt 10 0 27 48 S-4: Brown, fine to medium SAND, little fine S-4 12-16 Gravel, little Silt FILL 15

W/EQUIP & SAMP NO; 5/27/2015; 11:18:44 AM 0 36 21 S-7: Top 18": Brown, fine to coarse SAND and 24-27 S-7 25 fine GRAVEL, little Silt, Wet Bottom 3": BRICK End of exploration at 27 feet.

S-5: Top 10": Brown, fine to medium SAND,

Bottom 14": Brown, fine to medium SAND, some

S-6: Brown, fine to medium SAND, some Silt,

little fine Gravel, little Silt

Silt, trace Ash, trace Brick, Damp

trace Ash, trace Brick, Wet at 15"

1 - Soil samples screened with a 10,6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and 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.

0

0

48 24

16 48

16-20

20-24

S-5

S-6

20

REMARKS

AOC-20-2

Stab. Time

GEOPROBE LOG

GZA GeoEnvironmental, Inc. Engineers and Scientists

Amerbelle Mills Vernon, CT EXPLORATION NO.: AOC-20-2A SHEET: 1 of 1 PROJECT NO: 05.0045441.00

REVIEWED BY:

Logged By: Anthony Trani

Drilling Co.: Aquifer Drilling and Testing, Inc. **Foreman:** Jeremy Dube

Geoprobe Location: See Plan Ground Surface Elev. (ft.): Final Geoprobe Depth (ft.): 27 Date Start - Finish: 4/3/2015 - 4/3/2015 H. Datum: V. Datum:

Type of Rig:GeoProbe

Rig Model: 6610 Drilling Method:Direct Push

5/27/2015: 11:18:47 AM

W/EQUIP & SAMP NO:

GZA TEMPLATE

REMARKS

Sampler Type:Macro Sampler O.D. (in.):2,0 Sampler Length (in.)48

Rock Core Size:

Groundwater Depth (ft.)

Date Time Water Depth Stab. Time

Equipment Installed Sample Stratum (#) Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister (in) (in) Description No (ft.) (ppm) S-1 0-4 48 37 S-1: Top 2": ASPHALT No Equipment Installed Bottom 35": Brown, fine to medium SAND, some fine Gravel, little Silt, trace Brick, trace Asphalt 48 21 S-2 4-8 S-2: Brown, fine to medium SAND, some fine 5 Gravel, little Silt 8-12 48 31 S-3: Brown, fine to medium SAND, little fine S-3 Gravel, little Silt 10 27 S-4 12-16 48 S-4: Brown, fine to medium SAND, little fine Gravel, little Silt FILL 15 24 16-20 48 S-5: Top 10": Brown, fine to medium SAND, S-5 little fine Gravel, little Silt Bottom 14": Brown, fine to medium SAND, some Silt, trace Ash, Brick Damp 20 S-6 20-24 48 16 S-6: Brown, fine to medium SAND, some Silt, trace Ash, Brick, Wet at 15" 36 21 24-27 S-7: Top 18": Brown, fine to coarse SAND and S-7 25 fine GRAVEL, little Silt, Wet Bottom 3": BRICK End of exploration at 27 feet.

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID), PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.

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.

AOC-20-2A

GEOPROBE LOG EXPLORATION NO.: AOC-20-3 **GZA** Amerbelle Mills SHEET: 1 of 1 PROJECT NO: 05.0045441.00 GeoEnvironmental, Inc. Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 4 Date Start - Finish: 3/30/2015 - 3/30/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Water Depth Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2.0 **Drilling Method:**Direct Push Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Stratum (#) Depth Sample Description Depth Pen. Rec. PID* (ft) Modified Burmister (in) (in) Description No. (ft.) (ppm) 48 26 S-1 0-4 S-1: Top 3": ASPHALT No Equipment Installed 0 Bottom 23": Brown, fine to medium SAND, some fine Gravel, little Silt, trace Brick, Asphalt, Wet at FILL 21" End of exploration at 4 feet. 5 10 15 GEOPROBE W/EQUIP & SAMP NO: 5/27/2015, 11:18:50 AM 20 25 1 - Soil samples screened with a 10.0 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. 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. AOC-20-3

GZA TEMPLATE

GZADEPTH GDT

GEOPROBE LOG EXPLORATION NO.: GZ-1 **GZA** SHEET: 1 of 1 PROJECT NO: 05.0045441.00 Amerbelle Mills GeoEnvironmental, Inc. GZ Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 18.5 Date Start - Finish: 4/7/2015 - 4/7/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Ria Model: 6610 Sampler O.D. (in.):2.0 4/7/15 1130 5 Drilling Method: HSA/Air Rotary Sampler Length (in.)48 Rock Core Size: Equipment Installed Sample Stratum Ed. Remark Depth Sample Description Pen Rec Depth PID* (ft) Modified Burmister (in) (in) Description No (ft.) (maga) 48 32 S-1 0 - 4S-1: Top 3": ASPHALT 1 0 Middle 6": Black, fine to coarse SAND, some 2 Silt, little fine Gravel 3 0 **FILL** Bottom 23": Brown SILT, some fine Gravel, little Grout (0-6.5') fine Sand 0 **PVC Riser** 7 7 4-4.6 4.6 S-2 S-2: Brown SILT, some fine Gravel, little fine 4 5 (0-8.36')Sand, trace Brick Bentonite (5.5-6.5')10 **BEDROCK**

End of exploration at 18.5 feet. 20

15

W/EQUIP & SAMP NO; 5/27/2015; 11:20:22 25

GZA TEMPI ATE

GZADEPTH.GDT

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.

Filter Sand (6.5-18.5')PVC Well Screen

(8.36-18.5')

18.5

^{1 -} Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID), PID 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,
2 - Sample collected by direct push to refusal at 4.6". Offset 4" east - refusal at 4,0 ffset 4" west of original spot - refusal at 4.6".
3 - Well installed via air rotary. Drove 4" casing to 4.5" - refusal then air rotary - fracture at 8" to 10.5", fracture at 15" to 15.25".
4 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-stot PVC well screen set at approximately 18.36 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser, Filter sand placed in annulus around well from 6.5 to 18.5 feet below grade. Bentonite seal installed from 5.5 to 6.5 feet below grade. Remaining annulus filled with grout from 0 to 6.5 feet below grade. Well protected with flush mount road box.

GEOPROBE LOG EXPLORATION NO.: GZA Amerbelle Mills SHEET: 1 of 1 PROJECT NO: 05.0045441.00 GeoEnvironmental, Inc. Vernon, CT Engineers and Scientists **REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Foreman: Jeremy Dube Final Geoprobe Depth (ft.): 25 Date Start - Finish: 4/7/2015 - 4/8/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Water Depth Time Stab. Time Rig Model: 6610 Sampler O.D. (in.):2,0 **Drilling Method:**HSA/Air Rotary Sampler Length (in.)48 **Rock Core Size:** Equipment Installed Sample Remark Stratum (#) Depth Sample Description Pen. Rec. Depth PID* (ft) Modified Burmister (in) (in) Description No (ft.) (ppm) S-1 0-4 48 29 S-1: Top 3": ASPHALT 0 Bottom 26": Brown, fine to medium SAND and 2 fine GRAVEL, little Silt 3 0 FILL Grout (0-7') 19 48 8 S-2: Brown, fine to medium SAND and fine S-2 4-6 5 **PVC Riser** GRAVEL, little Silt, Odor, Wet 4 (0-9.66')Bentonite (7-8')10 15 **BEDROCK** Filter Sand (8-25') PVC Well Screen (9.66-24.66') 20

W/EQUIP & SAMP NO. 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.

End of exploration at 25 feet.

^{1 -} Soil samples screened with a 10.0 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.
2 - Sample collected by direct push to refusal at 6'.
3 - Well installed via air rotary. Drove 4' casing to 7' - refusal then air rotary to 25'.
4 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-stol PVC well screen set at approximately 25 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC isser. Filter sand placed in annulus around well from 8 to 24.66 feet below grade. Bentonite seal installed from 7 to 8 feet below grade. Remaining annulus filled with grout from 0 to 7 feet below grade. Well protected with flush mount road box.

GEOPROBE LOG

GZA GeoEnvironmental, Inc. Engineers and Scientists

Amerbelle Mills Vernon, CT

4/24/2015 - 4/24/2015

EXPLORATION NO.: SHEET: SHEET: 1 of 1 PROJECT NO: 05.0045441.00

REVIEWED BY:

Logged By: Anthony Trani

Drilling Co.: Aquifer Drilling and Testing, Inc. Foreman: Levelle Tatum

Geoprobe Location: See Plan Ground Surface Elev. (ft.): Final Geoprobe Depth (ft.): 16.7 H. Datum: V. Datum:

Type of Rig:GeoProbe

Rig Model: 6610 **Drilling Method:**HSA/Air Rotary

Sampler Type:Macro Sampler O.D. (in.):2.0 Sampler Length (in.)48 Rock Core Size:

Date Start - Finish:

Groundwater Depth (ft.) Date Time Water Depth Stab. Time 4/30/15 Dry 6 days 5/7/15 Dry 13 days

· · · · · ·	Sample			Occupie Beautistics			<u>ਡੇ</u> ਦੇਂ Stratun	€∵	Equipme	nt Installed		
Depth (ft)	No.	Depth (ft.)	Pen. (in)	(in)	PID* (ppm)	Sample Description Modified Burmister		Remark	ங் ^{் E} Stratun Descripti	n దై≝ on		
- iii sio	S-1	0-4	48	25	0	S-1: Top 3": ASPHALT Bottom 22": Brown, fine to medium SAND a fine GRAVEL, little Silt, trace brick, Asphalt, in tip at 4'		1				Grout (0-2.7
5_	S-2	4-8	48	24	0	S-2 : Brown, fine to medium SAND, some fin Gravel, little Silt, Wet	ne					PVC Riser (0-6.7') Bentonite (2.75-4.75')
10	S-3	8-12	48	30	4.6	S-3 : Brown, fine to medium SAND, some S little fine Gravel, Wet	ilt,		FILL			
-	S-4	12-16	48	22	35.2 29.8	S-4 : Brown, fine to medium SAND, some S little fine Gravel, Wet	ilt,					Filter Sand (4.75-16.7') PVC Well Screen (6.7-16.7')
15 _ -					97.5			3	WEATHER	16 25 #6 7		, ,
					I	End of exploration at 16.7 feet.		_	BEDROO			
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.

^{1 -} Soil samples screened with a 10.0 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.
2 - Boring was sampled with 2" macro and well installed with HSA.
3 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-stol PVC well screen set at approximately 16.7 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 6.7 to 16.7 feet below grade. Bentonite seal installed from 2.75 to 4.75 feet below grade. Remaining annulus filled with grout from 0 to 2.75 feet below grade. Well protected with flush mount road box.

COMBINED GEOPROBE & HOLLOW STEM AUGER LOG EXPLORATION NO.: GZ-5 Amerbelle Mills SHEET: 1 of 1 GeoEnvironmental, Inc. PROJECT NO: 05.0045441.00 Vernon, CT **Engineers and Scientists REVIEWED BY:** Logged By: Anthony Trani Geoprobe Location: See Plan H. Datum: Drilling Co.: Aquifer Drilling and Testing, Inc. Ground Surface Elev. (ft.): V. Datum: Foreman: Levelle Tatum Final Geoprobe Depth (ft.): 16.7 Date Start - Finish: 4/24/2015 - 4/24/2015 Groundwater Depth (ft.) Type of Rig:GeoProbe Sampler Type:Macro Date Time Water Depth Stab. Time Ria Model: 6610 Sampler O.D. (in.):2.0 4/30/15 Dry 6 days **Drilling Method:**HSA/Air Rotary Sampler Length (in.)48 5/7/15 Dry 13 days **Rock Core Size:** Equipment Installed Sample Stratum (a) Remar Depth Sample Description Pen. Rec. PID* Depth (ft) **Modified Burmister** (in) (in) No (ft.) (ppm) Description 48 25 S-1: Top 3": ASPHALT S-1 0 - 40 Bottom 22": Brown, fine to medium SAND and 2 Grout (0-2.75) fine GRAVEL, little Silt, trace brick, Asphalt, Wet 0 in tip at 4' **PVC Riser** 0 (0-6.7')24 4-8 48 S-2: Brown, fine to medium SAND, some fine S-2 Bentonite 5 Gravel, little Silt, Wet (2.75-4.75')0 4.6 **FILL** 48 30 S-3 8-12 S-3: Brown, fine to medium SAND, some Silt, little fine Gravel, Wet 10 35.2 Filter Sand (4.75-16.7')29.8 **PVC Well** 48 22 S-4: Brown, fine to medium SAND, some Silt, S-4 12-16 Screen little fine Gravel, Wet (6.7-16.7')97.5 15 3 WEATHERED6 End of exploration at 16.7 feet. **BEDROCK** 20 25 30 1 - Soil samples screened with a 10.0 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. 2 - Boring was sampled with 2" macro and well installed with HSA. 3 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 16.7 feet below grade. Well completed to ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 6.7 to 16.7 feet below grade. Bentonite seal installed from 2.75 to 4.75 feet below grade. Remaining annulus filled with grout from 0 to 2.75 feet below grade. Well protected with flush mount road box. 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.

GZA TEMPLATE GEOPROBE W/EQUIP & SAMP NO; 5/14/2015; 2:10:29

GZADEPTH.GDT;

GZ-5

XRF Data Form Amerbelle Mills Vernon, CT

				Vernor	i, C i					
	XRF DATA FORM					Units are	in PPM	-		
Date	Boring	Depth (fbg)	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silve
	Cal (2711a)		, i		- 3			-	165	747
3/30/2015			ND	259	ND	115	19.1	ND	ND	ND
			ND	403	ND	83	55	ND	ND	ND
			ND	308	ND	ND	15.6	ND	ND	ND
	AOC 1-2 (2-3)		ND	ND	ND	ND	13.6	ND	ND	ND
	AOC 1-2 (0-2)		ND	ND	ND	ND	18.8	ND	ND	ND
	AOC 1-2 (6-8)		ND	357	ND	ND	11.2	ND	ND	ND
	AOC 1-2 (4-6)		ND	ND	ND	ND	11.2	ND	ND	ND
	AOC 1-2 (10-12)		ND	268	ND	56	12,3	ND	ND	ND
	AOC 1-2 (8-10)		ND	ND	ND	ND	16	ND	ND	ND
	AOC 1-2 (12-15)		ND	ND	ND	ND	11,2	ND	ND	ND
	AOC 1 1 (0-2)		ND	360	ND	ND	12.2	ND	ND	ND
	AOC 1-1 (4-6)		ND	ND	ND	ND	15,4	ND	ND	ND
	AOC 1-1 (6-8)		ND	ND	ND	ND	16	ND	ND	ND
	AOC 1-1 (8-10)		ND	309	ND	55	20.9	ND	ND	ND
	AOC 2-1 (0-2)		ND	283	ND	79	16	ND	ND	ND
	AOC 2-2 (0.5-2)			738	ND	83	201	11	ND	ND
3/30/2015	AOC 2-3 (0.5-2)		ND	228	ND	ND	24	9	ND	ND
	AOC 3-1 (0.5-2)		ND	202	ND	ND	NA	ND	ND	ND
	AOC 3-2 (0.5-2)		ND	308	ND	ND	17	. ND	DN	ND
	AOC 3-2 (4-6)		ND	238	ND	ND	11,8	ND	ND	ND
3/31/2015	Cal 2710A				2	2	2	20	1.6	(14)
	AOC 7-1 (0.5-2)		ND	321	ND	ND	23	ND	ND	ND
	AOC 7-1 (2-4)		ND	ND	ND	ND	149	ND	ND	ND
	AOC 7-1 (0.5 2)		ND	248	ND	ND	18.1	ND	ND	ND
	AOC 7-1 (2-4)		ND	ND	ND	ND	28	ND	ND	ND
	AOC 20-1 (0-2)		ND	201	ND	ND	13.1	ND	ND	ND
	AOC 20-1 (2-4)		ND	211	ND	ND	15.6	ND	ND	ND
	AOC 20-1 (4-6)		ND	ND	ND	ND	19	ND	ND	ND
	AOC 20-1 (6-8)		ND	218	ND	ND	22	ND	ND	ND
	AOC 20-1 (8-10)		ND	245	ND	ND	15.1	ND	ND	ND

1 of 2

J:_45,000-45,499\45441 Amerbelle\Data Sheets\XRF Data Form_ixlsx

XRF Data Form Amerbelle Mills Vernon, CT

			Vernon	, CI					
3/31/2015	AOC 20-2 (0.5-2)	ND	260	ND	ND	125	ND	ND	ND
	AOC 20-3 (0-2)	ND	432	ND	67	13,2	ND	ND	ND
	AOC 20-3 (2-4)	ND	213	ND	ND	19	ND	ND	ND
	AOC-16 1 (0-2)	143	ND	ND	ND	58	ND	ND	ND
	AOC 16-1 (2-4)	ND	478	ND	ND	NA	ND	ND	ND
3	AOC 16-1 (4-6)	ND	284	ND	ND	24	ND	ND	ND
	AOC 16-1 (6-8)	ND	ND	ND	ND	10.1	ND	ND	ND
	AOC 16-1 (8-9)	ND	- NA	ND	ND	23.6	ND	ND	ND _
	AOC 16-1 (9-11)	ND	1095	ND	ND	9	14	ND	ND
	AOC 15-1 (0.5-2)	ND	ND	ND	ND	20.1	ND	ND	ND
	AOC 15-1 (2-4)	ND	405	ND	91	17.5	ND	ND	ND
	AOC 15-2 (0.5-2)	ND	ND	ND	ND	114	ND	ND	ND
	AOC 15-2 (2-4)	ND	ND	ND	ND	17.9	ND	ND	ND
	AOC 15-3 (0.5-2.5)	ND	594	ND	86	58	ND	ND	ND
	Cal (2711 c)	*						16:	.:(€:
4/3/2015	Cal (2711 c)	-			-			-	
	AOC 13-1 (0-3)	ND	370	ND	89	86	ND	ND	ND
	AOC 13-1 (3-6)	ND	ND	ND	59	45	ND	ND	ND
	AOC 13-1 (6-8.8)	ND	402	ND	62	23	8	ND	ND
	AOC 13-2 (0-3)	ND	ND	ND	ND	67	ND	ND	ND
4/3/2015	AOC 13-2 (3-6)	ND	231	ND	ND	17	ND	ND	ND
	AOC 13-2 (6-9)	ND	ND	ND	ND	18	ND	ND	ND
	AOC 13-2 (12-13)	ND	ND	ND	ND	36	ND	ND	ND
	AOC 13-3 (0-3)	ND	354	ND	ND	44	ND	ND	ND
	AOC 13-3 (3-6)	ND	NA	ND	63	31	ND	ND	ND
	AOC 13-3 (6-9)	ND	488	ND	ND	13	9	ND	ND
	AOC 13-3 (9-10)	ND	ND	ND	ND	13	ND	ND	ND
	Cal	*			*			528	3 e)

Notes:

- XRF = X-Ray Fluorescence
 Data collected by Mystic Air Labs.



Tuesday, April 28, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BJ04837 - BJ04838

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

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



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

Analysis Report

April 28, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402 Glastonbury, CT 06033

Sample Information

SOLID Matrix:

Location Code: GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information

Collected by: **AT**

04/20/15

<u>Time</u> 9:30

Received by:

SW

04/20/15

Date

15:46

Analyzed by: see "By" below

Laboratory Data

SDG ID: GBJ04837

Phoenix ID: BJ04837

Project ID:

AMERBELLE MILLS

Client ID: AOC-5-4 (6-8)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
 Silver	< 0.42	0.42	mg/Kg	1	04/22/15	LK	SW6010C
Arsenic	2.8	8.0	mg/Kg	1	04/22/15	LK	SW6010C
Barium	107	0.42	mg/Kg	1	04/22/15	LK	SW6010C
Cadmium	< 0.42	0.42	mg/Kg	1	04/22/15	LK	SW6010C
Chromium	21.0	0.42	mg/Kg	1	04/22/15	LK	SW6010C
Mercury	0.05	0.03	mg/Kg	1	04/22/15	RS	SW7471B
Lead	8.96	0.42	mg/Kg	1	04/22/15	LK	SW6010C
Selenium	< 1.7	1.7	mg/Kg	1	04/22/15	LK	SW6010C
Percent Solid	82		%		04/20/15	- 1	SW846-%Solid
Ammonia as Nitrogen	< 44	44	mg/Kg	1	04/22/15	WHM	E350.1
Soil Extraction for SVOA	Completed				04/20/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				04/20/15	BC/D	SW3545A
Formaldehyde Prep for HPLC	Completed				04/22/15	ML/D	
Mercury Digestion	Completed				04/22/15	1/1	SW7471B
TCLP Extraction for Formaldehyde	Completed				04/21/15	1	SW1311
Total Metals Digest	Completed				04/20/15	CB/AG	SW3050B
Field Extraction	Completed				04/20/15		SW5035A
TPH by GC (Extractable	Products	s)					
Ext. Petroleum HC	ND	60	mg/Kg	1	04/23/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/23/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	69		%	1	04/23/15	JRB	50 - 150 %
<u>Glycols</u>							
Ethylene glycol	ND	12	mg/Kg	1	04/22/15	JRB	SW8015D GLY
Propylene glycol	ND	12	mg/Kg	1	04/22/15	JRB	SW8015D GLY
QA/QC Surrogates							

Ver 1 Page 1 of 8

Client ID: AOC-5-4 (6-8)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
% DPG (surrogate)	73		%	1	04/22/15	JRB	70 - 130 %
Methanol	ND	5.0	mg/Kg	1	04/22/15	JRB	SW8015D
Formaldehyde	ND	2400	ug/kg	1	04/25/15	RM	SW8315A
Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.7	ug/Kg	1	04/22/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.5	ug/Kg	1	04/22/15	JLi	SW8260C
1,3,5-Trimethylbenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
2-Chlorotoluene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
2-Hexanone	ND	22	ug/Kg	1	04/22/15	JLI	SW8260C
2-Isopropyltoluene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
4-Chlorotoluene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	22	ug/Kg	1	04/22/15	JLI	SW8260C
Acetone	ND	27	ug/Kg	1	04/22/15	JLI	SW8260C
Acrylonitrile	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Benzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Bromobenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Bromochloromethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Bromodichloromethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Bromoform	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Bromomethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Carbon Disulfide	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Carbon tetrachloride	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Chlorobenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Chloroethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Chloroform	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Chloromethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Dibromochloromethane	ND	2.7	ug/Kg	1	04/22/15	JLI	SW8260C
Dibromomethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C

Page 2 of 8 Ver 1

Phoenix I.D.: BJ04837

Phoenix I.D.: BJ04837

Project ID: AMERBELLE MILLS Client ID: AOC-5-4 (6-8)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Ethylbenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Hexachlorobutadiene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Isopropylbenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
m&p-Xylene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	27	ug/Kg	1	04/22/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	8.9	ug/Kg	1	04/22/15	JLI	SW8260C
Methylene chloride	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Naphthalene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
n-Butylbenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
n-Propylbenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
o-Xylene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
p-Isopropyltoluene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
sec-Butylbenzene	ND	4.5	ug/Kg	1	04/22/15	JLi	SW8260C
Styrene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
tert-Butylbenzene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Tetrachloroethene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	8.9	ug/Kg	1	04/22/15	JLI	SW8260C
Toluene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Total Xylenes	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	8.9	ug/Kg	1	04/22/15	JLI	SW8260C
Trichloroethene	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
Vinyl chloride	ND	4.5	ug/Kg	1	04/22/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	04/22/15	JLI	70 - 130 %
% Bromofluorobenzene	95		%	1	04/22/15	JLI	70 - 130 %
% Dibromofluoromethane	96		%	1	04/22/15	JLI	70 - 130 %
% Toluene-d8	98		%	1	04/22/15	JLI	70 - 130 %
Semivolatiles	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
1,2,4,5-Tetrachlorobenzene	ND	280	ug/Kg ug/Kg	1	04/22/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	280	ug/Kg ug/Kg	1	04/22/15	DD	SW8270D
1,2-Dichlorobenzene	ND			1	04/22/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	400	ug/Kg	1	04/22/15	DD	SW8270D
1,3-Dichlorobenzene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
1,4-Dichlorobenzene	ND	280	ug/Kg	1		DD	SW8270D
2,4,5-Trichlorophenol	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
2,4-Dichlorophenol	ND	280	ug/Kg	1	04/22/15		SW8270D SW8270D
2,4-Dimethylphenol	ND	280	ug/Kg	1	04/22/15	DD	SW8270D SW8270D
2,4-Dinitrophenol	ND	630	ug/Kg	1	04/22/15	DD	
2,4-Dinitrotoluene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
2,6-Dinitrotoluene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
2-Chloronaphthalene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
2-Chlorophenol	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
2-Methylnaphthalene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	280	ug/Kg	1	04/22/15	DD	SW8270D

Page 3 of 8 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ04837

Client ID: AOC-5-4 (6-8)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2-Nitroaniline	ND	630	ug/Kg	1	04/22/15	DD	SW8270D
2-Nitrophenol	ND	280	ug/Kg	1	04/22/15	DĐ	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	400	ug/Kg	1	04/22/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
3-Nitroaniline	ND	630	ug/Kg	1	04/22/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	04/22/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	400	ug/Kg	1	04/22/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
4-Chloroaniline	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
4-Nitroaniline	ND	630	ug/Kg	1	04/22/15	DD	SW8270D
4-Nitrophenol	ND	1100	ug/Kg	1	04/22/15	DD	SW8270D
Acenaphthene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Acenaphthylene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Acetophenone	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Aniline	ND	1100	ug/Kg	1	04/22/15	DD	SW8270D
Anthracene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Benz(a)anthracene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Benzidine	ND	480	ug/Kg	1	04/22/15	DD	SW8270D
Benzo(a)pyrene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Benzo(b)fluoranthene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Benzo(ghi)perylene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Benzo(k)fluoranthene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Benzoic acid	ND	1100	ug/Kg	1	04/22/15	DD	SW8270D
Benzyl butyl phthalate	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	400	ug/Kg	1	04/22/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Carbazole	ND	590	ug/Kg	1	04/22/15	DD	SW8270D
Chrysene	ND	280	ug/Kg	1	04/22/15	DĐ	SW8270D
Dibenz(a,h)anthracene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Dibenzofuran	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Diethyl phthalate	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Dimethylphthalate	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Di-n-butylphthalate	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Di-n-octylphthalate	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Fluoranthene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Fluorene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Hexachlorobenzene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Hexachlorobutadiene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Hexachloroethane	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Isophorone	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Naphthalene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Nitrobenzene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
N-Nitrosodimethylamine	ND	400	ug/Kg	1	04/22/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	280	ug/Kg	1	04/22/15	DD	SW8270D

Page 4 of 8 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ04837

Client ID: AOC-5-4 (6-8)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
N-Nitrosodiphenylamine	ND	400	ug/Kg	1	04/22/15	DD	SW8270D
Pentachloronitrobenzene	ND	400	ug/Kg	1	04/22/15	DD	SW8270D
Pentachlorophenol	ND	400	ug/Kg	1	04/22/15	DD	SW8270D
Phenanthrene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Phenol	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Pyrene	ND	280	ug/Kg	1	04/22/15	DD	SW8270D
Pyridine	ND	400	ug/Kg	1	04/22/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	78		%	1	04/22/15	DD	30 - 130 %
% 2-Fluorobiphenyl	59		%	1	04/22/15	DD	30 - 130 %
% 2-Fluorophenol	55		%	1	04/22/15	DD	30 - 130 %
% Nitrobenzene-d5	54		%	1	04/22/15	DD	30 - 130 %
% Phenol-d5	59		%	1	04/22/15	DD	30 - 130 %
% Terphenyl-d14	77		%	1	04/22/15	DD	30 - 130 %

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 28, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Ver 1 Page 5 of 8



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

Analysis Report

April 28, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

AT

SW

see "By" below

Glastonbury, CT 06033

Sample Information

Matrix:

SOLID

Location Code:

GZA-AMER

Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

04/20/15 12:30

Time

04/20/15 15:46

SDG ID: GBJ04837

Phoenix ID: BJ04838

Date

Project ID:

P.O.#:

AMERBELLE MILLS

Client ID:

AOC-5-6 (4.5-6.5)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.38	0.38	mg/Kg	1	04/22/15	LK	SW6010C
Arsenic	1.3	0.8	mg/Kg	1	04/22/15	LK	SW6010C
Barium	67.6	0.38	mg/Kg	1	04/22/15	LK	SW6010C
Cadmium	< 0.38	0.38	mg/Kg	1	04/22/15	LK	SW6010C
Chromium	26.1	0.38	mg/Kg	1	04/22/15	LK	SW6010C
Mercury	< 0.03	0.03	mg/Kg	1	04/22/15	RS	SW7471B
_ead	6.21	0.38	mg/Kg	1	04/22/15	LK	SW6010C
Selenium	< 1.5	1.5	mg/Kg	1	04/22/15	LK	SW6010C
Percent Solid	93		%		04/20/15	1	SW846-%Solid
extraction of CT ETPH	Completed				04/20/15	BC/D	SW3545A
Mercury Digestion	Completed				04/22/15	1/1	SW7471B
otal Metals Digest	Completed				04/20/15	CB/AG	SW3050B
Field Extraction	Completed				04/20/15		SW5035A
ΓΡΗ by GC (Extractab	le Products	<u>s)</u>					
- 1 - 1 - 1 - 1 - 1	ND	53	mg/Kg	1	04/23/15	JRB	CTETPH 8015D
ext. Petroleum HC					04/00/45	JRB	CTETPH 8015D
	ND		mg/Kg	1	04/23/15		
dentification	ND		mg/Kg	1	04/23/15		
dentification QA/QC Surrogates	ND 69		mg/Kg %	1	04/23/15	JRB	50 - 150 %
dentification QA/QC Surrogates % n-Pentacosane							
dentification QA/QC Surrogates % n-Pentacosane Volatiles		5.9					
Ext. Petroleum HC dentification QA/QC Surrogates % n-Pentacosane Volatiles 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	69	5.9 5.9	%	1	04/23/15	JRB	50 - 150 %
dentification QA/QC Surrogates % n-Pentacosane Volatiles 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	69 ND		% ug/Kg	1	04/23/15 04/23/15	JRB JLI	50 - 150 % SW8260C
dentification QA/QC Surrogates % n-Pentacosane Volatiles 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	69 ND ND	5.9	% ug/Kg ug/Kg	1 1 1	04/23/15 04/23/15 04/23/15	JRB JLI JLI	50 - 150 % SW8260C SW8260C
dentification QA/QC Surrogates % n-Pentacosane /olatiles 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane	69 ND ND	5.9 3.5	% ug/Kg ug/Kg ug/Kg	1 1 1	04/23/15 04/23/15 04/23/15 04/23/15	JRB JLI JLI JLI	50 - 150 % SW8260C SW8260C SW8260C
dentification QA/QC Surrogates % n-Pentacosane Volatiles	69 ND ND ND	5.9 3.5 5.9	% ug/Kg ug/Kg ug/Kg ug/Kg	1 1 1	04/23/15 04/23/15 04/23/15 04/23/15 04/23/15	JRB JLI JLI JLI JLI	50 - 150 % SW8260C SW8260C SW8260C SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ04838

Client ID: AOC-5-6 (4.5-6.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1,2,3-Trichlorobenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
2-Chlorotoluene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
2-Hexanone	ND	30	ug/Kg	1	04/23/15	JLI	SW8260C
2-Isopropyltoluene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
4-Chlorotoluene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
4-Methyl-2-pentanone	ND	30	ug/Kg	1	04/23/15	JLI	SW8260C
Acetone	ND	35	ug/Kg	1	04/23/15	JLI	SW8260C
Acrylonitrile	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Benzene	ND	5.9	ug/Kg	1	04/23/15	JLi	SW8260C
Bromobenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Bromochloromethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Bromodichloromethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Bromoform	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Bromomethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Carbon Disulfide	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Carbon tetrachloride	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Chlorobenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Chloroethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Chloroform	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Chloromethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Dibromochloromethane	ND	3.5	ug/Kg	1	04/23/15	JLI	SW8260C
Dibromomethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Ethylbenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Hexachlorobutadiene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Isopropylbenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
m&p-Xylene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Methyl Ethyl Ketone	ND	35	ug/Kg	1	04/23/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	12	ug/Kg	1	04/23/15	JLI	SW8260C
Methylene chloride	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Naphthalene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
n-Butylbenzene	ND	5.9	ug/Kg ug/Kg	1	04/23/15	JLI	SW8260C
n-Propylbenzene	ND	5.9	ug/Kg ug/Kg	1	04/23/15	JLI	SW8260C
o-Xylene	ND	5.9	ug/Kg ug/Kg	1	04/23/15	JLI	SW8260C
o Aylono	110	V.V.	491179	ē.	0 1120/10	JLI	

Page 7 of 8 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ04838

Client ID: AOC-5-6 (4.5-6.5)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
p-Isopropyltoluene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
sec-Butylbenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Styrene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
tert-Butylbenzene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Tetrachloroethene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	12	ug/Kg	1	04/23/15	JLI	SW8260C
Toluene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Total Xylenes	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	12	ug/Kg	1	04/23/15	JLI	SW8260C
Trichloroethene	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
Vinyl chloride	ND	5.9	ug/Kg	1	04/23/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	04/23/15	JLI	70 - 130 %
% Bromofluorobenzene	110		%	1	04/23/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	04/23/15	JLI	70 - 130 %
% Toluene-d8	98		%	1	04/23/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 28, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Page 8 of 8 Ver 1



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

QA/QC Report

April 28, 2015

QA/QC Data

Parameter	Blank	Bik RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 305217 (mg/kg), QC Sample No: BJ04634 (BJ04837, BJ04838)														
ICP Metals - Soil														
Arsenic	BRL	0.68	15.6	10.6	38.2	97.4	97.1	0.3	92.1	94.9	3.0	75 - 125	30	r
Barium	BRL	0.34	1520	314	132	94.5	93.4	1.2	NC	NC	NC	75 - 125	30	r
Cadmium	BRL	0.34	23.9	13.2	57.7	94.6	95.5	0.9	82.5	86.0	4.2	75 - 125	30	r
Chromium	BRL	0.34	60.7	40.8	39.2	96.2	94.5	1.8	82.6	79.2	4.2	75 - 125	30	r
Lead	BRL	0.34	8050	1190	149	95.2	91.8	3.6	NC	NC	NC	75 - 125	30	r
Selenium	BRL	1.4	2.3	1.6	NC	97.9	95.1	2.9	84.1	85.9	2.1	75 - 125	30	
Silver	BRL	0.34	1.64	1.40	NC	98.5	95.8	2.8	99.6	102	2.4	75 - 125	30	
QA/QC Batch 305409 (mg/kg),	QC Sam	ple No:	BJ04722	(BJ048	37, BJ0)4838)								
Mercury - Soil Comment:	BRL	0.06	<0.03	<0.03	NC	106	113	6.4	107	108	0.9	70 - 130	30	
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%.														

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



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

QA/QC Report

April 28, 2015

QA/QC Data

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 305314 (mg/L), Qo Ammonia as Nitrogen	C Samp BRL	le No: I 0.05	BJ04760 <0.05	(BJ0483 <0.05	7) NC	103			99.5			85 - 115	20



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

QA/QC Report

April 28, 2015

QA/QC Data

Parameter	Blank	Blk RL	L.	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 305614 (ug/kg)	OC Same	olo No: I	103065 /B 104837 B 1048	38)								
	, QC Salli	pie INO. I	300300 (B30+007, B30+0	30)								
Volatiles - Solid	MB	- 0		00	107	8.8	112	110	1.8	70 - 130	30	
1,1,1,2-Tetrachloroethane	ND	5.0		98	107	o.o 9.8	114	113	0.9	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0		97		9.6 7.7	107	104	2.8	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0		100 95	108 103	7.7 8.1	107	104	0.9	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0			103	0. i 10.1	92	110	17.8	70 - 130	30	
1,1-Dichloroethane	ND	5.0		94			124	113	9.3	70 - 130	30	
1,1-Dichloroethene	ND	5.0		107	117	8.9			9.3 1.7	70 - 130	30	
1,1-Dichloropropene	ND	5.0		97	109	11.7	116	114 103	3.0	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0		99	104	4.9	100					
1,2,3-Trichloropropane	ND	5.0		90	99	9.5	103	100	3.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0		104	110	5.6	98	102	4.0	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0		98	105	6.9	111	111	0.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0		98	110	11.5	114	108	5.4	70 - 130	30	
1,2-Dibromoethane	ND	5.0		96	106	9.9	109	108	0.9	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0		96	103	7.0	103	104	1.0	70 - 130	30	
1,2-Dichloroethane	ND	5.0		95	103	8.1	107	106	0.9	70 - 130	30	
1,2-Dichloropropane	ND	5.0		94	103	9.1	109	108	0.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0		101	109	7.6	112	112	0.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0		99	106	6.8	104	105	1.0	70 - 130	30	
1,3-Dichloropropane	ND	5.0		95	104	9.0	109	107	1.9	70 - 130		
1,4-Dichlorobenzene	ND	5.0		97	105	7.9	102	103	1.0	70 - 130		
2,2-Dichloropropane	ND	5.0		98	108	9.7	111	109	1.8	70 - 130		
2-Chlorotoluene	ND	5.0		96	105	9.0	108	108	0.0	70 - 130		
2-Hexanone	ND	25		89	99	10.6	105	98	6.9	70 - 130		
2-Isopropyltoluene	ND	5.0		104	113	8.3	117	116	0.9	70 - 130		
4-Chlorotoluene	ND	5.0		97	106	8.9	106	107	0.9	70 - 130		
4-Methyl-2-pentanone	ND	25		93	102	9.2	110	104	5.6	70 - 130		
Acetone	ND	10		93	105	12.1	152	139	8.9	70 - 130		m
Acrylonitrile	ND	5.0		92	103	11.3	102	102	0.0	70 - 130		
Benzene	ND	1.0		98	108	9.7	112	110	1.8	70 - 130		
Bromobenzene	ND	5.0		96	104	8.0	107	105	1.9	70 - 130		
Bromochloromethane	ND	5.0		99	108	8.7	110	109	0.9	70 - 130		
Bromodichloromethane	ND	5.0		102	112	9.3	111	110	0.9	70 - 130	30	
Bromoform	ND	5.0		104	113	8.3	115	113	1.8	70 - 130		
Bromomethane	ND	5.0		99	107	7.8	126	118	6.6	70 - 130		
Carbon Disulfide	ND	5.0		123	137	10.8	131	121	7.9	70 - 130		l,m
Carbon tetrachloride	ND	5.0		98	108	9.7	115	113	1.8	70 - 130	30	
Chlorobenzene	ND	5.0		96	106	9.9	109	108	0.9	70 - 130	30	
Chloroethane	ND	5.0		96	106	9.9	120	116	3.4	70 - 130	30	
Chloroform	ND	5.0		96	105	9.0	110	110	0.0	70 - 130	30	
Chloromethane	ND	5.0		83	92	10.3	105	105	0.0	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0		98	104	5.9	112	111	0.9	70 - 130	30	

Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
cis-1,3-Dichloropropene	ND	5.0		103	112	8.4	112	112	0.0	70 - 130	30
Dibromochloromethane	ND	3.0		105	114	8.2	114	112	1.8	70 - 130	30
Dibromomethane	ND	5.0		94	102	8.2	108	106	1.9	70 - 130	30
Dichlorodifluoromethane	ND	5.0		91	100	9.4	105	104	1.0	70 - 130	30
Ethylbenzene	ND	1.0		101	112	10.3	113	110	2.7	70 - 130	30
Hexachlorobutadiene	ND	5.0		102	109	6.6	107	111	3.7	70 - 130	30
Isopropylbenzene	ND	1.0		98	108	9.7	115	114	0.9	70 - 130	30
m&p-Xylene	ND	2.0		101	111	9.4	112	111	0.9	70 - 130	30
Methyl ethyl ketone	ND	5.0		89	102	13.6	105	99	5.9	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0		107	113	5.5	115	107	7.2	70 - 130	30
Methylene chloride	ND	5.0		97	107	9.8	115	106	8.1	70 - 130	30
Naphthalene	ND	5.0		101	109	7.6	112	109	2.7	70 - 130	30
n-Butylbenzene	ND	1.0		103	110	6.6	110	112	1.8	70 - 130	30
n-Propylbenzene	ND	1.0		94	102	8.2	111	112	0.9	70 - 130	30
o-Xylene	ND	2.0		102	112	9.3	115	113	1.8	70 - 130	30
p-Isopropyltoluene	ND	1.0	9.1	103	111	7.5	114	115	0.9	70 - 130	30
sec-Butylbenzene	ND	1.0		104	112	7.4	116	115	0.9	70 - 130	30
Styrene	ND	5.0		103	113	9.3	115	114	0.9	70 - 130	30
tert-Butylbenzene	ND	1.0		100	108	7.7	117	115	1.7	70 - 130	30
Tetrachloroethene	ND	5.0		100	112	11.3	113	112	0.9	70 - 130	30
Tetrahydrofuran (THF)	ND	5.0		91	104	13.3	104	99	4.9	70 - 130	30
Toluene	ND	1.0		97	107	9.8	109	108	0.9	70 - 130	30
trans-1,2-Dichloroethene	ND	5.0		104	116	10.9	120	111	7.8	70 - 130	30
trans-1,3-Dichloropropene	ND	5.0		105	115	9.1	112	110	1.8	70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0		109	120	9.6	116	112	3.5	70 - 130	30
Trichloroethene	ND	5.0		98	108	9.7	112	111	0.9	70 - 130	30
Trichlorofluoromethane	ND	5.0		97	108	10.7	121	115	5.1	70 - 130	30
Trichlorotrifluoroethane	ND	5.0		105	115	9.1	123	116	5.9	70 - 130	30
Vinyl chloride	ND	5.0		102	113	10.2	115	110	4.4	70 - 130	30
% 1,2-dichlorobenzene-d4	101	%		101	99	2.0	100	99	1.0	70 - 130	30
% Bromofluorobenzene	97	%		101	102	1.0	100	101	1.0	70 - 130	30
% Dibromofluoromethane	100	%		98	99	1.0	101	98	3.0	70 - 130	30
% Toluene-d8	99	%		100	100	0.0	100	100	0.0	70 - 130	30
Comment:											
Additional 8260 criteria: 10% of	f LCS/LCSD	compound	s can be outside of acc	eptance o	criteria as	long as	recover	y is 40-1	60%.		
QA/QC Batch 305375 (mg/kg	ı), QC Sam	ple No: B	J04247 (BJ04837)								
Glycols - Solid		•	·								
Ethylene glycol	ND	10		99	95	4.1	86	88	2.3	70 - 130	30
Propylene glycol	ND	10		110	105	4.7	83	87	4.7	70 - 130	
% DPG	86	%		84	77	8.7	79	71	10.7		
QA/QC Batch 305189 (ug/Kg			J04534 (BJ04837)								
Semivolatiles - Solid											
1,2,4,5-Tetrachlorobenzene	ND	230		86	86	0.0	82	87	5.9	30 - 130	30
1,2,4-Trichlorobenzene	ND	230		79	79	0.0	77	84	8.7	30 - 130	30
1,2-Dichlorobenzene	ND	230		73	74	1.4	67	72	7.2	30 - 130	30
1,2-Diphenylhydrazine	ND	230		99	108	8.7	90	94	4.3	30 - 130	30
1,3-Dichlorobenzene	ND	230		69	71	2.9	63	68	7.6	30 - 130	30
1,4-Dichlorobenzene	ND	230		71	73	2.8	65	69	6.0	30 - 130	30
2,4,5-Trichlorophenol	ND	230		101	104	2.9	91	94	3.2	30 - 130	
2,4,6-Trichlorophenol	ND	130		97	96	1.0	89	92	3.3	30 - 130	30
2,4-Dichlorophenol	ND	130		88	87	1.1	89	95	6.5	30 - 130	30
•											

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2,4-Dimethylphenol	ND	230	84	83	1.2	88	96	8.7	30 - 130	30	
2,4-Dinitrophenol	ND	230	31	29	6.7	30	18	50.0	30 - 130	30	l,m,r
2,4-Dinitrotoluene	ND	130	120	130	8.0	101	108	6.7	30 - 130	30	
2,6-Dinitrotoluene	ND	130	106	115	8.1	92	99	7.3	30 - 130	30	
2-Chloronaphthalene	ND	230	88	85	3.5	87	93	6.7	30 - 130	30	
2-Chlorophenol	ND	230	83	85	2.4	78	84	7.4	30 - 130	30	
2-Methylnaphthalene	ND	230	86	86	0.0	86	93	7.8	30 - 130	30	
2-Methylphenoi (o-cresol)	ND	230	86	89	3.4	89	96	7.6	30 - 130	30	
2-Nitroaniline	ND	670	127	130	2.3	112	118	5.2	30 - 130	30	
2-Nitrophenol	ND	230	83	85	2.4	81	85	4.8	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230	95	96	1.0	90	95	5.4	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	84	84	0.0	108	115	6.3	30 - 130	30	
3-Nitroaniline	ND	670	101	106	4.8	89	98	9.6	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	170	61	56	8.5	68	58	15.9	30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	86	90	4.5	86	92	6.7	30 - 130	30	
4-Chloro-3-methylphenol	ND	230	94	94	0.0	98	103	5.0	30 - 130	30	
4-Chloroaniline	ND	230	72	72	0.0	69	80	14.8	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	99	107	7.8	87	94	7.7	30 - 130	30	
4-Nitroaniline	ND	670	111	118	6.1	98	102	4.0	30 - 130	30	
4-Nitrophenol	ND	230	113	114	0.9	95	99	4.1	30 - 130	30	
Acenaphthene	ND	230	87	89	2.3	82	89	8.2	30 - 130	30	
Acenaphthylene	ND	230	91	90	1.1	85	92	7.9	30 - 130	30	
Acetophenone	ND	230	93	93	0.0	85	92	7.9	30 - 130	30	
Aniline	ND	970	60	62	3.3	82	86	4.8	30 - 130	30	
Anthracene	ND	230	96	95	1.0	91	99	8.4	30 - 130	30	
Benz(a)anthracene	ND	230	98	97	1.0	83	92	10.3	30 - 130	30	
Benzidine	ND	330	29	27	7.1	>200	>200	NC	30 - 130	30	l,m
Benzo(a)pyrene	ND	230	104	104	0.0	86	93	7.8	30 - 130	30	
Benzo(b)fluoranthene	ND	230	103	106	2.9	85	92	7.9	30 - 130	30	
Benzo(ghi)perylene	ND	230	97	94	3.1	89	97	8.6	30 - 130	30	
Benzo(k)fluoranthene	ND	230	99	99	0.0	88	87	1.1	30 - 130	30	
Benzoic Acid	ND	330	16	18	11.8	11	<10	NC	30 - 130	30	l,m
Benzyl butyl phthalate	ND	230	89	88	1.1	92	105	13.2	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	89	88	1.1	86	92	6.7	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	73	74	1.4	63	67	6.2	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	80	80	0.0	69	73	5.6	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	85	86	1.2	100	112	11.3	30 - 130	30	
Carbazole	ND	500	98	92	6.3	101	116	13.8	30 - 130	30	
Chrysene	ND	230	90	90	0.0	94	105	11.1	30 - 130	30	
Dibenz(a,h)anthracene	ND	230	99	95	4.1	92	96	4.3	30 - 130	30	
Dibenzofuran	ND	230	96	99	3.1	89	97	8.6	30 - 130	30	
Diethyl phthalate	ND	230	112	124	10.2	92	98	6.3	30 - 130	30	
Dimethylphthalate	ND	230	100	107	6.8	89	96	7.6	30 - 130	30	
Di-n-butylphthalate	ND	230	100	91	9.4	94	109	14.8	30 - 130	30	
Di-n-octylphthalate	ND	230	106	108	1.9	98	101	3.0	30 - 130	30	
Fluoranthene	ND	230	87	78	10.9	89	108	19.3	30 - 130	30	
Fluorene	ND	230	102	109	6.6	89	95	6.5	30 - 130	30	
Hexachlorobenzene	ND	130	89	90	1.1	91	97	6.4	30 - 130	30	
Hexachlorobutadiene	ND	230	81	80	1.2	77	82	6.3	30 - 130	30	
Hexachlorocyclopentadiene	ND	230	79	76	3.9	41	38	7.6	30 - 130	30	
Hexachloroethane	ND	130	74	73	1.4	65	68	4.5	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230	101	99	2.0	91	96	5.3	30 - 130	30	
Isophorone	ND	130	82	83	1.2	80	87	8.4	30 - 130	30	

QA/QC Data

SDG I.D.: GBJ04837

Parameter	Blank	Bik RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Naphthalene	ND	230	84	85	1.2	78	84	7.4	30 - 130	30
Nitrobenzene	ND	130	84	86	2.4	79	83	4.9	30 - 130	30
N-Nitrosodimethylamine	ND	230	71	71	0.0	61	64	4.8	30 - 130	30
N-Nitrosodi-n-propylamine	ND	130	91	93	2.2	80	84	4.9	30 - 130	30
N-Nitrosodiphenylamine	ND	130	109	120	9.6	91	96	5.3	30 - 130	30
Pentachloronitrobenzene	ND	230	97	94	3.1	89	97	8.6	30 - 130	30
Pentachlorophenol	ND	230	68	63	7.6	56	60	6.9	30 - 130	30
Phenanthrene	ND	230	95	96	1.0	89	98	9.6	30 - 130	30
Phenol	ND	230	83	86	3.6	89	94	5.5	30 - 130	30
Pyrene	ND	230	83	73	12.8	91	112	20.7	30 - 130	30
Pyridine	ND	230	56	57	1.8	46	52	12.2	30 - 130	30
% 2,4,6-Tribromophenol	92	%	87	91	4.5	93	92	1.1	30 - 130	30
% 2-Fluorobiphenyl	85	%	82	79	3.7	83	84	1.2	30 - 130	30
% 2-Fluorophenol	79	%	76	78	2.6	75	77	2.6	30 - 130	30
% Nitrobenzene-d5	76	%	79	81	2.5	78	80	2.5	30 - 130	30
% Phenol-d5	85	%	81	82	1.2	84	85	1.2	30 - 130	30
% Terphenyl-d14	99	%	72	65	10.2	89	105	16.5	30 - 130	30
Comment:										

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

QA/QC Batch 305226 (mg/Kg), QC Sample No: BJ04718 (BJ04837, BJ04838)

TPH by GC (Extractable Products) - Solid

Ext. Petroleum HC	ND	50	70			82	109	28.3	60 - 120	30	
% n-Pentacosane	72	%	79			85	89	4.6	50 - 150	30	
QA/QC Batch 305528 (ug/L), QC Sample No: BJ04837 (BJ04837)											
Formaldehyde	ND	50	78	96	20.7				30 - 130	20	r

I = This parameter is outside laboratory lcs/lcsd 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 April 28, 2015

Page 6 of 6

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

Page 1 of 1

Sample Criteria Exceedences Report

Criteria

Phoenix Analyte

Acode

SampNo

*** No Data to Display ***

Criteria: CT: GAM, RC

State: CT

Tuesday, April 28, 2015

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

GBJ04837 - GZA-AMER

RL Criteria

Criteria

Analysis Units

Ζ

Result

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

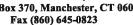
GZA GeoEnvironmental, Inc.

Laboratory Name: Phoenix Environmental Labs, Inc. Client:

Proje	Project Location: AMERBELLE MILLS Project Number:											
Labo	ratory S	ample ID(s): BJ04837	, BJ04838								
Sam	pling Dat	te(s): 4/20	/2015									
RCP	Methods	s Used:										
✓ 13	311/1312	✓ 6010	7000	7196	✓ 7470/74	71 🗌 8081	1	☐ EPH		TO15		
<u> </u>	82	8151	✓ 8260	✓ 8270	✓ ETPH	9010/9	9012	☐ VPH				
	specified any criter method-s	QA/QC perfo ia falling outs pecific Reas	ormance crite side of accept onable Confid	ria followed, i table guidelin dence Protoc	including the r es, as specific ol documents		explain EP	✓ Yes	□ No			
1a.	Were the	method spec	cified preserv	ation and hol	ding time requ	uirements met?	'	✓ Yes	\square No			
					PH method copective RCP a	onducted withonethods)	out	☐ Yes	□ No	✓ NA		
2.					condition cor locument(s)?	sistent with tha	at	✓ Yes	□ No			
3.	Were sar	nples receive	ed at an appro	opriate tempe	erature (< 6 De	egrees C)?		✓ Yes	□No	□NA		
4.	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Sections: Formaldehyde, SVOA Narration, VOA Narration. ☐ Yes ✓ No											
5a.	Were rep	orting limits s	specified or re	eferenced on	the chain-of-c	ustody?		✓ Yes	□No			
5b.	Were the	se reporting	limits met?					✓ Yes	□ No	□NA		
6.	reported t	for all constit	uents identific		hod-specific a	t package, wer nalyte lists pres		☐ Yes	✓ No	□NA		
7.	Are proje	ct-specific m	atrix spikes a	nd laboratory	duplicates in	cluded in the da	ata set?	✓ Yes	□ No	□NA		
Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence".												
I, the undersigned, attest under the pains and penalties of perjury that, to the best of my 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.												
اد ۸	horizod			_		Date	: Tuesda	ay, April 2	8, 2015			
	horized nature:	_ &	than	See	<u> </u>	Printed Name:	Ethan	Lee				
						Position:	Project	Manage	г			



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





RCP Certification Report

April 28, 2015

SDG I.D.: GBJ04837

BJ04837, BJ04838 - The following analytes from the 6010 RCP Metals list were not reported: Antimony, Beryllium, Copper, Nickel, Thallium, Vanadium, Zinc.

ETPH Narration

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

Instrument: Au-xl2 04/22/15-2 (BJ04837, BJ04838)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Jeff Bucko Position: Chemist 4/22/2015 Date:

QC (Batch Specific)

----- Sample No: BJ04718, QA/QC Batch: 305226 ------

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

Formaldehyde

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

QC Batch 305528 (Samples: BJ04837): ----

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. (Formaldehyde)

Hplc-frm1 04/25/15-1 (BJ04837) **Instrument:**

The ICAL and CCAL meet criteria.

Raman Makol Printed Name Position: Chemist Date: 4/25/2015



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RCP Certification Report

April 28, 2015

SDG I.D.: GBJ04837

QC (Site Specific)

----- Sample No: BJ04837, QA/QC Batch: 305528 -----

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: Formaldehyde(20.7%)

GLYCOL

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

Instrument:

Glycol 04/21/15-1 (BJ04837)

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/21/2015

QC (Batch Specific)

----- Sample No: BJ04247, QA/QC Batch: 305375 ------

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.

Mercury Narration

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

Instrument:

Merlin 04/22/15-1 (BJ04837, BJ04838)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

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

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name

Rick Schweitzer

Position:

Chemist

Date:

4/22/2015



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RCP Certification Report

April 28, 2015

SDG I.D.: GBJ04837

QC (Batch Specific)

----- Sample No: BJ04722, QA/QC Batch: 305409 -----

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.

ICP Narration

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

Instrument:

Arcos 04/21/15-1 (BJ04837, BJ04838)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name

Laura Kinnin

Position:

Chemist

Date:

4/21/2015

Instrument:

Arcos 04/22/15-1 (BJ04837, BJ04838)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name

Laura Kinnin

Position:

Chemist

Date:

4/22/2015

QC (Batch Specific)

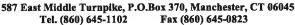
----- Sample No: BJ04634, QA/QC Batch: 305217 ------

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.







RCP Certification Report

April 28, 2015

SDG I.D.: GBJ04837

SVOA Narration

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

QC Batch 305189 (Samples: BJ04837): ----

The LCS and/or LCSD recoveries for one or more analytes are below the method criteria. The MS and/or MSD recoveries are above the method criteria. The QC sample is not a project sample. A low bias is possible. (Benzidine)

The QC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (2,4-Dinitrophenol, Benzoic Acid)

Instrument: Chem12 04/22/15-1 (BJ04837)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM12/sv 0402):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Benzidine (34%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM12/0422 02-sv 0402):

99% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: Benzidine (-236%)[30%]

The following compounds did not meet maximum % deviations: Benzidine (-236%)[40%]

The following compounds did not meet recommended response factors: 2-nitrophenol (.082)[0.1]

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

Printed Name Damien Drobinski

Position:

Chemist

Date:

4/22/2015

QC (Batch Specific)

----- Sample No: BJ04534, QA/QC Batch: 305189 -----

All LCS recoveries were within 30 - 130 with the following exceptions: Benzidine(29%), Benzoic Acid(16%)

All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(29%), Benzidine(27%), Benzoic Acid(18%)

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

VOA Narration

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

OC Batch 305614 (Samples: BJ04837, BJ04838): ---

The QC recovery for one or more analytes is above the upper range but were not reported in the sample(s), therefore no significant bias is suspected. (Carbon Disulfide)

Instrument: Chem03 04/22/15-1 (BJ04837, BJ04838)



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RCP Certification Report

April 28, 2015

SDG I.D.: GBJ04837

Initial Calibration Verification (CHEM03/RCPS_0420):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Chloroethane (27%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM03/0422L06-RCPS 0420):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Jane Li
Position: Chemist
Date: 4/22/2015

Instrument:

Chem03 04/24/15-2 (BJ04838)

Initial Calibration Verification (CHEM03/RCPS_0420):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Chloroethane (27%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM03/0424L40-RCPS_0420):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Jane Li
Position: Chemist
Date: 4/24/2015

QC (Batch Specific)

----- Sample No: BJ03965, QA/QC Batch: 305614 -----

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

All LCSD recoveries were within 70 - 130 with the following exceptions: Carbon Disulfide(137%)

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

Temperature Narration

The samples in this delivery group were received at 6°C.



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RCP Certification Report

April 28, 2015

SDG I.D.: GBJ04837

(Note acceptance criteria is above freezing up to 6°C)

C				· · · · · · · · · · · · · · · · · · ·
olant: IPK ICE No	ct Options: 758 - 2107	P.O: This section MUST be completed with Bottle Quantities.		Bata Format cation
8	Fax: Phone:	CHRIS FREY CHRIS FREY	Con	Ri
CHAIN OF CHETODY BECODE	Email: info@phoenixlabs.com Fax (860) 645-0823 Client Services (860) 645-8726	Project: Am Project: Am Report to: C. L. Invoice to:	Analysis Request X X X X X X X X X X X X X X X X X X X	
	PHOENIX Environmental Laboratories, Inc.	GSS WINDING BROOK OR SU GLASTONRURY, CT	Sampler's CMAR — Date: 4/34/1/5 Signature CMAR — Date: 4/34/1/5 Signature CMAR — Date: 4/34/1/5 Signature CM-Ground Water SW=Surface Water WW=Waste Water SW=Brinking Water SW=Ground Water SW=Surface Water WW=Wipe OIL=Oil B=Bulk L=Liquid Sample Sample Date Time Sample Customer Sample Sample OIL = Date Time Identification Matrix Sample OIL = Date Time Identification OIR SAMPLE# 1230	Comments, Special Requirements or Regulations:
	PHO Environment	Customer: Address: [Sampler's Charge Signature Charge DW-Drinking Water GW-POIL-Oil B-Bulk L-Liquid SAMPLE#	Relinquished by: Onth Sh Comments, Special I



Friday, April 24, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELL MILLS Sample ID#s: BJ04246 - BJ04247

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

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



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Analysis Report

April 24, 2015

Attn: Mr Chris Frey FOR:

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Custody Information

Collected by:

AC LB

04/17/15 12:00 16:07 04/17/15

Date

Received by: Analyzed by:

see "By" below

P.O.#:

Laboratory Data

SDG ID: GBJ04246

<u>Time</u>

Phoenix ID: BJ04246

Project ID:

AMERBELL MILLS

Client ID:

AOC-5-3 (2-3 FT 3 INCHES)

		R⊔					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.36	0.36	mg/Kg	1	04/21/15	EK	SW6010C
Arsenic	1.1	0.7	mg/Kg	1	04/21/15	EK	SW6010C
Barium	50.2	0.36	mg/Kg	1	04/21/15	EK	SW6010C
Cadmium	< 0.36	0.36	mg/Kg	1	04/21/15	EK	SW6010C
Chromium	13.5	0.36	mg/Kg	1	04/21/15	EK	SW6010C
Mercury	< 0.03	0.03	mg/Kg	1	04/22/15	RS	SW7471B
Lead	11.0	0.36	mg/Kg	1	04/21/15	EK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	04/21/15	EK	SW6010C
Percent Solid	91		%		04/17/15	1	SW846-%Solid
Extraction of CT ETPH	Completed				04/20/15	BC/V	SW3545A
Mercury Digestion	Completed				04/22/15	1/1	SW7471B
Total Metals Digest	Completed				04/20/15	CB/AG	SW3050B
TPH by GC (Extracta	ble Product	<u>s)</u> 54	mg/Kg	1	04/21/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/21/15	JRB	CTETPH 8015D
QA/QC Surrogates			0 0				
% n-Pentacosane	66		%	1	04/21/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
Benzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C

Project ID: AMERBELL MILLS Phoenix I.D.: BJ04246

Client ID: AOC-5-3 (2-3 FT 3 INCHES)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chlorobenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
Ethylbenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
Isopropylbenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
m&p-Xylene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
Naphthalene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
n-Butylbenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
n-Propylbenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
o-Xylene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
p-Isopropyltoluene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
sec-Butylbenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
Styrene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
tert-Butylbenzene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
Toluene	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
Total Xylenes	ND	4.9	ug/Kg	1	04/18/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	104		%	1	04/18/15	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	04/18/15	JLI	70 - 130 %
% Dibromofluoromethane	103		%	1	04/18/15	JLI	70 - 130 %
% Toluene-d8	98		%	1	04/18/15	JLI	70 - 130 %

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 24, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Page 2 of 6 Ver 1



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

Analysis Report

April 24, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information

<u>on</u>

<u>Date</u>

<u>Time</u>

Collected by: Received by:

AC LB 04/17/15 04/17/15 12:50 16:07

Analyzed by:

see "By" below

Laboratory Data

SDG ID: GBJ04246

Phoenix ID: BJ04247

Project ID:

AMERBELL MILLS

Client ID:

AOC-5-5 (4-5.5)

	RL∕					
Result	PQL	Units	Dilution	Date/Time	Ву	Reference
< 0.39	0.39	mg/Kg	1	04/21/15	EK	SW6010C
2.0	8.0	mg/Kg	1	04/21/15	EK	SW6010C
36.1	0.39	mg/Kg	1	04/21/15	EK	SW6010C
< 0.39	0.39	mg/Kg	1	04/21/15	EK	SW6010C
27.0	0.39	mg/Kg	1	04/21/15	EK	SW6010C
< 0.03	0.03	mg/Kg	1	04/22/15	RS	SW7471B
11.9	0.39	mg/Kg	1	04/21/15	EK	SW6010C
< 1.6	1.6	mg/Kg	1	04/21/15	EK	SW6010C
87		%		04/17/15	1	SW846-%Solid
< 25	25	mg/Kg	1	04/21/15	WHM	E350.1
Completed				04/20/15	BJ/VH	SW3545A
Completed				04/20/15	BC/V	SW3545A
Completed				04/20/15	ML/T	
Completed				04/22/15	1/1	SW7471B
Completed				04/19/15	1	SW1311
Completed				04/20/15	CB/AG	SW3050B
e Products	s)					
ND	56	mg/Kg	1	04/21/15	JRB	CTETPH 8015D
ND		mg/Kg	1	04/21/15	JRB	CTETPH 8015D
93		%	1	04/21/15	JRB	50 - 150 %
ND	12	mg/Kg	1	04/22/15	JRB	SW8015D GLY
ND	12	mg/Kg	1	04/22/15	JRB	SW8015D GLY
	< 0.39	Result PQL < 0.39	< 0.39	Result PQL Units Dilution < 0.39	Result PQL Units Dilution Date/Time < 0.39	Result PQL

Phoenix I.D.: BJ04247

Project ID: AMERBELL MILLS Client ID: AOC-5-5 (4-5.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Methanol	ND	5.0	mg/Kg	1	04/22/15	JRB	SW8015D
Formaldehyde	6300	2300	ug/kg	1	04/21/15	RM	SW8315A
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
Benzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
Chlorobenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
Ethylbenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
Isopropylbenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
m&p-Xylene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
Naphthalene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
n-Butylbenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
n-Propylbenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
o-Xylene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
sec-Butylbenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
Styrene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
tert-Butylbenzene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
Toluene	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
Total Xylenes	ND	5.7	ug/Kg	1	04/18/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	04/18/15	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	04/18/15	JLI	70 - 130 %
% Dibromofluoromethane	104		%	1	04/18/15	JLI	70 - 130 %
% Toluene-d8	98		%	1	04/18/15	JLI	70 - 130 %
Semivolatiles							
1,2,4,5-Tetrachlorobenzene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
1,2-Dichlorobenzene	ND	380	ug/Kg	î	04/21/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	270	ug/Kg ug/Kg	1	04/21/15	DD	SW8270D SW8270D
1,3-Dichlorobenzene	ND	270	ug/Kg ug/Kg	Fir	04/21/15	DD	SW8270D
1,4-Dichlorobenzene		270	ug/Kg ug/Kg	1	04/21/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	270	ug/Kg ug/Kg	9	04/21/15	DD	SW8270D
2,4,6-Trichlorophenol	ND			1	04/21/15		SW8270D
2,4-Dichlorophenol	ND	270 270	ug/Kg	1 4	04/21/15	DD DD	SW8270D SW8270D
2,4-Dimethylphenol	ND		ug/Kg	1 4			SW8270D SW8270D
2,4-Dinitrophenol	ND	610 270	ug/Kg	1	04/21/15	DD	
2,4-Dinitrotoluene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
2,6-Dinitrotoluene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
2-Chloronaphthalene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
2-Chlorophenol	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
2-Methylnaphthalene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D

Page 4 of 6 Ver 1

Project ID: AMERBELL MILLS Client ID: AOC-5-5 (4-5.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2-Methylphenol (o-cresol)	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
2-Nitroaniline	ND	610	ug/Kg	1	04/21/15	DD	SW8270D
2-Nitrophenol	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	380	ug/Kg	1	04/21/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
3-Nitroaniline	ND	610	ug/Kg	1	04/21/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	04/21/15	DĎ	SW8270D
4-Bromophenyl phenyl ether	ND	380	ug/Kg	1	04/21/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
4-Chloroaniline	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
4-Nitroaniline	ND	610	ug/Kg	1	04/21/15	DD	SW8270D
4-Nitrophenol	ND	1100	ug/Kg	1	04/21/15	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Acetophenone	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Aniline	ND	1100	ug/Kg	1	04/21/15	DĎ	SW8270D
Anthracene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Benz(a)anthracene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Benzidine	ND	460	ug/Kg	1	04/21/15	DD	SW8270D
Benzo(a)pyrene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Benzo(b)fluoranthene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Benzo(ghi)perylene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Benzo(k)fluoranthene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Benzoic acid	ND	1100	ug/Kg	1	04/21/15	DD	SW8270D
Benzyl butyl phthalate	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	380	ug/Kg	1	04/21/15	DD	SW8270D
• • • • • • • • • • • • • • • • • • • •	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	270	ug/Kg ug/Kg	i	04/21/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	570	ug/Kg ug/Kg	1	04/21/15	DD	SW8270D
Carbazole	ND	270	ug/Kg ug/Kg	à	04/21/15	DD	SW8270D
Chrysene		270 270		;	04/21/15	DD	SW8270D
Dibenz(a,h)anthracene	ND		ug/Kg	i.	04/21/15	DD	SW8270D
Dibenzofuran	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Diethyl phthalate	ND	270	ug/Kg	1	04/21/15		SW8270D
Dimethylphthalate	ND	270	ug/Kg	3		DD	SW8270D
Di-n-butylphthalate	ND	270	ug/Kg	0.2	04/21/15	DD	
Di-n-octylphthalate	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Fluoranthene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Fluorene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Hexachlorobenzene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Hexachlorobutadiene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Hexachloroethane	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Isophorone	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Naphthalene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Nitrobenzene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
N-Nitrosodimethylamine	ND	380	ug/Kg	1	04/21/15	DD	SW8270D

Ver 1

Project ID: AMERBELL MILLS Phoenix I.D.: BJ04247

Client ID: AOC-5-5 (4-5.5)

		RL∕					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
N-Nitrosodi-n-propylamine	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	380	ug/Kg	1	04/21/15	DD	SW8270D
Pentachloronitrobenzene	ND	380	ug/Kg	1	04/21/15	DD	SW8270D
Pentachlorophenol	ND	380	ug/Kg	1	04/21/15	DD	SW8270D
Phenanthrene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Phenol	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Pyrene	ND	270	ug/Kg	1	04/21/15	DD	SW8270D
Pyridine	ND	380	ug/Kg	1	04/21/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	94		%	1	04/21/15	DD	30 - 130 %
% 2-Fluorobiphenyl	64		%	1	04/21/15	DD	30 - 130 %
% 2-Fluorophenol	60		%	1	04/21/15	DD	30 - 130 %
% Nitrobenzene-d5	57		%	1	04/21/15	DD	30 - 130 %
% Phenol-d5	62		%	1	04/21/15	DD	30 - 130 %
% Terphenyl-d14	72		%	1	04/21/15	DD	30 - 130 %

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

Comments:

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

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

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

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

Phyllis Shiller, Laboratory Director

April 24, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Page 6 of 6 Ver 1



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

QA/QC Report

April 24, 2015

QA/QC Data

ata SDG I.D.: GBJ04246

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 305407 (mg/kg	g), QC Sam	ple No:	BJ04151	(BJ042	46)									
Mercury - Soil	BRL	0.06	<0.03	<0.03	NC	109	105	3.7	118	141	17.8	70 - 130	30	m
Comment:														
Additional Mercury criteria: LC	S acceptanc	e range	for waters	is 80-120	% and fo	or soils is	s 70-130	%.						
QA/QC Batch 305215 (mg/kg	g), QC Sam	ple No	BJ04246	6 (BJ042	46)									
ICP Metals - Soil														
Arsenic	BRL	0.67	1.1	1.11	NC	94.8	96.7	2.0	93.5	94.0	0.5	75 - 125	30	
Barium	BRL	0.33	50.2	49.0	2.40	93.5	93.1	0.4	88.0	84.0	4.7	75 - 125	30	
Cadmium	BRL	0.33	< 0.36	< 0.35	NC	92.6	100	7.7	94.7	95.2	0.5	75 - 125	30	
Chromium	BRL	0.33	13.5	14.8	9.20	94.2	98.3	4.3	102	102	0.0	75 - 125	30	
Lead	BRL	0.33	11.0	12.8	15.1	90.1	91.3	1.3	96.7	96.6	0.1	75 - 125	30	
Selenium	BRL	1.3	<1.4	<1.4	NC	90.0	92.4	2.6	77.5	78.0	0.6	75 - 125	30	
Silver	BRL	0.33	<0.36	<0.35	NC	95.7	96.0	0.3	98.3	99.0	0.7	75 - 125	30	
QA/QC Batch 305408 (mg/k	a), QC San	nple No	: BJ0424	7 (BJ042	247)									
Mercury - Soil	BRL	0.06	< 0.03	<0.03	NC	105	109	3.7	119	120	8.0	70 - 130	30	
Comment:														
Additional Mercury criteria: LC	S acceptance	e range	for waters	is 80-120)% and f	or soils i	s 70-130	%.						
QA/QC Batch 305216 (mg/k														
ICP Metals - Soil	.g/, 	inpio i re		- (,									
	DOL	0.66	<0.7	<0.67	NC	101	99.5	1.5	95.5	95.1	0.4	75 - 125	30	
Arsenic	BRL		15.0	13.8	8.30	103	98.4	4.6	109	109	0.0	75 - 125		
Barium	BRL	0.33	<0.34	<0.33	NC	110	107	2.8	97.2	95.8	1.5	75 - 125		
Cadmium	BRL	0.33	4.71	4.09	14.1	102	102	0.0	102	101	1.0	75 - 125		
Chromium	BRL	0.33	5.69	4.82	16.6	102	105	2.9	97.3	95.2	2.2	75 - 125		
Lead	BRL BRL	1.3	<1.4	<1.3	NC	96.2	95.3	0.9	83.2	82.9	0.4	75 - 125		
Selenium		0.33	<0.34	<0.33	NC	102	99.7	2.3	101	100	1.0	75 - 125		
Silver	BRL	0.33	~0.34	~0.33	140	102	55.7							

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



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

QA/QC Report

April 24, 2015

QA/QC Data

SDG I.D.: GBJ04246

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 305142 (mg/L),	QC Samp	le No:	BJ04399	(BJ0424	7)								
Ammonia as Nitrogen	BRL	0.05	0.28	0.31	10.2	106			101			85 - 115	20



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QA/QC Report

April 24, 2015

QA/QC Data

SDG I.D.: GBJ04246

Parameter	Blank	Bik RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 305160 (ug/kg), QC Samp	le No: BJ0422	5 (BJ04246, BJ0	4247)							
Volatiles - Soil											
1,2,3-Trichlorobenzene	ND	5.0		102	114	11.1	88	90	2.2	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0		95	109	13.7	89	89	0.0	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0		103	107	3.8	86	85	1.2	70 - 130	30
1,2-Dichlorobenzene	ND	5.0		102	108	5.7	83	82	1.2	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0		109	113	3.6	87	85	2.3	70 - 130	30
1,3-Dichlorobenzene	ND	5.0		100	108	7.7	84	83	1.2	70 - 130	30
1,4-Dichlorobenzene	ND	5.0		99	106	6.8	84	83	1.2	70 - 130	30
Benzene	ND	1.0		104	106	1.9	79	77	2.6	70 - 130	30
Chlorobenzene	ND	5.0		104	108	3.8	82	79	3.7	70 - 130	30
Ethylbenzene	ND	1.0		107	109	1.9	82	78	5.0	70 - 130	30
Isopropylbenzene	ND	1.0		112	115	2.6	88	85	3.5	70 - 130	30
m&p-Xylene	ND	2.0		105	109	3.7	83	80	3.7	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0		105	107	1.9	76	76	0.0	70 - 130	30
Naphthalene	ND	5.0		115	120	4.3	86	91	5.6	70 - 130	30
n-Butylbenzene	ND	1.0		98	107	8.8	86	85	1.2	70 - 130	30
n-Propylbenzene	ND	1.0		103	107	3.8	87	85	2.3	70 - 130	30
o-Xylene	ND	2.0		108	110	1.8	82	81	1.2	70 - 130	
p-Isopropyltoluene	ND	1.0		107	113	5.5	88	86	2.3	70 - 130	30
sec-Butylbenzene	ND	1.0		112	116	3.5	87	85	2.3	70 - 130	
Styrene	ND	5.0		106	111	4.6	84	82	2.4	70 - 130	
tert-Butylbenzene	ND	1.0		113	116	2.6	88	86	2.3	70 - 130	
Toluene	ND	1.0		101	103	2.0	78	75	3.9	70 - 130	
% 1,2-dichlorobenzene-d4	101	%		102	102	0.0	101	103	2.0	70 - 130	
% Bromofluorobenzene	95	%		101	99	2.0	99	99	0.0	70 - 130	
% Dibromofluoromethane	103	%		103	105	1.9	103	104	1.0	70 - 130	
% Toluene-d8 Comment:	100	%		100	100	0.0	100	100	0.0	70 - 130	30
A blank MS/MSD was analyze											
Additional 8260 criteria: 10% o	of LCS/LCSD	compounds car	be outside of acce	ptance	criteria as	s long as	recover	ry is 40-1	60%.		
QA/QC Batch 305195 (mg/kg			246 (BJ04246, BJ	104247))						
TPH by GC (Extractab	le Produc	ts) - Soil									
Ext. Petroleum HC	ND	50		71	76	6.8	72	70	2.8	60 - 120	30
% n-Pentacosane	58	%		79	81	2.5	79	79	0.0	50 - 150	30
QA/QC Batch 305259 (ug/L)	OC Samo	le No: BJ0424	7 (BJ04247)								
Formaldehyde	ND	50	, (200 := ::)	94	107	12.9				30 - 130	20
QA/QC Batch 305375 (mg/k Glycols - Soil	g), QC Sam	ple No: BJ042	247 (BJ04247)								
Ethylene glycol	ND	10		99	95	4.1	86	88	2.3	70 - 130	30
Propylene glycol	ND	10		110	105	4.7	83	87	4.7	70 - 130	30

SDG I.D.: GBJ04246

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	121
% DPG	86	%	84	77	8.7	79	71	10.7	70 - 130	30	-
QA/QC Batch 305189 (ug/Kg),	OC Sam	nle No: B.I04534 (B.I04247)									
,,	QO Oaiii	pie 140. 0004504 (0004247)									
Semivolatiles - Soil	LNIB			00			0.7	- 0			
1,2,4,5-Tetrachlorobenzene	ND	230	86	86	0.0	82	87	5.9	30 - 130	30	
1,2,4-Trichlorobenzene	ND	230	79 70	79	0.0	77	84	8.7	30 - 130	30	
1,2-Dichlorobenzene	ND	230	73	74	1.4	67	72	7.2	30 - 130	30	
1,2-Diphenylhydrazine	ND	230	99	108	8.7	90	94	4.3	30 - 130	30	
1,3-Dichlorobenzene	ND	230	69	71	2.9	63 65	68	7.6	30 - 130	30	
1,4-Dichlorobenzene	ND	230	71 101	73 104	2.8 2.9	65 91	69 94	6.0 3.2	30 - 130 30 - 130	30	
2,4,5-Trichlorophenol	ND	230	97		1.0		92		30 - 130	30	
2,4,6-Trichlorophenol	ND ND	130 130	97 88	96 87	1.1	89 89	92 95	3.3 6.5	30 - 130	30 30	
2,4-Dichlorophenol	ND	230	84	83	1.2	88	96	8.7	30 - 130	30	
2,4-Dimethylphenol	ND	230	31	29	6.7	30	18	50.0	30 - 130	30	
2,4-Dinitrophenol 2,4-Dinitrotoluene	ND	130	120	130	8.0	101	108	6.7	30 - 130	30	l,m,r
2,6-Dinitrotoluene	ND	130	106	115	8.1	92	99	7.3	30 - 130	30	
•	ND	230	88	85	3.5	92 87	93	6.7	30 - 130	30	
2-Chloronaphthalene	ND	230	83	85	2.4	78	84	7.4	30 - 130	30	
2-Chlorophenol 2-Methylnaphthalene	ND	230	86	86	0.0	86	93	7.8	30 - 130	30	
2-Methylphenol (o-cresol)	ND	230	86	89	3.4	89	96	7.6	30 - 130	30	
2-Nitroaniline	ND	670	127	130	2.3	112	118	5.2	30 - 130	30	
2-Nitrophenol	ND	230	83	85	2.4	81	85	4.8	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230	95	96	1.0	90	95	5.4	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130	84	84	0.0	108	115	6.3	30 - 130	30	
3-Nitroaniline	ND	670	101	106	4.8	89	98	9.6	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	170	61	56	8.5	68	58	15.9	30 - 130	30	
4-Bromophenyl phenyl ether	ND	230	86	90	4.5	86	92	6.7	30 - 130	30	
4-Chloro-3-methylphenol	ND	230	94	94	0.0	98	103	5.0	30 - 130	30	
4-Chloroaniline	ND	230	72	72	0.0	69	80	14.8	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	99	107	7.8	87	94	7.7	30 - 130	30	
4-Nitroaniline	ND	670	111	118	6.1	98	102	4.0	30 - 130	30	
4-Nitrophenol	ND	230	113	114	0.9	95	99	4.1	30 - 130	30	
Acenaphthene	ND	230	87	89	2.3	82	89	8.2	30 - 130	30	
Acenaphthylene	ND	230	91	90	1.1	85	92	7.9	30 - 130	30	
Acetophenone	ND	230	93	93	0.0	85	92	7.9	30 - 130	30	
Aniline	ND	970	60	62	3.3	82	86	4.8	30 - 130	30	
Anthracene	ND	230	96	95	1.0	91	99	8.4	30 - 130	30	
Benz(a)anthracene	ND	230	98	97	1.0	83	92	10.3	30 - 130	30	
Benzidine	ND	330	29	27	7.1	>200	>200	NC	30 - 130	30	I,m
Benzo(a)pyrene	ND	230	104	104	0.0	86	93	7.8	30 - 130	30	07840
Benzo(b)fluoranthene	ND	230	103	106	2.9	85	92	7.9	30 - 130	30	
Benzo(ghi)perylene	ND	230	97	94	3.1	89	97	8.6	30 - 130	30	
Benzo(k)fluoranthene	ND	230	99	99	0.0	88	87	1.1	30 - 130	30	
Benzoic Acid	ND	330	16	18	11.8	11	<10	NC	30 - 130	30	l,m
Benzyl butyl phthalate	ND	230	89	88	1.1	92	105	13.2	30 - 130	30	350
Bis(2-chloroethoxy)methane	ND	230	89	88	1.1	86	92	6.7	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	73	74	1.4	63	67	6.2	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	80	80	0.0	69	73	5.6	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	85	86	1.2	100	112	11.3	30 - 130	30	
Carbazole	ND	500	98	92	6.3	101	116	13.8	30 - 130	30	
Chrysene	ND	230	90	90	0.0	94	105	11.1	30 - 130	30	
Dibenz(a,h)anthracene	ND	230	99	95	4.1	92	96	4.3	30 - 130	30	

Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Dibenzofuran	ND	230		96	99	3.1	89	97	8.6	30 - 130	30	
Diethyl phthalate	ND	230		112	124	10.2	92	98	6.3	30 - 130	30	
Dimethylphthalate	ND	230		100	107	6.8	89	96	7.6	30 - 130	30	
Di-n-butylphthalate	ND	230		100	91	9.4	94	109	14.8	30 - 130	30	
Di-n-octylphthalate	ND	230		106	108	1.9	98	101	3.0	30 - 130	30	
Fluoranthene	ND	230		87	78	10.9	89	108	19.3	30 - 130	30	
Fluorene	ND	230		102	109	6.6	89	95	6.5	30 - 130	30	
Hexachlorobenzene	ND	130		89	90	1.1	91	97	6.4	30 - 130	30	
Hexachlorobutadiene	ND	230		81	80	1.2	77	82	6.3	30 - 130	30	
Hexachlorocyclopentadiene	ND	230		79	76	3.9	41	38	7.6	30 - 130	30	
Hexachloroethane	ND	130		74	73	1.4	65	68	4.5	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230		101	99	2.0	91	96	5.3	30 - 130	30	
Isophorone	ND	130		82	83	1.2	80	87	8.4	30 - 130	30	
Naphthalene	ND	230		84	85	1.2	78	84	7.4	30 - 130	30	
Nitrobenzene	ND	130		84	86	2.4	79	83	4.9	30 - 130	30	
N-Nitrosodimethylamine	ND	230		71	71	0.0	61	64	4.8	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	130		91	93	2.2	80	84	4.9	30 - 130	30	
N-Nitrosodiphenylamine	ND	130		109	120	9.6	91	96	5.3	30 - 130	30	
Pentachloronitrobenzene	ND	230		97	94	3.1	89	97	8.6	30 - 130	30	
Pentachlorophenol	ND	230		68	63	7.6	56	60	6.9	30 - 130	30	
Phenanthrene	ND	230		95	96	1.0	89	98	9.6	30 - 130	30	
Phenol	ND	230		83	86	3.6	89	94	5.5	30 - 130	30	
Pyrene	ND	230		83	73	12.8	91	112	20.7	30 - 130		
Pyridine	ND	230		56	57	1.8	46	52	12.2	30 - 130	30	
% 2,4,6-Tribromophenol	92	%		87	91	4.5	93	92	1.1	30 - 130		
% 2-Fluorobiphenyl	85	%		82	79	3.7	83	84	1.2	30 - 130	30	
% 2-Fluorophenol	79	%		76	78	2.6	75	77	2.6	30 - 130	30	
% Nitrobenzene-d5	76	%		79	81	2.5	78	80	2.5	30 - 130		
% Phenol-d5	85	%		81	82	1.2	84	85	1.2	30 - 130	30	
% Terphenyl-d14	99	%		72	65	10.2	89	105	16.5	30 - 130	30	
Comment:												

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

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

SDG I.D.: GBJ04246

April 24, 2015

I = 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.

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Page

Sample Criteria Exceedences Report

GBJ04246 - GZA-AMER

Criteria

Phoenix Analyte

Acode

SampNo

*** No Data to Display ***

Criteria: CT: GAM, RC

State: CT

Friday, April 24, 2015

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

Criteria

Analysis Units

RL Criteria

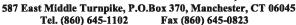
Ζ

Result

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	ratory Name	Phoe	enix Enviror	mental Labs	, Inc.	Client:		GZA G	SeoEnvir	onmental	, Inc.	
Proje	ct Location:	AME	RBELL MIL	LS		Project	Number:					
Labo	ratory Samp	e ID(s)	: BJ04246	s, BJ04247								
Samı	pling Date(s)	4/17/	/2015									
RCP	Methods Use	ed:								2		
✓ 13	11/1312 📝 6	010	7000	7196	V	7470/7471	8081	[EPH		TO15	
80	82 🗌 8	151	✓ 8260	2 8270	V	ETPH	9010/9	012	VPH			
101	For each analy specified QA/G any criteria fall method-specifi	C perfo	rmance crite side of accep	ria followed, i table guidelin	ncludin es, as :	ig the requi specified in	rement to e	xplain	✓ Yes	□ No		
1a.	Were the meth	od spec	cified preserv	ation and hole	ding tin	ne requiren	nents met?		✓ Yes	□No		
1b.	EPH and VPH significant mod							ut	☐ Yes	□ No	✓ NA	
2.	Were all samp described on t	les rece ne asso	t	✓ Yes	□ No							
3.	Were samples	receive	ed at an appr	opriate tempe	rature	(< 6 Degre	es C)?		☐ Yes	✓ No	□NA	
4.	Were all QA/Q Protocol docur	C perfo	rmance crite cheived? Se	ria specified in e Section: SV	n the R OA Na	easonable rration.	Confidence		☐ Yes	☑ No		
5a.	Were reporting	limits s	specified or r	eferenced on	the cha	ain-of-custo	ody?		✓ Yes	□No		
5b.	Were these re	porting l	limits met?						✓ Yes	□No	□NA	
6.	For each analy reported for all in the Reason	constitu	uents identifi	ed in the meth	nod-spe	y report pa ecific analy	ckage, were te lists pres	results ented	☐ Yes	✓ No	□NA	
7.	Are project-sp	ecific ma	atrix spikes a	and laboratory	duplic	ates includ	ed in the da	ta set?	✓ Yes	□ No	□NA	
Note:	Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence".											
and	e undersigne belief and ba tained in this	ased u	pon my pe	rsonal inqui	iry of t	those res	ponsible f	or prov	iding the			
							Date:	Fridav.	April 24,	2015		
	horized nature:	Ex	than	See	ĕ	Print	ed Name:	•	•			
	-						Position:	Proiect	Manage	r		







RCP Certification Report

April 24, 2015

SDG I.D.: GBJ04246

BJ04246, BJ04247 - The following analytes from the 6010 RCP Metals list were not reported: Antimony, Beryllium, Copper, Nickel, Thallium, Vanadium, Zinc.

BJ04246, BJ04247 - The following analytes from the 8260 RCP Volatile list were not reported: 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloropropene, 1,2-Dichloropropene, 1,2-Dichloropropene, 1,2-Dichloropropene, 1,2-Dichloropropene, 1,3-Dichloropropene, 2,2-Dichloropropene, 2-Chlorotoluene, 2-Hexanone, 4-Chlorotoluene, 4-Methyl-2-pentanone, Acetone, Acrylonitrile, Bromobenzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon Disulfide, Carbon tetrachloride, Chloroethane, Chloroform, Chloromethane, cis-1,2-Dichloropropene, Dibromochloromethane, Dibromomethane, Dichlorodifluoromethane, Hexachlorobutadiene, Methyl Ethyl Ketone, Methylene chloride, Tetrachloroethene, Tetrahydrofuran (THF), trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, trans-1,4-dichloro-2-butene, Trichlorofluoromethane, Trichlorotrifluoroethane, Vinyl chloride.

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 bias is suspected.

ETPH Narration

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

Instrument: Aufid-d1 04/21/15-2 (BJ04246, BJ04247)

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

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

Printed Name Jeff Bucko Position: Chemist Date: 4/21/2015

QC (Site Specific)

----- Sample No: BJ04246, QA/QC Batch: 305195 ------

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.



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RCP Certification Report

April 24, 2015

SDG I.D.: GBJ04246

Formaldehyde

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

Instrument:

Hplc-frm1 04/21/15-1 (BJ04247)

The ICAL and CCAL meet criteria.

Printed Name

Raman Makol

Position:

Chemist

Date:

4/21/2015

QC (Site Specific)

----- Sample No: BJ04247, QA/QC Batch: 305259 -----

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.

GLYCOL

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

Instrument:

Glycol 04/21/15-1 (BJ04247)

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/21/2015



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RCP Certification Report

April 24, 2015

SDG I.D.: GBJ04246

QC (Site Specific)

----- Sample No: BJ04247, QA/QC Batch: 305375 -----

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

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

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

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

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

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

Mercury Narration

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

Instrument: Merlin 04/22/15-1 (BJ04246, BJ04247)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

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

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer

Position:

Chemist

Date:

4/22/2015





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RCP Certification Report

April 24, 2015

SDG I.D.: GBJ04246

QC (Site Specific)

----- Sample No: BJ04247, QA/QC Batch: 305408 -----

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

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

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

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

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

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

QC (Batch Specific)

----- Sample No: BJ04151, QA/QC Batch: 305407 -----

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.

ICP Narration

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

Instrument:

Arcos 04/20/15-1 (BJ04246, BJ04247)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name

Laura Kinnin

Position: Date: Chemist 4/20/2015

Instrument:

Arcos 04/21/15-1 (BJ04246, BJ04247)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name

Laura Kinnin

Position:

Chemist

Date:

4/21/2015



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RCP Certification Report

April 24, 2015

SDG I.D.: GBJ04246

QC (Site Specific)
Sample No: BJ04246, QA/QC Batch: 305215
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: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.
QC (Batch Specific)
Sample No: BJ04528, QA/QC Batch: 305216
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.

SVOA Narration

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

QC Batch 305189 (Samples: BJ04247): ---

The LCS and/or LCSD recoveries for one or more analytes are below the method criteria. The MS and/or MSD recoveries are above the method criteria. The QC sample is not a project sample. A low bias is possible. (Benzidine)

The QC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (2,4-Dinitrophenol, Benzoic Acid)

Instrument: Chem12 04/21/15-1 (BJ04247)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM12/sv_0402):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Benzidine (34%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM12/0421_02-sv_0402):

93% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: 2,4-dinitrophenol (61%)[30%], 2,4-dinitrotoluene (31%)[30%], 2-nitrophenol (31%)[30%], 4,6-dinitro-2-methylphenol (57%)[30%], Benzidine (-112%)[30%], Hexachlorocyclopentadiene (45%)[30%]

The following compounds did not meet maximum % deviations: 2,4-dinitrophenol (61%)[40%], 4,6-dinitro-2-methylphenol (57%)[40%],



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RCP Certification Report

April 24, 2015

SDG I.D.: GBJ04246

Benzidine (-112%)[40%], Hexachlorocyclopentadiene (45%)[40%]

The following compounds did not meet recommended response factors: 2-nitrophenol (.055)[0.1], Hexachlorobenzene (.094)[0.1] The following compounds did not meet minimum response factors: None.

Damien Drobinski Printed Name

Position:

Chemist

Date:

4/21/2015

QC (Batch Specific)

-- Sample No: BJ04534, QA/QC Batch: 305189 -----

All LCS recoveries were within 30 - 130 with the following exceptions: Benzidine(29%), Benzoic Acid(16%)

All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(29%), Benzidine(27%), Benzoic Acid(18%)

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

VOA Narration

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

Instrument:

Chem03 04/17/15-3 (BJ04246, BJ04247)

Initial Calibration Verification (CHEM03/RCPS_0416):

96% of target compounds met criteria.

The following compounds had %RSDs >20%: 1,2-Dibromo-3-Chloropropane (21%), Acetone (21%), Chloroethane (24%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM03/0417L69-RCPS_0416):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Position:

Jane Li Chemist

Date:

4/17/2015

OC Comments:

QC Batch 305160 04/17/15 (BJ04246, BJ04247)

A blank MS/MSD was analyzed with this batch.



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RCP Certification Report

April 24, 2015

SDG I.D.: GBJ04246

QC (Batch Specific)

----- Sample No: BJ04225, QA/QC Batch: 305160 -----

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.

Temperature Narration

The samples were received at 10C with cooling initiated. (Note acceptance criteria is above freezing up to 6°C)

	P.O. This section MUST be completed with Bottle Quantities.	1 38 1 (118 (18) (18)		Data Format Excel Calcula Cother Data Package Tier II Checklist Full Data Package* Cother Cother Cother Cother
Coolant IPK Temp () ° Contact Op Fax: (\$60) \$5	Project		17 10 10 10 10 10 10 10 10 10 10 10 10 10	RCP Cert GW Protection GW Protection GW-1 GW Protection GW-2 GB Mobility GB
CHAIN OF CUSTODY RECORD 587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040 Email: info@phoenixlabs.com Fax (860) 645-0823	Project: Receive Mills Report to: Chris Frey Invoice to:	13/18/		Time: Ri
	neath To Sorte to		Sample Date Time Matrix Sampled Sample	
PHOENIX ST	655 Winding Back GASTENDUNG, CT	Sampler's Signature Sample - Information - Identification Sampler's Signature Signature Sample - Information - Identification	Customer Sample Identification Poc -5-3(2-33) Acc -5-5 (2-45)	Relinquished by: Accepted by: Comments, Special Requirements or Regulations:
DHO	Customer: Address:	Sampler's October's Signature Matrix Code: DW=Drinking Water GW=RW=Raw Water SE=Sedin OIL=Oil B=Bulk L=Liquid	PHOENIX USE ONLY SAMPLE #	Relinquished by:



Monday, April 27, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BJ03546 - BJ03551

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

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



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Analysis Report

April 27, 2015

FOR: Attn: Mr Chris Frey

AT

LB

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

see "By" below

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBJ03546

Date

04/16/15

04/16/15

<u>Time</u>

8:50

15:49

Phoenix ID: BJ03546

Project ID:

P.O.#:

AMERBELLE MILLS

Client ID:

AOC 4-2 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.35	0.35	mg/Kg	1	04/18/15	LK	SW6010C
Arsenic	0.7	0.7	mg/Kg	1	04/18/15	LK	SW6010C
Barium	56.6	0.35	mg/Kg	1	04/18/15	LK	SW6010C
Cadmium	< 0.35	0.35	mg/Kg	1	04/18/15	LK	SW6010C
Chromium	54.2	0.35	mg/Kg	1	04/18/15	LK	SW6010C
Mercury	0.09	0.03	mg/Kg	1	04/21/15	RS	SW7471B
Lead	9.63	0.35	mg/Kg	1	04/18/15	LK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	04/18/15	LK	SW6010C
Percent Solid	91		%		04/16/15	1	SW846-%Solid
Extraction of CT ETPH	Completed				04/17/15	JC	SW3545A
Mercury Digestion	Completed				04/21/15	1/1	SW7471B
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B
Ext. Petroleum HC Identification	ND ND	55	mg/Kg mg/Kg	1	04/20/15 04/20/15	JRB JRB	CTETPH 8015D
QA/QC Surrogates % n-Pentacosane	113		%	1	04/20/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
•	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
1.2-Dichlorobenzene		5.4	ug/Kg	1	04/19/15	JLI	SW8260C
1,2-Dichlorobenzene 1,3,5-Trimethylbenzene	ND	3.4	• •				
1,3,5-Trimethylbenzene	ND ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
			ug/Kg ug/Kg	1 1	04/19/15 04/19/15	JLI JLI	SW8260C SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ03546

Client ID: AOC 4-2 (0.5-2)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chlorobenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
Ethylbenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
Isopropylbenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
m&p-Xylene	22	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
Naphthalene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
n-Butylbenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
n-Propylbenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
o-Xylene	16	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
sec-Butylbenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
Styrene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
tert-Butylbenzene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
Toluene	ND	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
Total Xylenes	38	5.4	ug/Kg	1	04/19/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	04/19/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	04/19/15	JLI	70 - 130 %
% Dibromofluoromethane	96		%	1	04/19/15	JLI	70 - 130 %
% Toluene-d8	100		%	1	04/19/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 27, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 27, 2015

Attn: Mr Chris Frey FOR:

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Custody Information Collected by:

LB

AT

04/16/15 04/16/15

<u>Date</u>

<u>Time</u> 9:15 15:49

Received by:

Analyzed by: see "By" below

P.O.#:

_aboratory Data

SDG ID: GBJ03546

Phoenix ID: BJ03547

Project ID:

AMERBELLE MILLS

Client ID:

AOC 4-3 (0.5-2)

		RĽ					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.39	0.39	mg/Kg	1	04/18/15	LK	SW6010C
Arsenic	1.6	8.0	mg/Kg	1	04/18/15	LK	SW6010C
Barium	37.8	0.39	mg/Kg	1	04/18/15	LK	SW6010C
Cadmium	< 0.39	0.39	mg/Kg	1	04/18/15	LK	SW6010C
Chromium	67.4	0.39	mg/Kg	1	04/18/15	LK	SW6010C
Mercury	0.07	0.03	mg/Kg	1	04/21/15	RS	SW7471B
Lead	11.3	0.39	mg/Kg	1	04/18/15	LK	SW6010C
QC for Mercury	Completed				04/21/15		
QC for ICP	Completed				04/18/15		SW6010C
Selenium	< 1.6	1.6	mg/Kg	1	04/18/15	LK	SW6010C
Percent Solid	92		%		04/16/15	l	SW846-%Solid
Soil Extraction for SVOA	Completed				04/16/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				04/17/15	JC	SW3545A
MS/MSD Ext. for CT ETPH	Completed				04/20/15		
Formaldehyde Prep for HPLC	Completed				04/17/15	ML	
Mercury Digestion MS/MSD	Completed				04/21/15		SW7471B
Mercury Digestion	Completed				04/21/15	1/1	SW7471B
TCLP Extraction for Formaldehyde	Completed				04/16/15	1	SW1311
Total Metals Digest MS/MSD	Completed				04/18/15		
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B
TPH by GC (Extractable	e Products	s)					
Ext. Petroleum HC	470	 53	mg/Kg	1	04/19/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	04/19/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	87		%	1	04/19/15	JRB	50 - 150 %
• • • • • • • • • • • • • • • • • • • •							

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ03547

Client ID: AOC 4-3 (0.5-2)

Parameter	Result	RL∕ PQL	Units	Dilution	Date/Time	Ву	Reference
Glycols							
	ND	11	mg/Kg	1	04/18/15	JRB	SW8015D GLY
Ethylene glycol	ND	11	mg/Kg	1	04/18/15	JRB	SW8015D GLY
Propylene glycol	ND	11	mg/kg		0-7/10/13	UILD	OWOUTSD CET
QA/QC Surrogates % DPG (surrogate)	75		%	1	04/18/15	JRB	70 - 130 %
Methanol	ND	5.0	mg/Kg	1	04/22/15	JRB	SW8015D
Formaldehyde	ND	2200	ug/kg	i	04/18/15	RM	SW8315A
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
1,2,4-Trichlorobenzene	17	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
Ethylbenzene	30	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
Isopropylbenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
m&p-Xylene	120	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	04/23/15	JLi	SW8260C
o-Xylene	77	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
tert-Butylbenzene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
Toluene	ND	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
Total Xylenes	197	5.0	ug/Kg	1	04/23/15	JLI	SW8260C
QA/QC Surrogates			0 0				
% 1,2-dichlorobenzene-d4	95		%	Ĩ	04/23/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	04/23/15	JLI	70 - 130 %
% Dibromofluoromethane	104		%	1	04/23/15	JLI	70 - 130 %
% Toluene-d8	96		%	1	04/23/15	JLI	70 - 130 %
QC for Volatile	Completed				04/21/15	JLI	
QC for Volatile	Completed				04/21/15	JLI	
MS/MSD Volatiles	Completed				04/21/15	JLI	
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
1,2-Dichlorobenzene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	710	ug/Kg	2	04/17/15	DD	SW8270D
1,3-Dichlorobenzene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
1,4-Dichlorobenzene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D

Page 4 of 16 Ver 1

Phoenix I.D.: BJ03547

Project ID: AMERBELLE MILLS Client ID: AOC 4-3 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2,4,5-Trichlorophenol	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
2,4-Dichlorophenol	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
2,4-Dimethylphenol	ND	500	ug/Kg	2	04/17/15	DĎ	SW8270D
2,4-Dinitrophenol	ND	1100	ug/Kg	2	04/17/15	DD	SW8270D
2,4-Dinitrotoluene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
2,6-Dinitrotoluene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
2-Chloronaphthalene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
2-Chlorophenol	ND	500	ug/Kg	2	04/17/15	DĎ	SW8270D
2-Methylnaphthalene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
2-Nitroaniline	ND	1100	ug/Kg	2	04/17/15	DD	SW8270D
2-Nitrophenol	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	710	ug/Kg	2	04/17/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
3-Nitroaniline	ND	1100	ug/Kg	2	04/17/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	2100	ug/Kg	2	04/17/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	710	ug/Kg	2	04/17/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
4-Chloroaniline	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
4-Nitroaniline	ND	1100	ug/Kg	2	04/17/15	DD	SW8270D
	ND	2100	ug/Kg	2	04/17/15	DD	SW8270D
4-Nitrophenol	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Acenaphthene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Acetaphanena	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Acetophenone Aniline	ND	2100	ug/Kg	2	04/17/15	DD	SW8270D
	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Anthracene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Benz(a)anthracene Benzidine	ND	850	ug/Kg	2	04/17/15	DD	SW8270D
	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Benzo(a)pyrene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Benzo(b)fluoranthene	ND	500	ug/Kg	2	04/17/15	DĎ	SW8270D
Benzo(ghi)perylene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Benzo(k)fluoranthene	ND	2100	ug/Kg	2	04/17/15	DD	SW8270D
Benzoic acid	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Benzyl butyl phthalate	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	710	ug/Kg	2	04/17/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	1100	ug/Kg	2	04/17/15	DD	
Carbazole	ND	500	ug/Kg	2	04/17/15	DD	
Chrysene			ug/Kg	2	04/17/15	DD	
Dibenz(a,h)anthracene	ND	500 500	ug/Kg ug/Kg	2	04/17/15	DD	
Dibenzofuran	ND		ug/Kg ug/Kg	2	04/17/15	DD	
Diethyl phthalate	ND	500	ug/Kg ug/Kg	2	04/17/15	DD	
Dimethylphthalate	ND	500		2	04/17/15	DD	
Di-n-butylphthalate	ND	500	ug/Kg	2	04/17/15	DD	
Di-n-octylphthalate	ND	500	ug/Kg	2	04/17/15	DD	
Fluoranthene	ND	500	ug/Kg	2	U4/1//10	00	0110E10D

Page 5 of 16 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ03547

Client ID: AOC 4-3 (0.5-2)

		RL/				_	
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Fluorene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Hexachlorobenzene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Hexachlorobutadiene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Hexachloroethane	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Isophorone	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Naphthalene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Nitrobenzene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
N-Nitrosodimethylamine	ND	710	ug/Kg	2	04/17/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	710	ug/Kg	2	04/17/15	DD	SW8270D
Pentachloronitrobenzene	ND	710	ug/Kg	2	04/17/15	DD	SW8270D
Pentachlorophenol	ND	710	ug/Kg	2	04/17/15	DD	SW8270D
Phenanthrene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Phenol	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Pyrene	ND	500	ug/Kg	2	04/17/15	DD	SW8270D
Pyridine	ND	710	ug/Kg	2	04/17/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	109		%	2	04/17/15	DD	30 - 130 %
% 2-Fluorobiphenyl	69		%	2	04/17/15	DD	30 - 130 %
% 2-Fluorophenol	69		%	2	04/17/15	DD	30 - 130 %
% Nitrobenzene-d5	74		%	2	04/17/15	DD	30 - 130 %
% Phenol-d5	76		%	2	04/17/15	DD	30 - 130 %
% Terphenyl-d14	41		%	2	04/17/15	DD	30 - 130 %

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

Comments:

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

Semi-Volatile Comment:

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.

TPH Comment:

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

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

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

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Phyllis Shiller, Laboratory Director

April 27, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 6 of 16 Ver 1



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

Analysis Report

April 27, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information Collected by:

AT

LB

04/16/15

Time 11:50

Received by: Analyzed by:

04/16/15

Date

15:49

Ver 1

RL/

see "By" below

Laboratory Data

SDG ID: GBJ03546

Phoenix ID: BJ03548

Project ID:

AMERBELLE MILLS

Client ID:

AOC 4-4 (2-4)

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	0.90	0.38	mg/Kg	1	04/18/15	LK	SW6010C
Arsenic	2.1	8.0	mg/Kg	1	04/18/15	LK	SW6010C
Barium	57.1	0.38	mg/Kg	1	04/18/15	LK	SW6010C
Cadmium	< 0.38	0.38	mg/Kg	1	04/18/15	LK	SW6010C
Chromium	17.1	0.38	mg/Kg	1	04/18/15	LK	SW6010C
Mercury	0.05	0.03	mg/Kg	1	04/21/15	RS	SW7471B
Lead	18.5	0.38	mg/Kg	1	04/18/15	LK	SW6010C
Selenium	< 1.5	1.5	mg/Kg	1	04/18/15	LK	SW6010C
Percent Solid	88		%		04/16/15	-1	SW846-%Solid
Extraction of CT ETPH	Completed				04/17/15	JC	SW3545A
Mercury Digestion	Completed				04/21/15	1/1	SW7471B
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B
TPH by GC (Extractation Ext. Petroleum HC Identification	ole Products ND ND	5) 57	mg/Kg mg/Kg	1	04/19/15 04/19/15	JRB JRB	CTETPH 8015D CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	69		%	1	04/19/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
Benzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ03548

Client ID: AOC 4-4 (2-4)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chlorobenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
Ethylbenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
Isopropylbenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
m&p-Xylene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
Naphthalene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
n-Butylbenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
n-Propylbenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
o-Xylene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
p-Isopropyltoluene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
sec-Butylbenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
Styrene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
tert-Butylbenzene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
Toluene	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
Total Xylenes	ND	6.7	ug/Kg	1	04/19/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	04/19/15	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	04/19/15	JLI	70 - 130 %
% Dibromofluoromethane	99		%	1	04/19/15	JLI	70 - 130 %
% Toluene-d8	98		%	1	04/19/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 27, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 8 of 16 Ver 1



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

Analysis Report

April 27, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: SOIL

Location Code: GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information
Collected by: AT

Received by:

Laboratory Data

Analyzed by:

LB see "By" below 04/16

Date

04/16/15

<u>Time</u> 12:25

04/16/15 15:49

SDG ID: GBJ03546

Phoenix ID: BJ03549

Project ID:

AMERBELLE MILLS

Client ID: AOC 4-5 (4-6)

		RL/					
Parameter	Result	PQL	Uni	ts Dilutior	n Date/Time	Ву	Reference
Silver	0.60	0.38	mg/	Kg 1	04/18/15	LK	SW6010C
Arsenic	2.0	8.0	mg/	Kg 1	04/18/15	LK	SW6010C
Barium	62.3	0.38	mg/	Kg 1	04/18/15	LK	SW6010C
Cadmium	< 0.38	0.38	mg/	Kg 1	04/18/15	LK	SW6010C
Chromium	19.9	0.38	mg/	Kg 1	04/18/15	LK	SW6010C
Mercury	< 0.03	0.03	mg/	Kg 1	04/21/15	RS	SW7471B
Lead	13.3	0.38	mg/	Kg 1	04/18/15	LK	SW6010C
Selenium	< 1.5	1.5	mg/	Kg 1	04/18/15	LK	SW6010C
Percent Solid	90		%	•	04/16/15	1	SW846-%Solid
Soil Extraction for SVOA	Completed				04/16/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				04/17/15	JC	SW3545A
Formaldehyde Prep for HPLC	Completed				04/17/15	ML	
Mercury Digestion	Completed				04/21/15	1/1	SW7471B
TCLP Extraction for Formaldehyde	Completed				04/16/15	1	SW1311
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B
TPH by GC (Extractable	e Products	5)					
Ext. Petroleum HC	ND	54	mg/	Kg 1	04/20/15	JRB	CTETPH 8015D
Identification	ND		mg/	Kg 1	04/20/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	74		9/	1	04/20/15	JRB	50 - 150 %
Glycols							
Ethylene glycol	ND	11	mg/	Kg 1	04/18/15	JRB	SW8015D GLY
Propylene glycol	ND	11	mg/	'Kg 1	04/18/15	JRB	SW8015D GLY
QA/QC Surrogates							
% DPG (surrogate)	70		9,	5 1	04/18/15	JRB	70 - 130 %
Methanol	ND	5.0	mg	/Kg 1	04/22/15	JRB	SW8015D

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ03549

Client ID: AOC 4-5 (4-6)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Formaldehyde	9000	2200	ug/kg	1	04/18/15	RM	SW8315A
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
Benzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
Chlorobenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
Ethylbenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
Isopropylbenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
m&p-Xylene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
Naphthalene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
n-Butylbenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
n-Propylbenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
o-Xylene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
p-Isopropyltoluene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
sec-Butylbenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
Styrene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
tert-Butylbenzene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
Toluene	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
Total Xylenes	ND	7.5	ug/Kg	1	04/19/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	04/19/15	JLI	70 - 130 %
% Bromofluorobenzene	95		%	1	04/19/15	JLI	70 - 130 %
% Dibromofluoromethane	100		%	1	04/19/15	JLI	70 - 130 %
% Toluene-d8	98		%	1	04/19/15	JLI	70 - 130 %
Semivolatiles			0.4		04/47/45		014/00705
1,2,4,5-Tetrachlorobenzene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
1,2-Dichlorobenzene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	370	ug/Kg	1	04/17/15	DD	SW8270D
1,3-Dichlorobenzene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
1,4-Dichlorobenzene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2,4-Dichlorophenol	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2,4-Dimethylphenol	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2,4-Dinitrophenol	ND	590	ug/Kg	1	04/17/15	DD	SW8270D
2,4-Dinitrotoluene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2,6-Dinitrotoluene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2-Chloronaphthalene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2-Chlorophenol	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2-Methylnaphthalene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	260	ug/Kg	1	04/17/15	DD	SW8270D

Page 10 of 16 Ver 1

Project ID: AMERBELLE MILLS Client ID: AOC 4-5 (4-6)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2-Nitroaniline	ND	590	ug/Kg	1	04/17/15	DD	SW8270D
2-Nitrophenol	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
&4-Methylphenol (m&p-cresol)	ND	370	ug/Kg	1	04/17/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
-Nitroaniline	ND	590	ug/Kg	1	04/17/15	DD	SW8270D
,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	04/17/15	DD	SW8270D
-Bromophenyl phenyl ether	ND	370	ug/Kg	1	04/17/15	DD	SW8270D
-Chloro-3-methylphenol	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
-Chloroaniline	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
-Chlorophenyl phenyl ether	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
-Nitroaniline	ND	590	ug/Kg	1	04/17/15	DD	SW8270D
-Nitrophenol	ND	1100	ug/Kg	1	04/17/15	DD	SW8270D
cenaphthene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
.cenaphthylene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
cetophenone	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
niline	ND	1100	ug/Kg	1	04/17/15	DD	SW8270D
nthracene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
enz(a)anthracene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
enzidine	ND	440	ug/Kg	1	04/17/15	DD	SW8270D
enzo(a)pyrene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
enzo(b)fluoranthene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
enzo(ghi)perylene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
enzo(gill)perylene enzo(k)fluoranthene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
enzoic acid	ND	1100	ug/Kg	1	04/17/15	DD	SW8270D
enzyl butyl phthalate	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
lis(2-chloroethoxy)methane	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
is(2-chloroethyl)ether	ND	370	ug/Kg	1	04/17/15	DD	SW8270D
	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
Sis(2-chloroisopropyl)ether	ND	260	ug/Kg	î	04/17/15	DD	SW8270D
is(2-ethylhexyl)phthalate	ND	550	ug/Kg ug/Kg	1	04/17/15	DD	SW8270D
Carbazole	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
Chrysene	ND	260	ug/Kg ug/Kg	1	04/17/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	260		1	04/17/15	DD	SW8270D
Dibenzofuran			ug/Kg	1	04/17/15	DD	SW8270D SW8270D
Piethyl phthalate	ND	260 260	ug/Kg	1	04/17/15	DD	SW8270D
Dimethylphthalate	ND ND		ug/Kg	4	04/17/15	DD	SW8270D SW8270D
Pi-n-butylphthalate	ND ND	260 260	ug/Kg	4	04/17/15	DD	SW8270D
i-n-octylphthalate	ND	260	ug/Kg	1	04/17/15		SW8270D
luoranthene	ND	260	ug/Kg	10		DD	
luorene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
lexachlorobenzene	ND	260	ug/Kg	4	04/17/15	DD	SW8270D
lexachlorobutadiene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
lexachlorocyclopentadiene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
lexachloroethane	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
ndeno(1,2,3-cd)pyrene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
sophorone	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
laphthalene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
litrobenzene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
N-Nitrosodimethylamine	ND	370	ug/Kg	1	04/17/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	260	ug/Kg	1	04/17/15	DD	SW8270D

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ03549

Client ID: AOC 4-5 (4-6)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
N-Nitrosodiphenylamine	ND	370	ug/Kg	1	04/17/15	DD	SW8270D
Pentachloronitrobenzene	ND	370	ug/Kg	1	04/17/15	DD	SW8270D
Pentachlorophenol	ND	370	ug/Kg	1	04/17/15	DD	SW8270D
Phenanthrene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
Phenol	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
Pyrene	ND	260	ug/Kg	1	04/17/15	DD	SW8270D
Pyridine	ND	370	ug/Kg	1	04/17/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	96		%	1	04/17/15	DD	30 - 130 %
% 2-Fluorobiphenyl	67		%	1	04/17/15	DD	30 - 130 %
% 2-Fluorophenol	66		%	1	04/17/15	DD	30 - 130 %
% Nitrobenzene-d5	71		%	1	04/17/15	DD	30 - 130 %
% Phenol-d5	73		%	1	04/17/15	DD	30 - 130 %
% Terphenyl-d14	42		%	1	04/17/15	DD	30 - 130 %

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

Comments:

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

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

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

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

Phyllis Shiller, Laboratory Director

April 27, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 27, 2015

Attn: Mr Chris Frey FOR:

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

ΑT

LB

Glastonbury, CT 06033

see "By" below

Sample Information

Matrix:

SOIL

Location Code:

P.O.#:

GZA-AMER

Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

Date

Time

04/16/15

04/16/15

15:49

SDG ID: GBJ03546

Phoenix ID: BJ03550

Project ID:

AMERBELLE MILLS

Client ID:

TB041615 LOW

RL/ Reference Units Dilution Date/Time By **PQL** Result **Parameter Aromatic Volatiles** SW8260C 04/19/15 JLI ug/Kg 1 5.0 1,2,3-Trichlorobenzene ND SW8260C 04/19/15 JLI 1 ND 5.0 ug/Kg 1,2,4-Trichlorobenzene SW8260C 04/19/15 JLI 1 ug/Kg 5.0 ND 1,2,4-Trimethylbenzene SW8260C JLI 04/19/15 1 ug/Kg ND 5.0 1,2-Dichlorobenzene SW8260C 04/19/15 JLI ug/Kg 1 ND 5.0 1,3,5-Trimethylbenzene SW8260C 04/19/15 JLI 1 5.0 ug/Kg ND 1,3-Dichlorobenzene SW8260C 04/19/15 JLI 1 ND 5.0 ug/Kg 1,4-Dichlorobenzene SW8260C 04/19/15 JL1 ug/Kg 1 5.0 ND Benzene JLI SW8260C 1 04/19/15 5.0 ug/Kg ND Chlorobenzene SW8260C JLI 04/19/15 1 ug/Kg 5.0 ND Ethylbenzene JLI SW8260C 04/19/15 1 5.0 ug/Kg ND Isopropylbenzene SW8260C 04/19/15 JLI 1 ug/Kg ND 5.0 m&p-Xylene 04/19/15 SW8260C 1 ug/Kg ND 5.0 Methyl t-butyl ether (MTBE) 04/19/15 JLI SW8260C 1 ug/Kg ND 5.0 Naphthalene SW8260C JLI 1 04/19/15 ug/Kg ND 5.0 n-Butylbenzene JLI SW8260C 1 04/19/15 ug/Kg 5.0 n-Propylbenzene ND 04/19/15 JLI SW8260C 1 ND 5.0 ug/Kg o-Xylene SW8260C 04/19/15 JLI ug/Kg 1 ND 5.0 p-Isopropyltoluene 04/19/15 JLI SW8260C 1 5.0 ug/Kg ND sec-Butylbenzene SW8260C 04/19/15 JLI 1 ug/Kg ND 5.0 Styrene JLI SW8260C 04/19/15 ug/Kg 1 5.0 ND tert-Butylbenzene JLI SW8260C 04/19/15 ug/Kg ND 5.0 Toluene SW8260C JLI 04/19/15 1 ug/Kg ND 5.0 **Total Xylenes QA/QC Surrogates** 70 - 130 % 1 04/19/15 JLI % 100 % 1.2-dichlorobenzene-d4 70 - 130 % 1 04/19/15 JLI % 96 % Bromofluorobenzene

Project ID: AMERBELLE MILLS

Client ID: TB041615 LOW

RL/ Parameter Result PQL Units Dilution Date/Time By Reference % Dibromofluoromethane 100 % 1 04/19/15 JLI 70 - 130 % 97 % 1 04/19/15 JLI 70 - 130 % % Toluene-d8

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 27, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Phoenix I.D.: BJ03550



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

Analysis Report

April 27, 2015

FOR: Attn: Mr Chris Frey

AT

LB

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

_aboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

<u>Date</u>

Time

Ver 1

04/16/15

04/16/15 15:49

see "By" below

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

TB041615 HIGH

SDG ID: GBJ03546 Phoenix ID: BJ03551

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
Benzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
Ethylbenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
Isopropylbenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
m&p-Xylene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
Naphthalene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
n-Butylbenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
n-Propylbenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
o-Xylene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
p-Isopropyltoluene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
sec-Butylbenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
Styrene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
tert-Butylbenzene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
Toluene	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
Total Xylenes	ND	250	ug/Kg	50	04/19/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	50	04/19/15	JLI	70 - 130 %
% Bromofluorobenzene	97		%	50	04/19/15	JLI	70 - 130 %

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ03551

Client ID: TB041615 HIGH

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
% Dibromofluoromethane	96		%	50	04/19/15	JLI	70 - 130 %
% Toluene-d8	99		%	50	04/19/15	JLI	70 - 130 %

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

Comments:

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

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

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

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Phyllis Shiller, Laboratory Director

April 27, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

QA/QC Report

April 27, 2015

QA/QC Data

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 305027 (mg/kg),	QC Sam	ple No:	BJ03029) (BJ035	46, BJ0	3548,	BJ03549	9)					
ICP Metals - Soil													
Arsenic	BRL	0.67	0.9	0.96	NC	97.2	96.7	0.5	91.1	90.0	1.2	75 - 125	30
Barium	BRL	0.33	76.5	76.6	0.10	89.0	87.5	1.7	81.4	80.2	1.5	75 - 125	30
Cadmium	BRL	0.33	< 0.32	<0.32	NC	98.3	94.8	3.6	92.8	91.5	1.4	75 - 125	30
Chromium	BRL	0.33	13.9	14.6	4.90	97.2	98.3	1.1	98.2	96.6	1.6	75 - 125	30
Lead	BRL	0.33	5.66	6.49	13.7	100	100	0.0	94.0	92.6	1.5	75 - 125	30
Selenium	BRL	1.3	<1.3	<1.3	NC	89.7	89.3	0.4	77.1	76.6	0.7	75 - 125	30
Silver	BRL	0.33	<0.32	<0.32	NC	97.5	96.3	1.2	97.4	96.1	1.3	75 - 125	30
QA/QC Batch 305029 (mg/kg),	QC Sam	ple No:	BJ03547	7 (BJ035	47)								
ICP Metals - Soil		•		•	,								
Arsenic	BRL	0.65	1.6	1.95	NC	95.0	97.0	2.1	91.6	90.7	1.0	75 - 125	30
Barium	BRL	0.32	37.8	37.6	0.50	87.7	91.4	4.1	99.0	92.3	7.0	75 - 125	30
Cadmium	BRL	0.32	< 0.39	<0.33	NC	95.1	99.8	4.8	93.0	92.8	0.2	75 - 125	30
Chromium	BRL	0.32	67.4	69.5	3.10	98.6	101	2.4	100	95.5	4.6	75 - 125	30
Lead	BRL	0.32	11.3	10.1	11.2	99.2	101	1.8	95.1	94.4	0.7	75 - 125	30
Selenium	BRL	1.3	<1.6	<1.3	NC	87.9	88.5	0.7	78.6	78.2	0.5	75 - 125	30
Silver	BRL	0.32	<0.39	<0.33	NC	96.0	98.1	2.2	97.1	95.3	1.9	75 - 125	30
QA/QC Batch 305163 (mg/kg),	QC Sam	ple No:	BJ03547	7 (BJ035	46, BJ0)3547,	BJ0354	8, BJ03	549)				
Mercury - Soil	BRL	0.06	0.07	0.08	NC	115	103	11.0	103	110	6.6	70 - 130	30
Comment:													
Additional Mercury criteria: LCS a	cceptanc	e range	for waters	is 80-120	% and fo	or soils i	s 70-130'	%.					



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

QA/QC Report

April 27, 2015

QA/QC Data

Parameter	Blank	Bik RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 304899 (ug/L),	QC Sampl	e No: BJ02614 (B	J03547, BJ03549)								
Formaldehyde	ND	50	89	93	4.4				30 - 130	20	
QA/QC Batch 305023 (mg/kg)	, QC Sam	ple No: BJ03547 ((BJ03547, BJ03549)								
Glycols - Soil											
Ethylene glycol	ND	10	109	98	10.6	94	95	1.1	70 - 130	30	
Propylene glycol	ND	10	127	108	16.2	89	88	1.1	70 - 130	30	
% DPG	90	%	90	83	8.1	78	75	3.9	70 - 130	30	
QA/QC Batch 305012 (mg/Kg)), QC Sam	ple No: BJ03547	(BJ03546, BJ03547,	BJ0354	8, BJ03	549)					
TPH by GC (Extractable	Produc	ts) - Soil									
Ext. Petroleum HC	ND	50	85	77	9.9				60 - 120	30	
% n-Pentacosane	110	%	86	79	8.5				50 - 150	30	
Comment:											
*The MS/MSD could not be repo	orted due to	the presence of ET	PH in the original sampl	e. The LO	CS was v	vithin Q	A/QC crit	teria.			
QA/QC Batch 304887 (ug/kg),	QC Samp	ole No: BJ03547 (BJ03547, BJ03549)								
Semivolatiles - Soil		,	,								
1,2,4,5-Tetrachlorobenzene	ND	230	77	78	1.3	85	85	0.0	30 - 130	30	
1,2,4-Trichlorobenzene	ND	230	78	78	0.0	77	76	1.3	30 - 130	30	
1,2-Dichlorobenzene	ND	230	75	76	1.3	67	66	1.5	30 - 130	30	
1,2-Diphenylhydrazine	ND	230	103	101	2.0	104	104	0.0	30 - 130	30	
1,3-Dichlorobenzene	ND	230	72	73	1.4	64	63	1.6	30 - 130	30	
1,4-Dichlorobenzene	ND	230	74	75	1.3	66	64	3.1	30 - 130	30	
2,4,5-Trichlorophenol	ND	230	95	95	0.0	118	122	3.3	30 - 130	30	
2,4,6-Trichlorophenol	ND	130	92	92	0.0	96	101	5.1	30 - 130	30	
2,4-Dichlorophenol	ND	130	80	82	2.5	88	90	2.2	30 - 130	30	
2,4-Dimethylphenol	ND	230	79	80	1.3	90	94	4.3	30 - 130	30	
2,4-Dinitrophenol	ND	230	48	47	2.1	22	12	58.8	30 - 130	30	m,r
2,4-Dinitrotoluene	ND	130	124	119	4.1	109	108	0.9	30 - 130	30	
2,6-Dinitrotoluene	ND	130	101	100	1.0	98	99	1.0	30 - 130	30	
2-Chloronaphthalene	ND	230	92	91	1.1	78 70	77 70	1.3	30 - 130	30	
2-Chlorophenol	ND	230	83 80	83 81	0.0 1.2	79 82	79 83	0.0 1.2	30 - 130 30 - 130	30 30	
2-Methylnaphthalene 2-Methylphenol (o-cresol)	ND ND	230 230	81	82	1.2	83	81	2.4	30 - 130	30	
2-Nitroaniline	ND	670	146	141	3.5	86	84	2.4	30 - 130	30	1
2-Nitrophenol	ND	230	85	86	1.2	92	91	1.1	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230	88	91	3.4	92	88	4.4	30 - 130		
3,3'-Dichlorobenzidine	ND	130	97	100	3.0	116	120	3.4	30 - 130	30	
3-Nitroaniline	ND	670	100	98	2.0	87	85	2.3	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	170	79	80	1.3	39	23	51.6	30 - 130	30	m,r
4-Bromophenyl phenyl ether	ND	230	70	71	1.4	94	94	0.0	30 - 130		
4-Chloro-3-methylphenol	ND	230	79	83	4.9	111	118	6.1	30 - 130	30	
4-Chloroaniline	ND	230	64	66	3.1	60	57	5.1	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	230	89	89	0.0	89	90	1.1	30 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
4-Nitroaniline	ND	670	109	110	0.9	115	119	3.4	30 - 130	30	
4-Nitrophenol	ND	230	133	130	2.3	78	75	3.9	30 - 130	30	1
Acenaphthene	ND	230	91	89	2.2	84	83	1.2	30 - 130	30	
Acenaphthylene	ND	230	92	91	1.1	85	84	1.2	30 - 130	30	
Acetophenone	ND	230	88	89	1.1	84	81	3.6	30 - 130	30	
Aniline	ND	970	54	53	1.9	50	50	0.0	30 - 130	30	
Anthracene	ND	230	95	94	1.1	90	88	2.2	30 - 130	30	
Benz(a)anthracene	ND	230	102	104	1.9	93	92	1.1	30 - 130	30	
Benzidine	ND	330	29	29	0.0	25	32	24.6	30 - 130	30	l,m
Benzo(a)pyrene	ND	230	93	93	0.0	90	90	0.0	30 - 130	30	
Benzo(b)fluoranthene	ND	230	94	93	1.1	85	84	1.2	30 - 130	30	
Benzo(ghi)perylene	ND	230	87	87	0.0	89	92	3.3	30 - 130	30	
Benzo(k)fluoranthene	ND	230	95	94	1.1	89	89	0.0	30 - 130	30	
Benzoic Acid	ND	330	11	<10	NC	34	23	38.6	30 - 130	30	l,m,r
Benzyl butyl phthalate	ND	230	105	110	4.7	89	83	7.0	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	85	87	2.3	84	83	1.2	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	76	79	3.9	70	67	4.4	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	78	78	0.0	72	69	4.3	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	111	117	5.3	100	95	5.1	30 - 130	30	
Carbazole	ND	500	91	91	0.0	60	58	3.4	30 - 130	30	
Chrysene	ND	230	98	100	2.0	100	97	3.0	30 - 130	30	
Dibenz(a,h)anthracene	ND	230	88	87	1.1	87	92	5.6	30 - 130	30	
Dibenzofuran	ND	230	93	92	1.1	93	94	1.1	30 - 130	30	
Diethyl phthalate	ND	230	110	106	3.7	97	100	3.0	30 - 130	30	
Dimethylphthalate	ND	230	95	94	1.1	86	86	0.0	30 - 130	30	
Di-n-butylphthalate	ND	230	88	89	1.1	66	66	0.0	30 - 130	30	
Di-n-octylphthalate	ND	230	102	109	6.6	111	107	3.7	30 - 130	30	
Fluoranthene	ND	230	83	82	1.2	44	45	2.2	30 - 130	30	
Fluorene	ND	230	95	94	1.1	98	98	0.0	30 - 130	30	
Hexachlorobenzene	ND	130	76	74	2.7	92	96	4.3	30 - 130	30	
Hexachlorobutadiene	ND	230	79	78	1.3	76	75	1.3	30 - 130	30	
Hexachlorocyclopentadiene	ND	230	83	86	3.6	<10	<10	NC	30 - 130	30	m
Hexachloroethane	ND	130	75	74	1.3	63	61	3.2	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230	89	89	0.0	91	95	4.3	30 - 130	30	
Isophorone	ND	130	80	82	2.5	79	80	1.3	30 - 130	30	
Naphthalene	ND	230	80	82	2.5	81	79	2.5	30 - 130	30	
Nitrobenzene	ND	130	84	85	1.2	81	79	2.5	30 - 130	30	
N-Nitrosodimethylamine	ND	230	69	72	4.3	61	57	6.8	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	130	92	93	1.1	85	84	1.2	30 - 130	30	
N-Nitrosodiphenylamine	ND	130	104	102	1.9	110	111	0.9	30 - 130	30	
Pentachloronitrobenzene	ND	230	90	88	2.2	86	88	2.3	30 - 130	30	
Pentachlorophenol	ND	230	73	76	4.0	61	54	12.2	30 - 130	30	
Phenanthrene	ND	230	93	94	1.1	92	90	2.2	30 - 130	30	
Phenol	ND	230	83	86	3.6	81	79	2.5	30 - 130	30	
Pyrene	ND	230	81	78	3.8	41	42	2.4	30 - 130	30	
Pyridine	ND	230	55	55	0.0	43	46	6.7	30 - 130	30	
% 2,4,6-Tribromophenol	101	%	81	78	3.8	112	109	2.7	30 - 130	30	
% 2-Fluorobiphenyl	89	%	86	85	1.2	70	70	0.0	30 - 130	30	
% 2-Fluorophenol	73	%	77	77	0.0	72	70	2.8	30 - 130	30	
% Nitrobenzene-d5	81	%	78	79	1.3	75	73	2.7	30 - 130	30	
% Phenol-d5	78	%	79	79	0.0	77	74	4.0	30 - 130	30	
% Terphenyl-d14	117	%	77	76	1.3	38	39	2.6	30 - 130	30	

QA/QC Data SDG I.D.: GBJ03546

Parameter	Blank	Bik RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Comment:										
Additional 8270 criteria: 20% of acceptance range for aqueous:	compounds samples: 15	can be outside of acce	eptance criteria as lor 1%)	ng as rec	overy is	at least	10%. (Ad	cid surro	gates	
QA/QC Batch 305786 (ug/kg)	, QC Samp	ole No: BJ03990 (BJ	03547)							
Volatiles - Soil										
1,2,3-Trichlorobenzene	ND	5.0	104	102	1.9				70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	104	105	1.0				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	104	103	1.0				70 - 130	30
1,2-Dichlorobenzene	ND	5.0	101	101	0.0				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	108	106	1.9				70 - 130	30
1,3-Dichlorobenzene	ND	5.0	104	99	4.9				70 - 130	30
1,4-Dichlorobenzene	ND	5.0	101	100	1.0				70 - 130	30
Benzene	ND	1.0	109	105	3.7				70 - 130	30
Chlorobenzene	ND	5.0	106	101	4.8				70 - 130	30
Ethylbenzene	ND	1.0	112	106	5.5				70 - 130	30
Isopropylbenzene	ND	1.0	108	107	0.9				70 - 130	30
m&p-Xylene	ND	2.0	110	105	4.7				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	115	107	7.2				70 - 130	30
Naphthalene	ND	5.0	109	110	0.9				70 - 130	30
n-Butylbenzene	ND	1.0	106	104	1.9				70 - 130	30
n-Propylbenzene	ND	1.0	101	102	1.0				70 - 130	30
o-Xylene	ND	2.0	114	109	4.5				70 - 130	30
p-Isopropyltoluene	ND	1.0	109	110	0.9				70 - 130	30
sec-Butylbenzene	ND	1.0	113	105	7.3				70 - 130	30
Styrene	ND	5.0	111	105	5.6				70 - 130	30
tert-Butylbenzene	ND	1.0	109	105	3.7				70 - 130	30
Toluene	ND	1.0	108	106	1.9				70 - 130	30
% 1,2-dichlorobenzene-d4	102	%	101	102	1.0				70 - 130	30
% Bromofluorobenzene	96	%	101	104	2.9				70 - 130	30
% Dibromofluoromethane	99	%	101	101	0.0				70 - 130	30
% Toluene-d8 Comment:	98	%	102	100	2.0				70 - 130	30
The MS/MSD are not reported to Additional 8260 criteria: 10% of	LCS/LCSD	compounds can be out								
QA/QC Batch 305187 (ug/kg)), QC Sam	ple No: BJ04517 (BJ	03546, BJ03548, I	BJ03549	9, BJ03	550, BJ	103551	(50X))		
Volatiles - Soil										
1,2,3-Trichlorobenzene	ND	5.0	110	116	5.3		98		70 - 130	30
1,2,4-Trichlorobenzene		5.0	108	117	8.0		89		70 - 130	30
	ND									
• •			101	97	4.0		97		70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	101 113		4.0 0.0		97 101		70 - 130 70 - 130	
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene	ND ND	1.0 5.0		97						30
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene 1,3,5-Trimethylbenzene	ND ND ND	1.0 5.0 1.0	113	97 113	0.0		101		70 - 130	30 30
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene	ND ND ND ND	1.0 5.0 1.0 5.0	113 105	97 113 98	0.0 6.9		101 100		70 - 130 70 - 130	30 30 30
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene 1,3,5-Trimethylbenzene	ND ND ND	1.0 5.0 1.0	113 105 108	97 113 98 108	0.0 6.9 0.0		101 100 98		70 - 130 70 - 130 70 - 130	30 30 30 30
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzene	ND ND ND ND ND	1.0 5.0 1.0 5.0 5.0 1.0	113 105 108 107	97 113 98 108 107	0.0 6.9 0.0 0.0		101 100 98 97		70 - 130 70 - 130 70 - 130 70 - 130	30 30 30 30 30
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzene Chlorobenzene	ND ND ND ND	1.0 5.0 1.0 5.0 5.0	113 105 108 107 107	97 113 98 108 107 99	0.0 6.9 0.0 0.0 7.8		101 100 98 97 104		70 - 130 70 - 130 70 - 130 70 - 130 70 - 130	30 30 30 30 30 30
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzene Chlorobenzene Ethylbenzene	ND ND ND ND ND ND	1.0 5.0 1.0 5.0 5.0 1.0 5.0	113 105 108 107 107	97 113 98 108 107 99 105	0.0 6.9 0.0 0.0 7.8 4.7		101 100 98 97 104 106		70 - 130 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130	30 30 30 30 30 30 30 30
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzene Chlorobenzene Ethylbenzene Isopropylbenzene	ND ND ND ND ND ND ND	1.0 5.0 1.0 5.0 5.0 1.0 5.0 1.0	113 105 108 107 107 110	97 113 98 108 107 99 105 100	0.0 6.9 0.0 0.0 7.8 4.7 7.7		101 100 98 97 104 106 103		70 - 130 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130	30 30 30 30 30 30 30 30 30
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzene Chlorobenzene Ethylbenzene Isopropylbenzene m&p-Xylene	ND ND ND ND ND ND ND	1.0 5.0 1.0 5.0 5.0 1.0 5.0	113 105 108 107 107 110 108	97 113 98 108 107 99 105 100 93	0.0 6.9 0.0 0.0 7.8 4.7 7.7		101 100 98 97 104 106 103 102		70 - 130 70 - 130	30 30 30 30 30 30 30 30 30 30
1,2,4-Trimethylbenzene 1,2-Dichlorobenzene 1,3,5-Trimethylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzene Chlorobenzene Ethylbenzene Isopropylbenzene	ND ND ND ND ND ND ND ND	1.0 5.0 1.0 5.0 5.0 1.0 5.0 1.0 1.0	113 105 108 107 107 110 108 104	97 113 98 108 107 99 105 100 93	0.0 6.9 0.0 0.0 7.8 4.7 7.7 11.2 6.8		101 100 98 97 104 106 103 102		70 - 130 70 - 130	30 30 30 30 30 30 30 30 30 30 30

QA/QC Data

SDG I.D.: GBJ03546

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
n-Propylbenzene	ND	1.0	97	88	9.7		101		70 - 130	30
o-Xylene	ND	2.0	110	104	5.6		104		70 - 130	30
p-Isopropyltoluene	ND	1.0	102	96	6.1		99		70 - 130	30
sec-Butylbenzene	ND	1.0	101	92	9.3		100		70 - 130	30
Styrene	ND	5.0	110	107	2.8		105		70 - 130	30
tert-Butylbenzene	ND	1.0	102	92	10.3		103		70 - 130	30
Toluene	ND	1.0	106	99	6.8		105		70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	100	100	0.0		101		70 - 130	30
% Bromofluorobenzene	97	%	102	99	3.0		100		70 - 130	30
% Dibromofluoromethane	99	%	104	99	4.9		103		70 - 130	30
% Toluene-d8	99	%	99	99	0.0		100		70 - 130	30
Comment:										

A blank MS/MSD was analyzed with this batch.

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

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

April 27, 2015

I = 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.

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	Lage

Sample Criteria Exceedences Report

GBJ03546 - GZA-AMER

Criteria

Phoenix Analyte

Acode

SampNo

씸 Result

R.L. Criteria Criteria

Analysis Units

*** No Data to Display ***

Criteria: CT: GAM, RC

State: CT

Monday, April 27, 2015

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	ratory Na	ame:	Phoer	nix Enviro	GZA (SeoEnviro	onmental	l, Inc.				
Proje	ct Locati	ion:	AMEF	RBELLE I	MILLS		Project	Number:				
Labo	ratory Sa	mple	ID(s):	BJ0354	16, BJ03547,	BJ035	48, BJ035	49, BJ035	50, BJ03	3551		
Samı	pling Date	e(s):	4/16/2	2015								
RCP	Methods	Used	:									
√ 13	11/1312	✓ 601	0	7000	7196	V	7470/7471	8081	[EPH		TO15
□ 80	82	815	1	✓ 8260	✓ 8270	✓	ETPH	9010/9	0012	VPH		
	specified (any criteria	QA/QC a falling	perfor outsic	mance cri	enced in this la teria followed, eptable guidelin	includir nes, as	ng the requ specified ir	rement to e	explain	✓ Yes	□No	
1a.	Were the	method	1 speci	fied prese	ervation and ho	lding tir	ne requirer	nents met?		✓ Yes	□ No	
					as the VPH or tion 11.3 of re				ut	☐ Yes	□ No	✓ NA
2.	Were all s described	amples on the	s recei	ved by the iated Cha	e laboratory in a in-of-Custody	a condit docume	tion consist ent(s)?	ent with tha	at	✓ Yes	□ No	
3.	Were sam	iples re	ceive	d at an app	propriate temp	erature	(< 6 Degre	es C)?		☐ Yes	☑ No	□NA
4.					teria specified see Section: S\			Confidence	е	☐ Yes	✓ No	
5a.	Were repo	orting li	mits sp	pecified or	referenced or	the ch	ain-of-custo	ody?		✓ Yes	□No	
5b.	Were thes	se геро	rting li	mits met?						✓ Yes	□ No	□NA
6.	reported fe	or all c	onstitu	ents ident	enced in this la ified in the me rotocol docume	hod-sp	y report pa ecific analy	ckage, were te lists pres	e results sented	☐ Yes	✓ No	□NA
7.,	Are projec	ct-spec	ific ma	trix spikes	and laborator	y duplic	ates includ	ed in the da	ata set?	✓ Yes	□ No	□NA
Note:	be provide	ed in ar	n attacl	ich the res hed narrati onable Co	ponse was "No ve. If the answ nfidence".	" (with t er to qu	he exceptio estion #1, #	n of questio	on #5a, #7) "No", the), additiona data packa	il Informat ige does n	tion must not meet the
and	belief an	d bas	ed up	on my p	the pains an ersonal inqu rt, such info	iry of	those res	ponsible	for prov	iding the		
								Date:	: Monda	y, April 2	7, 2015	
	horized nature:		91	Than	See		Prin	ed Name:		•	-	
	- -	-						Position:	Proiect	Manage	r	



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

April 27, 2015

SDG I.D.: GBJ03546

BJ03546, BJ03547, BJ03548, BJ03549 - The following analytes from the 6010 RCP Metals list were not reported: Antimony, Beryllium, Copper, Nickel, Thallium, Vanadium, Zinc.

BJ03546, BJ03547, BJ03548, BJ03549, BJ03550, BJ03551 - The following analytes from the 8260 RCP Volatile list were not reported: 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2-Tetrachloroethane, 1,1-Dichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,2-Dichloroethane, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 2-Chlorotoluene, 2-Hexanone, 4-Chlorotoluene, 4-Methyl-2-pentanone, Acetone, Acrylonitrile, Bromobenzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon Disulfide, Carbon tetrachloride, Chloroethane, Chloroform, Chloromethane, cis-1,2-Dichloroethene, cis-1,3-Dichloropropene, Dibromochloromethane, Dibromomethane, Dichlorodifluoromethane, Hexachlorobutadiene, Methyl Ethyl Ketone, Methylene chloride, Tetrachloroethene, Tetrahydrofuran (THF), trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, trans-1,4-dichloro-2-butene, Trichloroethene, Trichlorofluoromethane, Vinyl chloride.

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 bias is suspected.

ALCOHOL

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

Instrument:

Headspace 04/22/15-1 (BJ03547)

Printed Name Position:

Jeff Bucko Chemist

Date:

4/22/2015

ETPH Narration

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

Instrument:

Au-fid1 04/18/15-1 (BJ03547, BJ03548)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Position:

Jeff Bucko

Date:

Chemist 4/18/2015



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Fax (860) 645-0823



RCP Certification Report

April 27, 2015

SDG I.D.: GBJ03546

Instrument:

Au-fid1 04/18/15-2 (BJ03547)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/18/2015

Instrument:

Aufid-d1 04/20/15-1 (BJ03546)

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

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

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/20/2015

Instrument:

Aufid-d1 04/20/15-2 (BJ03549)

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

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

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/20/2015

QC Comments:

QC Batch 305012 04/17/15 (BJ03546, BJ03547, BJ03548, BJ03549)

*The MS/MSD could not be reported due to the presence of ETPH in the original sample. The LCS was within QA/QC criteria.

QC (Site Specific)

----- Sample No: BJ03547, QA/QC Batch: 305012 -----

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.

Formaldehyde

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







RCP Certification Report

April 27, 2015

SDG I.D.: GBJ03546

Instrument: Hplc-frm1 04/17/15-1 (BJ03547, BJ03549)

The ICAL and CCAL meet criteria.

Printed Name Raman Makol

Position:

Chemist

Date:

4/17/2015

QC (Batch Specific)

----- Sample No: BJ02614, QA/QC Batch: 304899 -----

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.

GLYCOL

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

Instrument:

Glycol 04/17/15-1 (BJ03547, BJ03549)

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/17/2015

QC (Site Specific)

----- Sample No: BJ03547, QA/QC Batch: 305023 ------

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

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

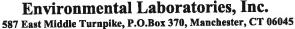
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

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

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

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





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April 27, 2015

SDG I.D.: GBJ03546

Mercury Narration

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

Instrument:

Merlin 04/21/15-1 (BJ03546, BJ03547, BJ03548, BJ03549)

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.

Printed Name Rick Sc

Rick Schweitzer

Position:

Chemist

Date:

4/21/2015

QC (Site Specific)

----- Sample No: BJ03547, QA/QC Batch: 305163 -----

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

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

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

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

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

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

ICP Narration

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

Instrument:

Arcos 04/18/15-1 (BJ03546, BJ03547, BJ03548, BJ03549)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin Position: Chemist

Date:

4/18/2015



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RCP Certification Report

April 27, 2015

SDG I.D.: GBJ03546

QC (Site Specific)

----- Sample No: BJ03547, QA/QC Batch: 305029 ------

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: None.

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

QC (Batch Specific)

----- Sample No: BJ03029, QA/QC Batch: 305027 ------

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.

SVOA Narration

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

QC Batch 304887 (Samples: BJ03547, BJ03549): ----

The QC recoveries for one or more analytes are below the method criteria. A low bias is likely. (Benzidine, Benzoic Acid)

The LCS and/or the LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (2-Nitroaniline, 4-Nitrophenol)

The LCS/LCSD recovery is acceptable. One or more analytes in the site specific matrix spike recovery is below the method criteria, therefore a low bias is possible. (2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, Hexachlorocyclopentadiene)

The MS/MSD RPD for one or more analytes exceeds the method criteria. These analytes were not reported in the samples, therefore no sample variability is suspected. (2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol, Benzoic acid)

Instrument: Chem06 04/17/15-1 (BJ03547, BJ03549)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM06/SV_0415):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: 2,4-Dinitrophenol (28%), 4,6-Dinitro-2-methylphenol (30%), Benzidine (33%)

The following compounds did not meet a minimum response factor of 0.01: None.



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RCP Certification Report

April 27, 2015

SDG I.D.: GBJ03546

Continuing Calibration Verification (CHEM06/0417_02-SV_0415):

98% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: 3,3'-dichlorobenzidine (-31%)[30%], Benzidine (-66%)[30%]

The following compounds did not meet maximum % deviations: Benzidine (-66%)[40%]

The following compounds did not meet recommended response factors: 2-nitrophenol (.064)[0.1], Hexachlorobenzene (.069)[0.1] The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position:

Chemist

Date:

4/17/2015

QC (Site Specific)

----- Sample No: BJ03547, QA/QC Batch: 304887 -----

All LCS recoveries were within 30 - 130 with the following exceptions: 2-Nitroaniline(146%), 4-Nitrophenol(133%), Benzidine(29%), Benzoic Acid(11%)

All LCSD recoveries were within 30 - 130 with the following exceptions: 2-Nitroaniline(141%), Benzidine(29%), Benzoic Acid(<10%)

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

All MS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(22%), Benzidine(25%), Hexachlorocyclopentadiene(<10%)

All MSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(12%), 4,6-Dinitro-2-methylphenol(23%), Benzoic Acid(23%), Hexachlorocyclopentadiene(<10%)

All MS/MSD RPDs were less than 30% with the following exceptions: 2,4-Dinitrophenol(58.8%), 4,6-Dinitro-2-methylphenol(51.6%), Benzoic Acid(38.6%)

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.

VOA Narration

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

Instrument:

Chem03 04/21/15-1 (BJ03546, BJ03547)

Initial Calibration Verification (CHEM03/RCPS_0420):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Chloroethane (27%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM03/0421L02-RCPS_0420):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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



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RCP Certification Report

April 27, 2015

SDG I.D.: GBJ03546

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

Printed Name Position:

Jane Li Chemist

Date:

4/21/2015

Instrument:

Chem03 04/23/15-1 (BJ03547)

Initial Calibration Verification (CHEM03/RCPS 0420):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Chloroethane (27%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM03/0423L05-RCPS 0420):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Jane Li

Position:

Chemist

Date:

4/23/2015

Instrument:

Chem14 04/19/15-1 (BJ03546, BJ03547, BJ03548, BJ03549, BJ03550, BJ03551)

Initial Calibration Verification (CHEM14/voa5g 0418):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (25%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM14/0419 06-voa5g 0418):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Jane Li

Position: Date: Chemist

Date:

4/19/2015

OC Comments:

QC Batch 305187 04/19/15 (BJ03546, BJ03548, BJ03549, BJ03550, BJ03551)

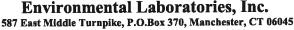
A blank MS/MSD was analyzed with this batch.

OC Comments:

QC Batch 305786 04/23/15 (BJ03547)

The MS/MSD are not reported for this batch.





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RCP Certification Report

April 27, 2015

SDG I.D.: GBJ03546

QC (Batch Specific)

----- Sample No: BJ03990, QA/QC Batch: 305786 -----

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.

----- Sample No: BJ04517, QA/QC Batch: 305187 ------

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.

VOA TCL Narration

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

Instrument:

Chem03 04/21/15-1 (BJ03547)

Initial Calibration Verification (CHEM03/TCLSNJD_0420):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: Chloroethane (29%), Methylene Chloride (22%)

The following compounds did not meet a minimum response factor of 0.01: None.

 $Continuing\ Calibration\ Verification\ (CHEM03/0421L02-TCLSNJD_0420):$

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: Acetone (.069)[0.1]

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

Printed Name

Jane Li

Position:

Chemist

Date:

4/21/2015

Temperature Narration

The samples were received at 8C with cooling initiated. (Note acceptance criteria is above freezing up to 6°C)



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RCP Certification Report

April 27, 2015

Coolant IPK ICE No	Eax: Phone: <u>860 - 予5ア・</u> 310テ Email: <u>Skr spur</u> , たく アッセ・	Project P.O: This section MUST be completed with Bottle Quantities.		S - Extra ULUME FOR MS/MSD		MA Data Format MCP Certification X Excel GW-1 X PDF GW-2 GIS/Key GW-3 GIS/Key GW-3 GIS/Key GW-3 GIS/Key GW-3 GIS/Key GW-3 GIS/Key GW-3 GIS/Key GW-1 Data Package S-2 Tier II Checklist S-3 GIS/Key Other G
CHAIN OF CUSTODY RECORD	587 East Middle Tumpike, P.O. Box 370, Manchester, CT 06040 Email: info@phoenixlabs.com Fax (860) 645-0823 Client Services (860) 645-8726	Project: 入MをR&をにど MJLとが Report to: ことれび 所をY Invoice to: 人	Analysis Request Request Representation of the Property of the	Time Sampled Sampled	X X X X X X X X X X X X X X X X X X X	Date: Time: RI CI MA
	PHOENIX Environmental Laboratories, Inc.	Customer: GZA Address: GSS LYZAOZAVE BRUCK RU, STE SUASTOW BURY, CT	Sampler's Signature Client Sample - Information - Identification Signature CALCA: CALCA: Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Soild W=Wipe OIL=Oil B=Bulk L=Liquid	PHOENIX USE ONLY Customer Sample Sample Date Matrix Date Matrix Date Matrix Sampled 025UL AIC-4-1(0.5-2) S 4/IC/IS 035UL AR-4-83(0.5-2) S 4/IC/IS 635UL AIC-4-4 (2-4) S 4/IC/IS	03550 TB 041615 (60) 5 4/6/17 03550 TB 041615 (144) 5 4/10/1	Comments, Special Requirements or Regulations:



Wednesday, April 22, 2015

Attn: Mr Chris Frey
GZA GeoEnvironmental, Inc.
655 Winding Brook Drive
Suite 402
Glastonbury, CT 06033

Project ID: AMERBELLE MILLES

Sample ID#s: BJ03029

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

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



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Analysis Report

April 22, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

AT

Glastonbury, CT 06033

Sample Information

Matrix:

P.O.#:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Received by: LB

Custody Information

Collected by:

3

Analyzed by: see "By" below

Laboratory Data

SDG ID: GBJ03029

<u>Time</u>

13:40

16:54

Phoenix ID: BJ03029

Date

04/15/15

04/15/15

Project ID:

AMERBELLE MILLES

Client ID:

AOC-5-2 (5-7)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.32	0.32	mg/Kg	1	04/18/15	LK	SW6010C
Arsenic	0.9	0.6	mg/Kg	1	04/18/15	LK	SW6010C
Barium	76.5	0.32	mg/Kg	1	04/18/15	LK	SW6010C
Cadmium	< 0.32	0.32	mg/Kg	1	04/18/15	LK	SW6010C
Chromium	13.9	0.32	mg/Kg	1	04/18/15	LK	SW6010C
Mercury	< 0.02	0.02	mg/Kg	1	04/21/15	RS	SW7471B
Lead	5.66	0.32	mg/Kg	1	04/18/15	LK	SW6010C
Selenium	< 1.3	1.3	mg/Kg	1	04/18/15	LK	SW6010C
Percent Solid	97		%		04/15/15	1	SW846-%Solid
Extraction of CT ETPH	Completed				04/15/15	BC/V	SW3545A
Mercury Digestion	Completed				04/21/15	1/1	SW7471B
Total Metals Digest	Completed				04/17/15	CB/AG	SW3050B
Field Extraction	Completed				04/15/15		SW5035A
TPH by GC (Extractat	ole Product	<u>s)</u>					
Ext. Petroleum HC	ND	51	mg/Kg	1	04/17/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/17/15	JRB	CTETPH 8015D
QA/QC Surrogates							
QA/QC Surrogates % n-Pentacosane	65		%	1	04/17/15	JRB	50 - 150 %
	65		%	1	04/17/15	JRB	
% n-Pentacosane Volatiles	65 ND	5.2	% ug/Kg	1	04/17/15 04/18/15	JRB JLI	SW8260C
% n-Pentacosane Volatiles 1,1,1,2-Tetrachloroethane		5.2 5.2					
% n-Pentacosane Volatiles 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	ND		ug/Kg	1	04/18/15	JLI	SW8260C SW8260C SW8260C
% n-Pentacosane Volatiles 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	ND ND	5.2	ug/Kg ug/Kg	1 1	04/18/15 04/18/15	JLI JLI	SW8260C SW8260C
% n-Pentacosane Volatiles 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	ND ND ND	5.2 3.1	ug/Kg ug/Kg ug/Kg	1 1 1	04/18/15 04/18/15 04/18/15	JLI JLI JLI	SW8260C SW8260C SW8260C
% n-Pentacosane Volatiles 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	ND ND ND	5.2 3.1 5.2	ug/Kg ug/Kg ug/Kg ug/Kg	1 1 1	04/18/15 04/18/15 04/18/15 04/18/15	JLI JLI JLI JLI	SW8260C SW8260C SW8260C SW8260C

Project ID: AMERBELLE MILLES Client ID: AOC-5-2 (5-7)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,2,4-Trimethylbenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,2-Dibromoethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,2-Dichloroethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,2-Dichloropropane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,3,5-Trimethylbenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,3-Dichloropropane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
2,2-Dichloropropane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
2-Chlorotoluene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
2-Hexanone	ND	26	ug/Kg	1	04/18/15	JLI	SW8260C	
2-Isopropyltoluene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
4-Chlorotoluene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
4-Methyl-2-pentanone	ND	26	ug/Kg	1	04/18/15	JLI	SW8260C	
Acetone	ND	31	ug/Kg	1	04/18/15	JLI	SW8260C	
Acrylonitrile	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Benzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Bromobenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Bromochloromethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Bromodichloromethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Bromoform	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Bromomethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Carbon Disulfide	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Carbon tetrachloride	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Chlorobenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Chloroethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Chloroform	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Chloromethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Dibromochloromethane	ND	3.1	ug/Kg	1	04/18/15	JLI	SW8260C	
Dibromomethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Dichlorodifluoromethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Ethylbenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Hexachlorobutadiene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Isopropylbenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
m&p-Xylene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Methyl Ethyl Ketone	ND	31	ug/Kg	1	04/18/15	JLI	SW8260C	
Methyl t-butyl ether (MTBE)	ND	10	ug/Kg	1	04/18/15	JLI	SW8260C	
Methylene chloride	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
Naphthalene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
n-Butylbenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
n-Propylbenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	
o-Xylene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C	

Page 2 of 3 Ver 1

Phoenix I.D.: BJ03029

Project ID: AMERBELLE MILLES Client ID: AOC-5-2 (5-7)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
p-Isopropyltoluene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
sec-Butylbenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
Styrene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
tert-Butylbenzene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
Tetrachloroethene	ND	5.2	ug/Kg ⁵	1	04/18/15	JLI	SW8260C
Tetrahydrofuran (THF)	ND	10	ug/Kg	1	04/18/15	JLI	SW8260C
Toluene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
Total Xylenes	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	04/18/15	JLI	SW8260C
Trichloroethene	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
Vinyl chloride	ND	5.2	ug/Kg	1	04/18/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	04/18/15	JLI	70 - 130 %
% Bromofluorobenzene	99		%	1	04/18/15	JLI	70 - 130 %
% Dibromofluoromethane	101		%	1	04/18/15	JLI	70 - 130 %
% Toluene-d8	95		%	1	04/18/15	JLI	70 - 130 %

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

Comments:

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

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

Phyllis Shiller, Laboratory Director

April 22, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Ver 1 Page 3 of 3



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

April 22, 2015

QA/QC Data

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 305027 (mg/kg)), QC Sam	ple No:	BJ03029) (BJ030	29)								
ICP Metals - Soil													
Arsenic	BRL	0.67	0.9	0.96	NC	97.2	96.7	0.5	91.1	90.0	1.2	75 - 125	30
Barium	BRL	0.33	76.5	76.6	0.10	89.0	87.5	1.7	81.4	80.2	1.5	75 - 125	30
Cadmium	BRL	0.33	<0.32	<0.32	NC	98.3	94.8	3.6	92.8	91.5	1.4	75 - 125	30
Chromium	BRL	0.33	13.9	14.6	4.90	97.2	98.3	1.1	98.2	96.6	1.6	75 - 125	30
Lead	BRL	0.33	5.66	6.49	13.7	100	100	0.0	94.0	92.6	1.5	75 - 125	30
Selenium	BRL	1.3	<1.3	<1.3	NC	89.7	89.3	0.4	77.1	76.6	0.7	75 - 125	30
Silver	BRL	0.33	<0.32	<0.32	NC	97.5	96.3	1.2	97.4	96.1	1.3	75 - 125	30
QA/QC Batch 305163 (mg/kg)), QC Sam	ple No:	BJ03547	7 (BJ030	29)								
Mercury - Soil	BRL	0.06	0.07	0.08	NC	115	103	11.0	103	110	6.6	70 - 130	30
Comment:													
Additional Mercury criteria: LCS	acceptanc	e range	for waters	is 80-120	% and fo	or soils is	s 70-130°	%.					



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QA/QC Report

April 22, 2015

QA/QC Data

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 304762 (mg/Kg), QC San	nple No: BJ03029 (BJ03029)									
TPH by GC (Extractable											
Ext. Petroleum HC	ND	50	64	59	8.1	63	59	6.6	60 - 120	30	1
% n-Pentacosane	70	%	68	59	14.2	66	68	3.0	50 - 150	30	
QA/QC Batch 305119 (ug/kg)	QC Sam	nle No: B.I04258 (B.I03029)									
Volatiles - Soil	, ao can	pio 110. Buo 1200 (Buodo20)									
1,1,1,2-Tetrachloroethane	ND	5.0	98	101	3.0	99	97	2.0	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	104	106	1.9	99	99	0.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	101	103	2.0	90	93	3.3	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	97	102	5.0	100	101	1.0	70 - 130	30	
1,1-Dichloroethane	ND	5.0	103	105	1.9	102	102	0.0	70 - 130	30	
1,1-Dichloroethene	ND	5.0	107	107	0.0	94	94	0.0	70 - 130	30	
1,1-Dichloropropene	ND	5.0	102	103	1.0	102	106	3.8	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	102	105	2.9	100	106	5.8	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	96	102	6.1	91	91	0.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	102	103	1.0	100	105	4.9	70 - 130		
1,2,4-Trimethylbenzene	ND	1.0	96	98	2.1	99	102	3.0	70 - 130		
1,2-Dibromo-3-chloropropane	ND	5.0	111	115	3.5	105	103	1.9	70 - 130		
1,2-Dibromoethane	ND	5.0	102	106	3.8	103	106	2.9	70 - 130		
1,2-Dichlorobenzene	ND	5.0	101	103	2.0	99	102	3.0	70 - 130	30	
1,2-Dichloroethane	ND	5.0	98	102	4.0	100	103	3.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0	98	102	4.0	102	103	1.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	101	103	2.0	100	102	2.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	102	102	0.0	99	101	2.0	70 - 130	30	
1,3-Dichloropropane	ND	5.0	100	103	3.0	102	99	3.0	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	99	100	1.0	97	101	4.0	70 - 130	30	
2,2-Dichloropropane	ND	5.0	106	104	1.9	97	101	4.0	70 - 130	30	
2-Chlorotoluene	ND	5.0	102	104	1.9	101	103	2.0	70 - 130	30	
2-Hexanone	ND	25	93	96	3.2	92	85	7.9	70 - 130	30	
2-Isopropyltoluene	ND	5.0	106	109	2.8	103	106	2.9	70 - 130	30	
4-Chlorotoluene	ND	5.0	98	102	4.0	100	101	1.0	70 - 130	30	
4-Methyl-2-pentanone	ND	25	99	104	4.9	94	96	2.1	70 - 130	30	
Acetone	ND	10	85	84	1.2	71	67	5.8	70 - 130	30	m
Acrylonitrile	ND	5.0	109	106	2.8	95	95	0.0	70 - 130	30	
Benzene	ND	1.0	103	106	2.9	102	105	2.9	70 - 130	30	
Bromobenzene	ND	5.0	104	105	1.0	128	104	20.7	70 - 130	30	
Bromochloromethane	ND	5.0	101	106	4.8	99	100	1.0	70 - 130	30	
Bromodichloromethane	ND	5.0	101	105	3.9	100	101	1.0	70 - 130	30	
Bromoform	ND	5.0	98	102	4.0	94	90	4.3	70 - 130	30	
Bromomethane	ND	5.0	98	91	7.4	57	64	11.6	70 - 130	30	m
Carbon Disulfide	ND	5.0	113	113	0.0	90	90	0.0	70 - 130	30	
Carbon tetrachloride	ND	5.0	101	104	2.9	98	100	2.0	70 - 130	30	
Chlorobenzene	ND	5.0	102	102	0.0	101	101	0.0	70 - 130	30	

QA/QC Data

SDG I.D.: GBJ03029

Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Chloroethane	ND	5.0		102	104	1.9	20	20	0.0	70 - 130	30	m
Chloroform	ND	5.0	33	98	99	1.0	96	95	1.0	70 - 130	30	
Chloromethane	ND	5.0		97	99	2.0	97	97	0.0	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0		111	110	0.9	104	106	1.9	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0		107	111	3.7	105	107	1.9	70 - 130	30	
Dibromochloromethane	ND	3.0		103	106	2.9	100	97	3.0	70 - 130	30	
Dibromomethane	ND	5.0		100	104	3.9	102	104	1.9	70 - 130	30	
Dichlorodifluoromethane	ND	5.0		109	108	0.9	99	98	1.0	70 - 130	30	
Ethylbenzene	ND	1.0		105	106	0.9	103	102	1.0	70 - 130	30	
Hexachlorobutadiene	ND	5.0		105	106	0.9	106	110	3.7	70 - 130	30	
Isopropylbenzene	ND	1.0		105	106	0.9	105	106	0.9	70 - 130	30	
m&p-Xylene	ND	2.0		100	102	2.0	102	102	0.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0		99	98	1.0	86	86	0.0	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0		96	100	4.1	94	97	3.1	70 - 130	30	
Methylene chloride	ND	5.0		95	95	0.0	90	91	1.1	70 - 130	30	
Naphthalene	ND	5.0		110	113	2.7	105	109	3.7	70 - 130	30	
n-Butylbenzene	ND	1.0		102	102	0.0	104	106	1.9	70 - 130	30	
n-Propylbenzene	ND	1.0		97	98	1.0	102	104	1.9	70 - 130	30	
o-Xylene	ND	2.0		106	107	0.9	107	106	0.9	70 - 130	30	
p-isopropyltoluene	ND	1.0		103	104	1.0	103	105	1.9	70 - 130	30	
sec-Butylbenzene	ND	1.0		105	106	0.9	101	103	2.0	70 - 130	30	
Styrene	ND	5.0		103	105	1.9	106	103	2.9	70 - 130	30	
tert-Butylbenzene	ND	1.0		104	106	1.9	103	106	2.9	70 - 130	30	
Tetrachloroethene	ND	5.0		104	106	1.9	104	104	0.0	70 - 130	30	
Tetrahydrofuran (THF)	ND	5.0		103	99	4.0	90	88	2.2	70 - 130	30	
Toluene	ND	1.0		102	106	3.8	103	105	1.9	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0		105	105	0.0	94	97	3.1	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0		105	110	4.7	102	104	1.9	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0		107	110	2.8	94	94	0.0	70 - 130	30	
Trichloroethene	ND	5.0		104	109	4.7	104	106	1.9	70 - 130	30	
Trichlorofluoromethane	ND	5.0		98	100	2.0	30	33	9.5	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0		103	101	2.0	98	98	0.0	70 - 130	30	
Vinyl chloride	ND	5.0		111	110	0.9	90	89	1.1	70 - 130	30	
% 1,2-dichlorobenzene-d4	95	%		101	101	0.0	99	100	1.0	70 - 130	30	
% Bromofluorobenzene	98	%		101	102	1.0	102	101	1.0	70 - 130	30	
% Dibromofluoromethane	105	%		101	98	3.0	98	97	1.0	70 - 130	30	
% Toluene-d8	93	%		99	102	3.0	101	103	2.0	70 - 130	30	
Comment:		E										

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

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

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis/Shiller, Laboratory Director

April 22, 2015

I = This parameter is outside laboratory lcs/lcsd specified recovery limits.

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

Sample Criteria Exceedences Report

GBJ03029 - GZA-AMER

Criteria

Phoenix Analyte

Acode

SampNo

State: CT

*** No Data to Display ***

Wednesday, April 22, 2015 Criteria: CT: GAM, RC ద

Criteria

Analysis Units

RL Criteria

Result

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	ratory Name:	Phoenix Er	nvironmenta	I Labs, Inc	. Client:		GZA G	ieoEnvir	onmenta	I, Inc.
Proje	ect Location:	AMERBEL	LE MILLES		Project	Number:				
Labo	ratory Sample	ID(s): BJ0	3029							
Sam	pling Date(s):	4/15/2015								
RCP	Methods Used	d:								
13	311/1312 📝 60	10 🗌 70	000 7	196	7470/7471	8081		EPH		TO15
<u> </u>	81 81	51 🗸 82	:60 82	270	ETPH	9010/90)12	VPH		
1,	For each analyti specified QA/QC any criteria fallin method-specific	c performance g outside of a	e criteria follo acceptable gi	wed, includ uidelines, as	ling the requi s specified in	rement to ex	xplain	✓ Yes	□No	
1a.	Were the metho	d specified p	reservation a	nd holding 1	time requiren	nents met?		✓ Yes	□ No	
1b.	EPH and VPH n significant modif						ıt	□ Yes	□ No	✓ NA
2.	Were all sample described on the			✓ Yes	□ No					
3.	Were samples received at an appropriate temperature (< 6 Degrees C)?								□ No	□NA
4.	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Section: ETPH Narration. ☐ Yes ✓ No									
5a.	Were reporting I	imits specifie	d or referenc	ed on the c	hain-of-custo	dy?		✓ Yes	□No	
5b.	Were these repo	orting limits m	net?					✓ Yes	□No	□NA
6.	For each analyti reported for all of in the Reasonab	constituents ic	dentified in th	e method-s				☐ Yes	✓ No	□NA
7.:	Are project-spec	cific matrix sp	ikes and labo	ratory dupli	cates include	ed in the dat	ta set?	✓ Yes	□ No	□NA
Note:	Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence".									
and	e undersigned belief and bas tained in this a	ed upon m	y personal	inquiry of	those resp	oonsible fo	or provi	ding the		
						Date:	Wednes	day, Ap	ril 22, 20	15
	horized nature:	Ethan	r fe	e	Print	ed Name:		•		
	Position: Project Manager									



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RCP Certification Report

April 22, 2015

SDG I.D.: GBJ03029

BJ03029 - The following analytes from the 6010 RCP Metals list were not reported: Antimony, Beryllium, Copper, Nickel, Thallium, Vanadium, Zinc.

ETPH Narration

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

OC Batch 304762 (Samples: BJ03029): ---

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. (Ext. Petroleum HC)

Instrument: <u>Au-xl2 04/16/15-2 (BJ03029)</u>

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

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

Printed Name Jeff Bucko
Position: Jeff Bucko
Chemist

Date: 4/16/2015

QC (Site Specific)

----- Sample No: BJ03029, QA/QC Batch: 304762 -----

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

All LCSD recoveries were within 60 - 120 with the following exceptions: Ext. Petroleum HC(59%)

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.

Mercury Narration

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

Instrument: Merlin 04/21/15-1 (BJ03029)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.



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RCP Certification Report

April 22, 2015

SDG I.D.: GBJ03029

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

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer

Position:

Chemist

Date:

4/21/2015

QC (Batch Specific)

----- Sample No: BJ03547, QA/QC Batch: 305163 -----

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.

ICP Narration

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

Instrument:

Arcos 04/18/15-1 (BJ03029)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin

Position:

Chemist

Date:

4/18/2015



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RCP Certification Report

April 22, 2015

SDG I.D.: GBJ03029

QC (Site Specific)

----- Sample No: BJ03029, QA/QC Batch: 305027 -----

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: None.

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

VOA Narration

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

Instrument:

Chem18 04/17/15-2 (BJ03029)

Initial Calibration Verification (CHEM18/voa5g_0416):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: 1,2-Dibromo-3-Chloropropane (24%), Acetone (32%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM18/0417M34-voa5g_0416):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Jane Li

Position:

Chemist

Date:

4/17/2015

QC (Batch Specific)

----- Sample No: BJ04258, QA/QC Batch: 305119 -----

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.



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RCP Certification Report

April 22, 2015

SDG I.D.: GBJ03029

Temperature Narration

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

Coolant IPK ICE ON NO Temp O C Pg I of 1	Fax:	Project P.O: This section MUST be completed with Bottle Quantities.		1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		MA Data Format Part Data Format	-1 Dail 19 Dai
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	Project: AMERRELLE MALS Report to: CHICL FREY Invoice to:				1/15/15 1 1	Lumaround: GB Mobility □ S Mobility
/HO (H)	PHOENIX 587 East Midd Environmental Laboratories, Inc.	Customer: GZA Address: 6ST WINDING BROOK DRIVE, NUTE 401 GLATTONBUCK, CT	Sampler's Conflict Sample - Information - Identification Signature Sample - Information - Identification Signature Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Soild W=Wipe OIL=Oil B=Bulk L=Liquid	PHOENIX USE ONLY SAMPLE # Identification Matrix Sampled Sampled Sampled	03039 A0C-5-2(5-7) 5 4-15-15 1340	Relinquished by: Onding The Control of the Control	Comments, Special Requirements or Regulations:



Monday, April 20, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BJ02364 - BJ02365

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301

CT Lab Registration #PH-0618

MA Lab Registration #MA-CT-007

ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301

PA Lab Registration #68-03530

RI Lab Registration #63

VT Lab Registration #VT11301



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

Analysis Report

April 20, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

P.O.#:

SOLID

Location Code:

GZA-AMER

Rush Request:

Standard

Collected by: Received by:

Custody Information

SW

04/14/15 04/14/15

<u>Date</u>

<u>Time</u> 11:30 16:53

Analyzed by:

RL/

see "By" below

Laboratory Data

SDG ID: GBJ02364

Phoenix ID: BJ02364

Project ID:

AMERBELLE MILLS

Client ID:

AOC-6-1 (0.5-2)

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.33	0.33	mg/Kg	1	04/15/15	EK	SW6010C
Arsenic	2.1	0.7	mg/Kg	1	04/15/15	EK	SW6010C
Barium	51.9	0.33	mg/Kg	1	04/15/15	EK	SW6010C
Cadmium	< 0.33	0.33	mg/Kg	1	04/15/15	EK	SW6010C
Chromium	14.0	0.33	mg/Kg	1	04/15/15	EK	SW6010C
Mercury	< 0.03	0.03	mg/Kg	1	04/16/15	RS	SW7471B
Lead	12.6	0.33	mg/Kg	1	04/15/15	EK	SW6010C
Selenium	< 1.3	1.3	mg/Kg	1	04/15/15	EK	SW6010C
Percent Solid	95		%		04/14/15	- 1	SW846-%Solid
Extraction of CT ETPH	Completed				04/14/15	BC/V	SW3545A
Mercury Digestion	Completed				04/16/15	1/1	SW7471B
Total Metals Digest	Completed				04/14/15	CB/AG	SW3050B
TPH by GC (Extractat	ole Products	<u>s)</u>					
Ext. Petroleum HC	ND	52	mg/Kg	1	04/15/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/15/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	80		%	1	04/15/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	6.2	ug/Kg	31	04/16/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ02364

Client ID: AOC-6-1 (0.5-2)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chlorobenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
Ethylbenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
Isopropylbenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
m&p-Xylene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
Naphthalene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
n-Butylbenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
n-Propylbenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
o-Xylene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
p-Isopropyltoluene	ND	6.2	ug/Kg	1	04/16/15	JLi	SW8260C
sec-Butylbenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
Styrene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
tert-Butylbenzene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
Toluene	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
Total Xylenes	ND	6.2	ug/Kg	1	04/16/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	04/16/15	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	04/16/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	04/16/15	JLI	70 - 130 %
% Toluene-d8	97		%	1	04/16/15	JLI	70 - 130 %

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 20, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 2 of 4 Ver 1



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

Analysis Report

April 20, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

GZA-AMER

Location Code: Rush Request:

Standard

SOLID

P.O.#:

Custody Information

ation

Collected by: Received by:

SW

04/14/15 04/14/15

<u>Date</u>

12:00 16:53

<u>Time</u>

Analyzed by: see "By" below

Laboratory Data

SDG ID: GBJ02364

Phoenix ID: BJ02365

Project ID:

AMERBELLE MILLS

Client ID:

AOC-6-2 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.31	0.31	mg/Kg	1	04/15/15	EK	SW6010C
Arsenic	3.0	0.6	mg/Kg	1	04/15/15	EK	SW6010C
Barium	89.7	0.31	mg/Kg	1	04/15/15	EK	SW6010C
Cadmium	< 0.31	0.31	mg/Kg	1	04/15/15	EK	SW6010C
Chromium	16.7	0.31	mg/Kg	1	04/15/15	EK	SW6010C
Mercury	0.06	0.02	mg/Kg	1	04/16/15	RS	SW7471B
Lead	68.7	0.31	mg/Kg	1	04/15/15	EK	SW6010C
Selenium	< 1.2	1.2	mg/Kg	1	04/15/15	EK	SW6010C
Percent Solid	99		%		04/14/15	1	SW846-%Solid
Extraction of CT ETPH	Completed				04/14/15	BC/V	SW3545A
Mercury Digestion	Completed				04/16/15	1/1	SW7471B
Total Metals Digest	Completed				04/14/15	CB/AG	SW3050B
TPH by GC (Extractab	le Products	s)					
Ext. Petroleum HC	ND	49	mg/Kg	1	04/15/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/15/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	66		%	1	04/15/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C

Page 3 of 4 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ02365

Client ID: AOC-6-2 (0.5-2)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chlorobenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
Isopropylbenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
m&p-Xylene	ND	5.0	ug/Kg	1	04/16/15	JLi	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
tert-Butylbenzene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
Toluene	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
Total Xylenes	ND	5.0	ug/Kg	1	04/16/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	04/16/15	JLI	70 - 130 %
% Bromofluorobenzene	99		%	1	04/16/15	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	04/16/15	JLI	70 - 130 %
% Toluene-d8	100		%	1	04/16/15	JLi	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 20, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 4 of 4 Ver 1



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

QA/QC Report

April 20, 2015

QA/QC Data

SDG I.D.: GBJ02364

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 304606 (mg/kg)	, QC Sam	nple No:	BJ01772	2 (BJ023	64, BJ0)2365)								
ICP Metals - Soil														
Arsenic	BRL	0.60	7.1	7.21	1.50	92.2	93.0	0.9	93.3	92.5	0.9	75 - 125	30	
Barium	BRL	0.30	74.7	71.2	4.80	94.8	93.7	1.2	>130	>130	NC	75 - 125	30	m
Cadmium	BRL	0.30	<0.33	<0.33	NC	92.7	95.3	2.8	96.0	95.9	0.1	75 - 125	30	
Chromium	BRL	0.30	18.5	17.0	8.50	95.3	94.2	1.2	105	103	1.9	75 - 125	30	
Lead	BRL	0.30	16.8	15.8	6.10	97.6	92.4	5.5	94.2	94.1	0.1	75 - 125	30	
Selenium	BRL	1.2	<1.3	<1.3	NC	85.1	87.1	2.3	82.4	81.4	1.2	75 - 125	30	
Silver	BRL	0.30	<0.33	<0.33	NC	90.9	91.9	1.1	100	99.1	0.9	75 - 125	30	
QA/QC Batch 304787 (mg/kg)), QC San	ple No:	BJ0192	7 (BJ023	64, BJ0)2365)								
Mercury - Soil Comment:	BRL	0.06	0.58	0.54	7.10	114	110	3.6	95.3	36.0	90.3	70 - 130	30	m,r
Additional Mercury criteria: LCS	acceptanc	e range	for waters	is 80-120	% and fo	or soils i	s 70-130 ^o	%.						

$$[\]label{eq:mass} \begin{split} m &= \text{This parameter is outside laboratory ms/msd specified recovery limits.} \\ r &= \text{This parameter is outside laboratory rpd specified recovery limits.} \end{split}$$



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

April 20, 2015

QA/QC Data

SDG I.D.: GBJ02364

Parameter	Blank	Bik RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 304956 (ug/kg	ı), QC Samı	ole No: BJ0142	24 (BJ02364, BJ02	2365)							
Volatiles - Solid											
1,2,3-Trichlorobenzene	ND	5.0		103	103	0.0	99	102	3.0	70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0		102	105	2.9	101	103	2.0	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0		100	102	2.0	106	106	0.0	70 - 130	30
1,2-Dichlorobenzene	ND	5.0		104	105	1.0	105	105	0.0	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0		105	106	0.9	107	107	0.0	70 - 130	30
1,3-Dichlorobenzene	ND	5.0		103	104	1.0	105	105	0.0	70 - 130	30
1,4-Dichlorobenzene	ND	5.0		103	105	1.9	104	105	1.0	70 - 130	30
Benzene	ND	1.0		100	101	1.0	99	101	2.0	70 - 130	30
Chlorobenzene	ND	5.0		101	103	2.0	103	102	1.0	70 - 130	30
Ethylbenzene	ND	1.0		104	107	2.8	104	105	1.0	70 - 130	30
Isopropylbenzene	ND	1.0		106	106	0.0	110	109	0.9	70 - 130	30
m&p-Xylene	ND	2.0		103	107	3.8	107	105	1.9	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0		106	107	0.9	97	100	3.0	70 - 130	30
Naphthalene	ND	5.0		103	106	2.9	NC	NC	NC	70 - 130	30
n-Butylbenzene	ND	1.0		105	106	0.9	109	110	0.9	70 - 130	30
n-Propylbenzene	ND	1.0		99	101	2.0	109	110	0.9	70 - 130	30
o-Xylene	ND	2.0		104	106	1.9	106	105	0.9	70 - 130	30
p-lsopropyltoluene	ND	1.0		105	107	1.9	109	109	0.0	70 - 130	30
sec-Butylbenzene	ND	1.0		106	110	3.7	108	108	0.0	70 - 130	30
Styrene	ND	5.0		103	106	2.9	107	105	1.9	70 - 130	30
tert-Butylbenzene	ND	1.0		104	106	1.9	109	108	0.9	70 - 130	30
Toluene	ND	1.0		100	102	2.0	101	103	2.0	70 - 130	30
% 1,2-dichlorobenzene-d4	102	%		103	102	1.0	103	102	1.0	70 - 130	30
% Bromofluorobenzene	99	%		100	102	2.0	102	100	2.0	70 - 130	30
% Dibromofluoromethane	101	%		104	102	1.9	98	101	3.0	70 - 130	30
% Toluene-d8 Comment:	99	%		102	102	0.0	102	103	1.0	70 - 130	30
Additional 8260 criteria: 10% o	f LCS/LCSD	compounds can	be outside of accep	tance o	riteria as	long as	recover	y is 40-1	60%.		
QA/QC Batch 304590 (mg/K	g), QC Sam	ple No: BJ023	64 (BJ02364, BJ0)2365)							
TPH by GC (Extractable		70 100 1000 100011111	•	,							
Ext. Petroleum HC	ND	50		66	74	11.4	86	83	3.6	60 - 120	30
% n-Pentacosane	80	%		73	81	10.4	90	91	1.1	50 - 150	30

QA/QC Data

SDG I.D.: GBJ02364

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

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

April 20, 2015

Page 1 of 1

Sample Criteria Exceedences Report

GBJ02364 - GZA-AMER

Criteria

Criteria

RL Criteria

Analysis Units

귙

Result

Phoenix Analyte *** No Data to Display *** Acode SampNo

Criteria: CT: GAM, RC

State: CT

Monday, April 20, 2015

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	ratory Name:	Phoenix E	nvironm	nental Labs,	inc. (Client:		GZ	A Geoenvii	onmental	, 1116.
Proje	ect Location:	AMERBEL	LE MIL	LS	F	Project	Numb	er:			
Labo	ratory Sample	e ID(s): BJ	02364,	BJ02365							
Samp	pling Date(s):	4/14/2015									
RCP	Methods Use	d:									
<u> </u>	311/1312 🕡 60	10 🗌 7	000	7196	✓ 747	70/7471	80	181	☐ EPH		TO15
□ 80	82 🗌 81	51 🗸 8	260	8270	✓ ET	PH	90	10/9012	☐ VPH		
	For each analyt specified QA/Q0 any criteria fallir method-specific	C performand outside of	ce criteria accepta	a followed, in ble guideline	cluding s, as sp	the requi ecified in	iremen	t to explair	Yes	□ No	
1a.	Were the metho	od specified p	oreserva	tion and hold	ling time	requirer	ments r	net?	✓ Yes	☐ No	
1b.	EPH and VPH r significant modi	nethods only fications (see	r: Was ti e section	he VPH or El 11.3 of resp	PH meth ective R	od cond CP meth	ucted v nods)	vithout	□Yes	□No	✓ NA
2.	Were all sample described on th	es received be associated	y the lat I Chain-c	ooratory in a of-Custody do	condition ocument	n consist (s)?	ent wit	h that	✓ Yes	□No	
3.	Were samples	received at a	ın approp	priate temper	ature (<	6 Degre	es C)?		✓ Yes	□ No	□NA
4.	Were all QA/Q0 Protocol docum	C performand ents achieve	ce criteria ed?	a specified in	the Rea	asonable	Confid	lence	✓ Yes	□ No	
5a.	Were reporting	limits specifi	ied or ref	ferenced on t	he chair	n-of-cust	ody?		✓ Yes	i □ No	
5b.	Were these rep	orting limits	met?						✓ Yes	i □ No	
6.	For each analy results reported presented in the	for all const	tituents id	dentified in th	ne metho	od-specif	ickage, ic anal	were yte lists	☐ Yes	No No	□NA
7	Are project-spe	cific matrix s	pikes an	nd laboratory	duplicat	es includ	led in t	he data se	t? ✓ Yes	s 🗆 No	□NA
I, th	For all question be provided in the requirement the requirement the undersigned belief and batained in this	an attached n ts for "Reaso d, attest ur ased upon i	narrative. Inable Co Inder the Inder the	If the answern in the second second in the s	r to ques I penalt ry of th	ties of p	erjury perjury	that, to	the data pac	f my kno	wledge
							г	Date: Moi	nday, April	20, 2015	
11	thorized gnature:	The	en :	See		Prir		ame: Eth		_0, _0.0	
Sig	griaturo.	OV.					Pos	ition: Pro	ject Manag	jer	



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

April 20, 2015

SDG I.D.: GBJ02364

BJ02364, BJ02365 - The following analytes from the 6010 RCP Metals list were not reported: Antimony, Beryllium, Copper, Nickel, Thallium, Vanadium, Zinc.

BJ02365 - The following analytes from the 8260 RCP Volatile list were not reported: 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethane, 1,1-Dichloropropene, 1,2,3-Trichloropropane, 1,2-Dibromoethane, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 2-Chlorotoluene, 2-Hexanone, 4-Chlorotoluene, 4-Methyl-2-pentanone, Acetone, Acrylonitrile, Bromobenzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon Disulfide, Carbon tetrachloride, Chloroethane, Chloroform, Chloromethane, cis-1,2-Dichloroethene, cis-1,3-Dichloropropene, Dibromochloromethane, Dibromomethane, Dichlorodifluoromethane, Hexachlorobutadiene, Methyl Ethyl Ketone, Methylene chloride, Tetrachloroethene, Tetrahydrofuran (THF), trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, trans-1,4-dichloro-2-butene, Trichloroethene, Trichlorofluoromethane, Trichlorotrifluoroethane, Vinyl chloride.

ETPH Narration

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

Instrument:

Au-fid84 04/15/15-1 (BJ02365)

Initial Calibration (FID84 - ETPH 413) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name

Jeff Bucko

Position: Date: Chemist 4/15/2015

Instrument:

Aufid-d1 04/15/15-1 (BJ02364)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name

Jeff Bucko

Position: Date: Chemist 4/15/2015

Instrument:

Aufid-d1 04/15/15-2 (BJ02364)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name

Jeff Bucko

Position: Date: Chemist 4/15/2015



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

Fax (860) 645-0823 Tel. (860) 645-1102



RCP Certification Report

April 20, 2015

SDG I.D.: GBJ02364

QC (Site Specific)

----- Sample No: BJ02364, QA/QC Batch: 304590 -----

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.

Mercury Narration

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

Instrument:

Merlin 04/16/15-1 (BJ02364, BJ02365)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

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

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name

Rick Schweitzer

Position:

Chemist

Date:

4/16/2015

QC (Batch Specific)

----- Sample No: BJ01927, QA/QC Batch: 304787 ------

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.

ICP Narration

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

Instrument:

Arcos 04/14/15-1 (BJ02364, BJ02365)



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RCP Certification Report

April 20, 2015

SDG I.D.: GBJ02364

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range. The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin Position: Chemist

Date:

4/14/2015

Instrument:

Arcos 04/15/15-1 (BJ02364, BJ02365)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin Position: Chemist

Date:

4/15/2015

QC (Batch Specific)

----- Sample No: BJ01772, QA/QC Batch: 304606 -----

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.

VOA Narration

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

Instrument: Chem15 04/16/15-1 (BJ02364, BJ02365)

Initial Calibration Verification (CHEM15/voa5g_0407):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (26%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0416B03-voa5g_0407):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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



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

East Middle Turnpike, P.O.Box 370, Manchester, CT 0604 Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

April 20, 2015

SDG I.D.: GBJ02364

Printed Name

Jane Li

Position:

Chemist

Date:

4/16/2015

QC (Batch Specific)

----- Sample No: BJ01424, QA/QC Batch: 304956 -----

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.

Temperature Narration

The samples in this delivery group were received at 4°C. (Note acceptance criteria is above freezing up to 6°C)

Sarah - Phoenixlabs

623le4

From:

Anthony Trani [Anthony.Trani@gza.com]

Sent: To: Tuesday, April 14, 2015 5:24 PM

Cc:

sarah@phoenixlabs.com

Subject:

Christopher Frey Amerbelle 4-14-15

Sarah

I just spoke with Chris. The samples submitted today (AOC-6-1 & 6-2) should be run for VOC 8020 and not 8010. Please respond so I know you got the message and made the change.

Thanks Anthony

Sent from my iPhone

This electronic message is intended to be viewed only by the individual or entity to which it is addressed and may contain privileged and/or confidential information intended for the exclusive use of the addressee(s). If you are not the intended recipient, please be aware that any disclosure, printing, copying, distribution or use of this information is prohibited. If you have received this message in error, please notify the sender immediately and destroy this message and its attachments from your system.

For information about GZA GeoEnvironmental, Inc. and its services, please visit our website at www.gza.comwww.gza.com/>.

Sarah - Phoenixlabs

From:

Anthony Trani [Anthony.Trani@gza.com]

Sent: To: Tuesday, April 14, 2015 5:20 PM

Cc:

sarah@phoenixlabs.com

Subject:

Christopher Frey

Amerbelie samples 4-14-15

Sarah

I just dropped off soil samples for Amerbelle. I am not sure if the VOC samples are for 8010 or 8020. Can you hold analysis of these until I get back to you. Should be tomorrow in the am. Samples are AOC-6-1 (0.5-2) and AOC-6-2 (0.5-2)

Thanks Anthony

Sent from my iPhone

This electronic message is intended to be viewed only by the individual or entity to which it is addressed and may contain privileged and/or confidential information intended for the exclusive use of the addressee(s). If you are not the intended recipient, please be aware that any disclosure, printing, copying, distribution or use of this information is prohibited. If you have received this message in error, please notify the sender immediately and destroy this message and its attachments from your system.

For information about GZA GeoEnvironmental, Inc. and its services, please visit our website at www.gza.com/>.

Cooler: Yes No	Temp Lec Pg l of /	Sontact Options: S60 -858-3742 Chistople, Pt. C. 925-03-	Project P.O:	completed with	Bottle Quantities.	Trade i de la constante de la		10 10 10 10 10 10 10 10 10 10 10 10 10 1								GIS/Key	Other	Data Package	S-3	SIIDCHADGE ADDITES
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kā.								1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	¥ ×	γ ×			-		CT RCP Cert	SW Protection	GA Mobility	GB Mobility Residential DEC	☐ I/C DEC☐ Other	State where samples were collected:
	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	BELLE PALL	L Med	D. N. N.	1								3.	Direct Exposure (Residential)	J GW	☐ Other			State where sam
	STODY). Box 370, Mancheste .com Fax (860) 64 s (860) 645-8726	A	1		30									5					<u>!</u>
	CHAIN OF CUSTODY RECORD	East Middle Turnpike, P.O. Box Email: info@phoenixlabs.com Client Services (8)	Project:	Invoice to:		Analysis Reguest	A ROOM		+ + +	777					Date: Time: 4/14/15 1/2			Turnaround: ☐ 1 Day*	2 Days* 3 Days* Standard	Other
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		ΣÕ		3		ion . Date: 4	r ww =Waste id W=Wipe	Date	-	Jl/h//h	89									
	- A	nc.	1	HANNIE OFF		- Identificat	urface Wate Soil SD=Sol	Sample Matrix		4								<u>.</u> C	\	
		PHOENIX Environmental Laboratories, Inc.	85			Client Sample - Information - Identification	Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Studge S=Soil SD=Soild W=Wipe OIL=Oil B=Bulk L=Liquid	Customer Sample Identification	AOC-6-1 (0.5-2)	PAC-6-2 (0.52)					Accepted by)	Comments Special Bequirements or Begulations		Je sha	
		PHOE Environmenta	l	Address.		Sampler's Clis	ode: king Water Water SE= B=Bulk L=I	PHOENIX USE ONLY SAMPLE #		5					Relinquished by:		Commonte Special Re			



Wednesday, April 15, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BJ00652 - BJ00655

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301

CT Lab Registration #PH-0618

MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301

PA Lab Registration #68-03530

RI Lab Registration #63

VT Lab Registration #VT11301



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

Analysis Report

April 15, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information** <u>Date</u> **Time** Matrix: SOIL Collected by: 04/09/15 15:45 Received by: **Location Code: GZA-AMER** 04/09/15 17:12 LB Rush Request:

Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBJ00652

Phoenix ID: BJ00652

Project ID: **AMERBELLE MILLS** Client ID: AOC-19-8 (0.5-2.5)

SSOlid A A 8015D 8015D
8015D
8015D
8015D
8015D
%
3

Ver 1 Page 1 of 8

Phoenix I.D.: BJ00652 Project ID: AMERBELLE MILLS

Client ID: AOC-19-8 (0.5-2.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromobenzene	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Bromodichloromethane	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Bromoform	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Bromomethane	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Carbon tetrachloride	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Chlorobenzene	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Chloroethane	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Chloroform	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Chloromethane	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Dibromochloromethane	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Dibromomethane	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Methylene chloride	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Tetrachloroethene	390	280	ug/Kg	56	04/10/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	04/10/15	JLI	SW8260C
Trichloroethene	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
Vinyl chloride	ND	5.2	ug/Kg	1	04/10/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	04/10/15	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	04/10/15	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	04/10/15	JLI	70 - 130 %
% Toluene-d8	96		%	1	04/10/15	JLI	70 - 130 %

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

Comments:

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

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

Phyllis Shiller, Laboratory Director

April 15, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Ver 1 Page 2 of 8



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

Analysis Report

April 15, 2015

Attn: Mr Chris Frey FOR:

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: **Location Code:** SOIL

GZA-AMER

Rush Request:

Custody Information

Collected by: Received by:

LB

16:00 04/09/15 04/09/15

17:12

<u>Time</u>

Standard

Analyzed by: **Laboratory Data**

see "By" below

SDG ID: GBJ00652

Phoenix ID: BJ00653

Date

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

AOC-19-9 (0.5-2.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	92		%		04/09/15	1	SW846-%Solid
Extraction of CT ETPH	Completed				04/09/15	JC/V	SW3545A
Field Extraction	Completed				04/09/15		SW5035A
TPH by GC (Extractable	e Products	3)					
Ext. Petroleum HC	ND	53	mg/Kg	1	04/11/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/11/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	83		%	1	04/11/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,1-Dichloroethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,1-Dichloroethene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,1-Dichloropropene	ND	6.8	ug/Kg	1	04/10/15	JLI :	SW8260C
1,2,3-Trichloropropane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dibromoethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dichloroethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dichloropropane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,3-Dichloropropane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
2,2-Dichloropropane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ00653

Client ID: AOC-19-9 (0.5-2.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromobenzene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Bromodichloromethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Bromoform	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Bromomethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Carbon tetrachloride	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Chlorobenzene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Chloroethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Chloroform	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Chloromethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Dibromochloromethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Dibromomethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Dichlorodifluoromethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Methylene chloride	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Tetrachloroethene	4400	280	ug/Kg	42	04/11/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	14	ug/Kg	1	04/10/15	JLI	SW8260C
Trichloroethene	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Trichlorofluoromethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
Vinyl chloride	ND	6.8	ug/Kg	1	04/10/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	04/10/15	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	04/10/15	JLI	70 - 130 %
% Dibromofluoromethane	96		%	1	04/10/15	JLI	70 - 130 %
% Toluene-d8	93		%	1	04/10/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 15, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 15, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request: Standard

P.O.#:

Custody Information

n

see "By" below

Collected by:

Received by:

Analyzed by:

LB

04/09/15 04/09/15

<u>Date</u>

0:00 17:12

Laboratory Data

SDG ID: GBJ00652

Phoenix ID: BJ00654

Project ID:

AMERBELLE MILLS

Client ID:

TB040915 LOW

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Field Extraction	Completed				04/09/15		SW5035A
Halogenated Volatiles							
1,1,1,2-Tetrachioroethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1.3-Dichloropropane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Bromobenzene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Bromodichloromethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Bromoform	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Bromomethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Carbon tetrachloride	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Chloroethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Chloroform	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C

Project ID: AMERBELLE MILLS

Client ID: TB040915 LOW

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chloromethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Dibromochloromethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Methylene chloride	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	04/10/15	JLI	SW8260C
Trichloroethene	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
Vinyl chloride	ND	5.0	ug/Kg	1	04/10/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	04/10/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	04/10/15	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	04/10/15	JLI	70 - 130 %
% Toluene-d8	94		%	1	04/10/15	JLI	70 - 130 %

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

Comments:

Results are reported on an "as received" basis, and are not corrected for dry weight. TRIP BLANK INCLUDED

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

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

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Phyllis Shiller, Laboratory Director

April 15, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 6 of 8 Ver 1

Phoenix I.D.: BJ00654



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

Analysis Report

April 15, 2015

Attn: Mr Chris Frey FOR:

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

LB

Glastonbury, CT 06033

see "By" below

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

_aboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

<u>Date</u> **Time** 04/09/15

0:00

04/09/15 17:12

P.O.#:

SDG ID: GBJ00652

Phoenix ID: BJ00655

Project ID:

AMERBELLE MILLS

Client ID:

TB040915 HIGH

		RL/						
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
Field Extraction	Completed				04/09/15		SW5035A	
Halogenated Volatiles								
1,1,2-Tetrachloroethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,1,1-Trichloroethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,1,2-Trichloroethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,1-Dichloroethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,1-Dichloroethene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,1-Dichloropropene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,2-Dibromoethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,2-Dichloroethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,2-Dichloropropane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,3-Dichloropropane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
2,2-Dichloropropane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
Bromobenzene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
Bromodichloromethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
Bromoform	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
Bromomethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
Carbon tetrachloride	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
Chlorobenzene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	
Chloroethane	ND	250	ug/Kg		04/10/15	JLI	SW8260C	
Chloroform	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C	

Ver 1 Page 7 of 8

Project ID: AMERBELLE MILLS

Client ID: TB040915 HIGH

		D1 /					
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Chloromethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
Dibromochloromethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
Dibromomethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
Dichlorodifluoromethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
Methylene chloride	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
Tetrachloroethene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	1300	ug/Kg	50	04/10/15	JLI	SW8260C
Trichloroethene	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
Trichlorofluoromethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
Vinyl chloride	ND	250	ug/Kg	50	04/10/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	50	04/10/15	JLI	70 - 130 %
% Bromofluorobenzene	99		%	50	04/10/15	JLI	70 - 130 %
% Dibromofluoromethane	95		%	50	04/10/15	JLI	70 - 130 %
% Toluene-d8	96		%	50	04/10/15	JLI	70 - 130 %

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

Comments:

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

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

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

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Phyllis Shiller, Laboratory Director

April 15, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 8 of 8 Ver 1

Phoenix I.D.: BJ00655



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

QA/QC Report

April 15, 2015

QA/QC Data

SDG I.D.: GBJ00652

Parameter	Blank	Bik RL	LC 9	cs 6	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 304378 (ug/kg),	QC Sam	ple No: B	00652 (BJ00652 (1X, 56X	() , E	3J00653	, BJ00	654, BJ	00655	(50X))		
Volatiles - Soil											
1,1,1,2-Tetrachloroethane	ND	5.0	9	2	100	8.3	93	94	1.1	70 - 130	30
1,1,1-Trichloroethane	ND	5.0	8	9	94	5.5	94	95	1.1	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0		0	96	6.5	82	85	3.6	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	8	9	95	6.5	88	93	5.5	70 - 130	30
1,1-Dichloroethane	ND	5.0		8	93	5.5	93	96	3.2	70 - 130	30
1,1-Dichloroethene	ND	5.0		2	96	4.3	92	94	2.2	70 - 130	30
1,1-Dichloropropene	ND	5.0		39	97	8.6	89	93	4.4	70 - 130	30
1,2,3-Trichloropropane	ND	5.0		34	92	9.1	85	90	5.7	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0		38	102	14.7	93	97	4.2	70 - 130	30
1,2-Dibromoethane	ND	5.0		91	98	7.4	88	90	2.2	70 - 130	30
1,2-Dichlorobenzene	ND	5.0		37	93	6.7	81	82	1.2	70 - 130	30
1,2-Dichloroethane	ND	5.0		38	95	7.7	87	91	4.5	70 - 130	30
1,2-Dichloropropane	ND	5.0		92	99	7.3	93	96	3.2	70 - 130	30
1,3-Dichlorobenzene	ND	5.0		36	92	6.7	79	82	3.7	70 - 130	30
·	ND	5.0		3 7	94	7.7	88	90	2.2	70 - 130	30
1,3-Dichloropropane	ND	5.0		85	91	6.8	78	82	5.0	70 - 130	30
1,4-Dichlorobenzene	ND	5.0		90	95	5.4	91	92	1.1	70 - 130	30
2,2-Dichloropropane Bromobenzene	ND	5.0		87	94	7.7	87	89	2.3	70 - 130	30
	ND	5.0		93	102	9.2	90	94	4.3	70 - 130	30
Bromodichloromethane	ND	5.0		90	97	7.5	85	90	5.7	70 - 130	30
Bromoform	ND	5.0		84	90	6.9	90	92	2.2	70 - 130	30
Bromomethane	ND	5.0		92	99	7.3	93	97	4.2	70 - 130	30
Carbon tetrachloride	ND ND	5.0 5.0		87	93	6.7	85	89	4.6	70 - 130	30
Chlorobenzene	ND	5.0 5.0		77	82	6.3	84	85	1.2	70 - 130	30
Chloroethane		5.0 5.0		89	92	3.3	92	94	2.2	70 - 130	30
Chloroform	ND	5.0 5.0		80	83	3.7	84	87	3.5	70 - 130	30
Chloromethane	ND	5.0 5.0		91	95	4.3	91	94	3.2	70 - 130	30
cis-1,2-Dichloroethene	ND			95	103	8.1	89	93	4.4	70 - 130	30
cis-1,3-Dichloropropene	ND	5.0		96	104	8.0	92	93	1.1	70 - 130	
Dibromochloromethane	ND	3.0		91	97	6.4	87	92	5.6	70 - 130	
Dibromomethane	ND	5.0		84	90	6.9	75	77	2.6	70 - 130	
Dichlorodifluoromethane	ND	5.0				4.4	115	109	5.4	70 - 130	
Methylene chloride	ND	5.0		89 90	93 97	7.5	55	56	1.8	70 - 130	
Tetrachloroethene	ND	5.0			98	3.1	90	96	6.5	70 - 130	
trans-1,2-Dichloroethene	ND	5.0		95 07	98 104	7.0	87	92	5.6	70 - 130	
trans-1,3-Dichloropropene	ND	5.0		97	99	5.2	87 87	92	5.6	70 - 130	
trans-1,4-dichloro-2-butene	ND	5.0		94			94	100	6.2	70 - 130	
Trichloroethene	ND	5.0		91	99	8.4	93	95	2.1	70 - 130	
Trichlorofluoromethane	ND	5.0		87	92	5.6		95 96	1.0	70 - 130	
Trichlorotrifluoroethane	ND	5.0		95	101	6.1	95	90	3.3	70 - 130	
Vinyl chloride	ND	5.0		92	96	4.3	89				
% 1,2-dichlorobenzene-d4	101	%		101	100	1.0	100	100	0.0	70 - 131	J 30

QA/QC Data

SDG I.D.: GBJ00652 % **RPD** Blk LCS LCSD LCS MS MSD MS Rec Blank RL % **RPD** Limits % % % **RPD** Limits 98 98 % 100 101 1.0 97 1.0 70 - 130 30 99 % 103 98 96 2.1 99 70 - 130 30 4.0 96 % 100 101 1.0 100 100 70 - 130 30 0.0

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

QA/QC Batch 304140 (mg/Kg), QC Sample No: BJ00653 (BJ00652, BJ00653)

TPH by GC (Extractable Products) - Soil

Ext. Petroleum HC	ND	50	63	59	6.6	70	65	7.4	60 - 120	30
% n-Pentacosane	83	%	88	83	5.8	90	96	6.5	50 - 150	30
QA/QC Batch 304363 (ug/kg), Q	C Samp	ile No: BJ01034 (BJ00653 (42X))							
Volatiles - Soil										
Tetrachloroethene	ND	5.0	95	94	1.1	91	89	2.2	70 - 130	30

Comment:

Parameter

% Toluene-d8

Comment:

% Bromofluorobenzene

% Dibromofluoromethane

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

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

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis/Shiller, Laboratory Director

April 15, 2015

I = This parameter is outside laboratory lcs/lcsd specified recovery limits.

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

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Sample Criteria Exceedences Report

Wednesday, April 15, 2015 Criteria: CT: GAM, RC

GBJ00652 - GZA-AMER

State: CT	c						귚	Analysis
SampNo Acode	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria Units	Units
BJ00652	\$8010-MAR	3J00652 \$8010-MAR Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	390	280	100	100	100 ug/Kg
BJ00653	\$8010-MAR	BJ00653 \$8010-MAR Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	4400	280	100	100	ug/Kg

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

GZA GeoEnvironmental, Inc.

Laboratory Name: Phoenix Environmental Labs, Inc. Client:

Proje	ect Locat	ion: AME	RBELLE M	ILLS	Project	Number:			
Labo	oratory S	ample ID(s)	: BJ00652	, BJ00653, E	3J00654, BJ006	55			
Sam	pling Dat	te(s): 4/9/2	015						
RCP	Methods	s Used:							
☐ 13	311/1312	6010	7000	7196	7470/7471	8081	_ EPH		TO15
80	082	8151	✓ 8260	8270	✓ ETPH	9010/9012	☐ VPH		
1,	specified any criter	QA/QC perfo ia falling outsi	rmance crite ide of accep	ria followed, ii table guideline	oratory report par ncluding the reques, as specified in ldocuments?	irement to explain	✓ Yes	□No	
1a.	Were the	method spec	ified preserv	ation and hole	ding time requirer	nents met?	✓ Yes	☐ No	
1b.					PH method cond pective RCP meth		☐ Yes	□ No	✓ NA
2.	Were all s	samples rece I on the assoc	ived by the la ciated Chain	aboratory in a -of-Custody d	condition consist	ent with that	✓ Yes	□ No	
3.	Were san	nples receive	d at an appr	opriate tempe	rature (< 6 Degre	es C)?	✓ Yes	□No	□NA
4.	Were all 6 Protocol 6	☐ Yes	✓ No						
5a.	Were rep	orting limits s	pecified or re	eferenced on	the chain-of-custo	ody?	✓ Yes	□No	
5b.	Were the	se reporting li	imits met?				✓ Yes	□No	□NA
6.	results re	ported for all	constituents	identified in the	oratory report pane method-specifical documents?	ckage, were c analyte lists	☐ Yes	✓ No	□NA
7.	Are proje	ct-specific ma	ıtrix spikes a	nd laboratory	duplicates includ	ed in the data set	? Yes	□No	□NA
Note:	be provid	estions to wh led in an attac rements for "F	hed narrative	. If the answe	(with the exceptio r to question #1, #	n of question #5a, 1A or 1B is "No", tl	#7), additiona ne data packa	il informat ige does r	tion must not meet
and	belief ar	nd based up	on my pei	sonal inqui	ry of those res	erjury that, to t ponsible for pro rate and compl	oviding the	my knov informa	vledge ation
						Date: Wed	nesday, Ap	ril 15, 20	15
	thorized nature:	Ex	Than	See	Prin	ted Name: Etha	• • •	,	
						Position: Proje	ect Manage	г	



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



RCP Certification Report

April 15, 2015

SDG I.D.: GBJ00652

8260 Volatile Organics:

The client requested a short list of analytes from the 8260 RCP Volatile list. Only the halogenated volatile organic constituents are reported as requested on the chain-of-custody.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No. QC Batch 304140 (Samples: BJ00652, BJ00653): ——

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. (Ext. Petroleum HC)

Instrument: <u>Au-fid1 04/13/15-1 (BJ00653)</u>

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

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

Printed Name Jeff Bucko Position: Chemist

Date: 4/13/2015

Instrument: Aufid-d1 04/10/15-2 (BJ00653)

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

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

Printed Name Jeff Bucko Position: Chemist

Date: 4/10/2015

Instrument: Au-x12 04/10/15-2 (BJ00652, BJ00653)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Jeff Bucko
Position: Chemist

Date: 4/10/2015



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



RCP Certification Report

April 15, 2015

SDG I.D.: GBJ00652

QC (Site Specific)

----- Sample No: BJ00653, QA/QC Batch: 304140 -----

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

All LCSD recoveries were within 60 - 120 with the following exceptions: Ext. Petroleum HC(59%)

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.

VOA Narration

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

Instrument:

Chem15 04/10/15-1 (BJ00652, BJ00653, BJ00654, BJ00655)

Initial Calibration Verification (CHEM15/voa5g_0407):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (26%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0410B03-voa5g_0407):

97% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: Acetone (32%)[30%], Methylene Chloride (32%)[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.

Printed Name

Jane Li

Position:

Chemist

Date:

4/10/2015

Instrument:

Chem15 04/10/15-2 (BJ00653)

Initial Calibration Verification (CHEM15/voa5g 0407):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (26%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0410B33-voa5g_0407):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.



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



RCP Certification Report

April 15, 2015

SDG I.D.: GBJ00652

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

Printed Name Jane Li
Position: Chemist
Date: 4/10/2015

QC (Batch Specific)

----- Sample No: BJ00652, QA/QC Batch: 304378 -----

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.

----- Sample No: BJ01034, QA/QC Batch: 304363 -----

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.

VOA TCL Narration

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

Instrument: Chem15 04/10/15-1 (BJ00652)

Initial Calibration Verification (CHEM15/TCLSNJD 0407):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (27%), Chloroethane (21%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0410B03-TCLSNJD_0407):

90% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: 2-hexanone (22%)[20%], Acetone (30%)[20%], Chloroethane (22%)[20%],

Dichlorodifluoromethane (25%)[20%], Methyl Ethyl Ketone (22%)[20%], Methylene Chloride (31%)[20%]

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Jane Li
Position: Chemist
Date: 4/10/2015



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

April 15, 2015

SDG I.D.: GBJ00652

Temperature Narration

The samples were received at 4C with cooling initiated. (Note acceptance criteria is above freezing up to 6°C)

Coolant! PPK CICE No	Temp °C Pg of	Fax: Sto-Stor-Stor	Project P.O:	This section MUST be completed with	Bottle Quantities.	1.00 / 25/		Se & 18 1 19 19 19 19 19 19 19 19 19 19 19 19 1		+	Y	8	Y				Γ	<u> </u>	GW-2	<u> </u>	S-1	S-2	☐ MWRA eSMART <	
	Y RECORD	0, Manchester, CT 06040 Fax (860) 645-0823 645-8726	77	Jr reev								2					RI	Direct Exposure (Residential)	GW Protection	<u>.</u>	GB Mobility	Residential DEC	UC DEC	State where samples were collected:
	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		Report to: (NKT) Invoice to:		Analysis	readness		X		× ×	×	*				Date: Time:	4/9/15	したし		Turnaround:	1 Day*	3 Days*	
	O	TOWN.	Ŕ	DRIVE, 1/te 402		antification 4/1/1/	N=Surface Water WW=Waste Water S=Soil SD=Solid W=Wipe	Sample Date Time Matrix Sampled Sampled	11/6/16		5 4/1/15 1600		2/11/12		0			, V						
		PHOEINIX SERVIT	62A	GIALTONALICA SKOOL		Client Sample - Information - Identification	Ground Water Steent SL=Sludge	Customer Sample Sa	(5.5.5)	ADC=19 B	(0.5-2	(19)) [(10)	5 (7'XI) 5160 FOBL			,	Accepted by)		Comments, Special Requirements or Regulations:		м	
	()	PHOF Environmenta		Address: 6	*	Sampler's Cli	Matrix Code: DW-Drinking Water GW=RW=Raw Water SE=Sedim OIL=Oil B=Bulk L=Liquid	PHOENIX USE ONLY	Ι,		0063 A	+	CS9000				Relinguished by:	and he			Comments, Special R			



Tuesday, April 14, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BH99838 - BH99840

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

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



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information

ΑT

<u>Date</u> 04/08/15 <u>Time</u> 11:50

LB

04/08/15

16:27

Analyzed by:

Collected by:

Received by:

see "By" below

Laboratory Data

SDG ID: GBH99838

Phoenix ID: BH99838

Project ID:

AMERBELLE MILLS

Client ID:

AOC-4-1 (4-6)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.34	0.34	mg/Kg	1	04/09/15	LK	SW6010C
Arsenic	2.0	0.7	mg/Kg	1	04/09/15	LK	SW6010C
Barium	83.0	0.34	mg/Kg	1	04/09/15	LK	SW6010C
Cadmium	< 0.34	0.34	mg/Kg	1	04/09/15	LK	SW6010C
Chromium	14.8	0.34	mg/Kg	1	04/09/15	LK	SW6010C
Mercury	0.12	0.03	mg/Kg	1	04/13/15	RS	SW7471B
Lead	113	0.34	mg/Kg	1	04/09/15	LK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	04/09/15	LK	SW6010C
Percent Solid	88		%		04/08/15	ŀ	SW846-%Solid
Extraction of CT ETPH	Completed				04/08/15	CC/V	SW3545A
Mercury Digestion	Completed				04/13/15	1/1	SW7471B
Total Metals Digest	Completed				04/08/15	CB/AG	SW3050B
TPH by GC (Extractab	le Product	s)					
Ext. Petroleum HC	230	 57	mg/Kg	1	04/09/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	04/09/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	74		%	1	04/09/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
Benzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C

Page 1 of 6 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BH99838

Client ID: AOC-4-1 (4-6)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Chlorobenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
Ethylbenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
Isopropylbenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
m&p-Xylene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
Naphthalene	42	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
n-Butylbenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
n-Propylbenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
o-Xylene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
p-Isopropyltoluene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
sec-Butylbenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
Styrene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
tert-Butylbenzene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
Toluene	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
Total Xylenes	ND	4.1	ug/Kg	1	04/08/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	04/08/15	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	04/08/15	JLI	70 - 130 %
% Dibromofluoromethane	102		%	1	04/08/15	JLI	70 - 130 %
% Toluene-d8	93		%	đ	04/08/15	JLI	70 - 130 %

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

Comments:

TPH Comment:

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

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 2 of 6 Ver 1

^{**}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.



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

Custody Information

Collected by:

Received by:

Analysis Report

April 14, 2015

Attn: Mr Chris Frey FOR:

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

AT

LB

Glastonbury, CT 06033

Sample Information

Matrix:

P.O.#:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Analyzed by: see "By" below

RL/

<u>Date</u>

Time

04/08/15 0:00 16:27 04/08/15

SDG ID: GBH99838 **Laboratory Data** Phoenix ID: BH99839

Project ID:

AMERBELLE MILLS

Client ID:

AOC-040815 LOW

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
Aromatic Volatiles							011100000	
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
Benzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
Chlorobenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
Ethylbenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
Isopropylbenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
m&p-Xylene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
Methyl t-butyl ether (MTBE)	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
Naphthalene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
•	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
n-Butylbenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
n-Propylbenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
o-Xylene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
p-Isopropyltoluene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
sec-Butylbenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
Styrene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
tert-Butylbenzene	ND	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
Toluene	• • •	5.0	ug/Kg	1	04/08/15	JLI	SW8260C	
Total Xylenes	ND	5.0	ug/Kg	'	0 1/00/10			
QA/QC Surrogates	405		%	1	04/08/15	JLI	70 - 130 %	
% 1,2-dichlorobenzene-d4	100			1	04/08/15	JLI	70 - 130 %	
% Bromofluorobenzene	98		%	8	U+/UU/13	ŲL!	. 3 , 50 , 7	

Project ID: AMERBELLE MILLS Client ID: AOC-040815 LOW

RL/ **PQL Parameter** Result Units Dilution Date/Time By Reference 04/08/15 % Dibromofluoromethane 97 % JLI 70 - 130 % 1 % 04/08/15 % Toluene-d8 95 JLI 70 - 130 %

Phoenix I.D.: BH99839

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

Comments:

Results are reported on an "as received" basis, and are not corrected for dry weight. Trip blank included

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 4 of 6 Ver 1



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Custody Information Date Time Sample Information 04/08/15 0:00 ΑT Matrix: SOIL Collected by: **GZA-AMER** Received by: LB 04/08/15 16:27 **Location Code:**

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH99838

Phoenix ID: BH99840

Project ID: AMERBELLE MILLS
Client ID: AOC-040815 HIGH

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
Benzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
Ethylbenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
Isopropylbenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
m&p-Xylene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
Naphthalene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
n-Butylbenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
n-Propylbenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
o-Xylene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
p-Isopropyltoluene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
sec-Butylbenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
Styrene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
tert-Butylbenzene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
Toluene	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
Total Xylenes	ND	250	ug/Kg	50	04/08/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	50	04/08/15	JLI	70 - 130 %
% Bromofluorobenzene	99		%	50	04/08/15	JLI	70 - 130 %

Page 5 of 6 Ver 1

Project ID: AMERBELLE MILLS Client ID: AOC-040815 HIGH

Phoenix I.D.: BH99840

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
% Dibromofluoromethane	94		%	50	04/08/15	JLI	70 - 130 %
% Toluene-d8	96		%	50	04/08/15	JLI	70 - 130 %

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

Comments:

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

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

QA/QC Report

April 14, 2015

QA/QC Data

SDG I.D.: GBH99838

Parameter	Blank	Bik RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 303918 (mg/kg), QC Sarr	ple No	BH9966	5 (BH99	838)								
ICP Metals - Soil													
Arsenic	BRL	0.63	<0.7	0.71	NC	99.0	94.7	4.4	94.3	94.1	0.2	75 - 125	30
Barium	BRL	0.32	126	130	3.10	91.2	88.5	3.0	91.6	91.2	0.4	75 - 125	30
Cadmium	BRL	0.32	<0.37	<0.34	NC	99.3	96.7	2.7	95.9	96.7	8.0	75 - 125	30
Chromium	BRL	0.32	75.4	77.7	3.00	100	95.5	4.6	96.3	106	9.6	75 - 125	30
Lead	BRL	0.32	9.47	11.4	18.5	100	98.3	1.7	94.4	94.9	0.5	75 - 125	30
Selenium	BRL	1.3	<1.5	<1.4	NC	94.6	90.9	4.0	81.7	82.3	0.7	75 - 125	30
Silver	BRL	0.32	<0.37	< 0.34	NC	98.9	96.3	2.7	99.6	101	1.4	75 - 125	30
QA/QC Batch 304181 (mg/kg), QC Sam	nple No	: BJ0008	7 (BH998	338)								
Mercury - Soil	BRL	0.06	<0.03	<0.03	NC	110	107	2.8	103	105	1.9	70 - 130	30
Comment:													
Additional Mercury criteria: LCS	acceptanc	e range	for waters	is 80-120	% and fo	or soils i	s 70-130	%.					



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

QA/QC Report

April 14, 2015

QA/QC Data

SDG I.D.: GBH99838

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Rec Limits	RPD Limits	
QA/QC Batch 303911 (mg/Kg	ı), QC Sam	ple No: BH99553 (BH99838)	1								
TPH by GC (Extractable	Produc	ts) - Soil									
Ext. Petroleum HC	ND	50	78	79	1.3				60 - 120	30	
% n-Pentacosane	94	%	82	85	3.6				50 - 150	30	
Comment:											
*The MS/MSD could not be rep	orted due to	the presence of hydrocarbon ma	terial in the	original	sample.	The LC	S was w	ithin Q/	VQC crite	eria.	
QA/QC Batch 303990 (ug/kg)	, QC Samp	ole No: BJ00002 (BH99838, E	3H99839,	BH9984	0 (50X)))					
Volatiles - Soil											
1,2,3-Trichlorobenzene	ND	5.0	82	88	7.1	70	65	7.4	70 - 130	30	m
1,2,4-Trichlorobenzene	ND	5.0	78	86	9.8	68	62	9.2	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	1.0	84	89	5.8	81	75	7.7	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	88	93	5.5	76	71	6.8	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	88	94	6.6	81	74	9.0	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	85	91	6.8	75	70	6.9	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	84	91	8.0	75	70	6.9	70 - 130	30	
Benzene	ND	1.0	92	97	5.3	81	74	9.0	70 - 130	30	
Chlorobenzene	ND	5.0	88	93	5.5	78	73	6.6	70 - 130	30	
Ethylbenzene	ND	1.0	91	98	7.4	82	75	8.9	70 - 130	30	
Isopropylbenzene	ND	1.0	91	96	5.3	86	77	11.0	70 - 130	30	
m&p-Xylene	ND	2.0	88	96	8.7	81	75	7.7	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	94	98	4.2	80	76	5.1	70 - 130	30	
Naphthalene	ND	5.0	89	94	5.5	77	71	8.1	70 - 130	30	
n-Butylbenzene	ND	1.0	79	92	15.2	78	71	9.4	70 - 130	30	
n-Propylbenzene	ND	1.0	82	90	9.3	82	74	10.3	70 - 130	30	
o-Xylene	ND	2.0	90	97	7.5	82	77	6.3	70 - 130	30	
p-Isopropyltoluene	ND	1.0	85	95	11.1	81	74	9.0	70 - 130	30	
sec-Butylbenzene	ND	1.0	89	98	9.6	83	75	10.1	70 - 130	30	
Styrene	ND	5.0	90	95	5.4	79	74	6.5	70 - 130	30	
tert-Butylbenzene	ND	1.0	91	97	6.4	85	77	9.9	70 - 130	30	
Toluene	ND	1.0	91	97	6.4	80	73	9.2	70 - 130	30	
% 1,2-dichlorobenzene-d4	100	%	102	99	3.0	100	101	1.0	70 - 130	30	
% Bromofluorobenzene	98	%	99	99	0.0	97	99	2.0	70 - 130	30	
% Dibromofluoromethane	98	%	101	102	1.0	102	101	1.0	70 - 130	30	
% Toluene-d8	96	%	99	100	1.0	98	100	2.0	70 - 130	30	
Comment:											

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

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

QA/QC Data

SDG I.D.: GBH99838

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

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

April 14, 2015

Sample Criteria Exceedences Report

GBH99838 - GZA-AMER

Criteria

Phoenix Analyte

Acode

SampNo

Criteria: CT: GAM, RC

State: CT

Tuesday, April 14, 2015

쩐 Result

Criteria

RL Criteria

Analysis Units

Page 1 of 1

*** No Data to Display ***

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	ratory Namo	e: Phoer	nix Environm	nental Labs,	Inc.	Client:		GZA G	SeoEnviro	nmental,	Inc.
Proje	ct Location	: AMER	RBELLE MIL	LS		Project	Number:				
Labo	ratory Sam _l	pie ID(s):	BH99838,	BH99839, B	H99	840					
Samp	oling Date(s	s): 4/8/20)15								
RCP	Methods Us	sed:									
<u> </u>	11/1312	6010	7000	7196	✓	7470/7471	8081	[EPH	Π 1	O15
□ 80	82	8151	✓ 8260	8270	✓	ETPH	9010/90	12 [VPH		
100	specified QA	QC perforalling outside	mance criteri de of accepta	ed in this labo a followed, ind able guidelines ence Protocol	cludir s, as	ng the requi specified in	rement to ex	φlain ∣	✓ Yes	□ No	
1a.	Were the me	thod speci	fied preserva	tion and holdi	ng tir	me requiren	nents met?		✓ Yes	□ No	
1b.	EPH and VPI significant me	H methods odifications	s only: Was t s (see section	he VPH or EP n 11.3 of respe	H mo	ethod condo RCP meth	ucted withou lods)	t	☐ Yes	□No	✓ NA
2.	Were all sam described on	nples recei	ved by the la iated Chain-c	boratory in a conf-Custody do	ondi cume	tion consist ent(s)?	ent with that		✓ Yes	□No	
3.	Were sample	es received	d at an appro	priate tempera	ature	(< 6 Degre	es C)?		✓ Yes	□ No	□NA
4.	Were all QA/ Protocol doc	/QC perform cuments ac	mance criteri hieved?	a specified in	the F	Reasonable	Confidence		✓ Yes	□ No	
5a.	Were reporti	ing limits s _l	pecified or re	ferenced on th	ne ch	ain-of-custo	ody?		✓ Yes	□No	
5b.	Were these	reporting li	mits met?						✓ Yes	☐ No	□NA
6.	results repor	rted for all o	constituents i	ced in this labor dentified in the dence Protoco	e me	thod-specif	ckage, were ic analyte lis	its	☐ Yes	✓ No	□NA
7.	Are project-s	specific ma	ıtrix spikes ar	nd laboratory	duplio	cates includ	ed in the dat	ta set?	☐ Yes	✓ No	□NA
l, th	be provided the requirem ne undersign	in an attac nents for "R ned, attes based ur	hed narrative. Reasonable Co st under the	nse was "No" (If the answer onfidence". e pains and sonal inquir such inform	pen y of	alties of p	erjury that	t, to the	e best of	my knov	vledge
							Date:	Tuesda	ay, April 1	4, 2015	
	thorized inature:	97	than	See		Prir	ited Name:		•		
Sig	ji iatul 6.						Position:	Proiec	t Manage	r	



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

V East Middle Turnpike, P.O.Box 370, Manchester, CT 0 Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

April 14, 2015

SDG I.D.: GBH99838

BH99838 - The following analytes from the 6010 RCP Metals list were not reported: Antimony, Beryllium, Copper, Nickel, Thallium, Vanadium, Zinc.

BH99838, BH99839, BH99840 - The following analytes from the 8260 RCP Volatile list were not reported: 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethane, 1,1-Dichloropropene, 1,2-Dichloropropene, 1,2-Dichloropropene, 1,2-Dichloropropene, 1,2-Dichloropropene, 1,3-Dichloropropene, 2,2-Dichloropropene, 2-Chlorotoluene, 2-Hexanone, 4-Chlorotoluene, 4-Methyl-2-pentanone, Acetone, Acrylonitrile, Bromobenzene, Bromodichloromethane, Bromoform, Bromomethane, Carbon Disulfide, Carbon tetrachloride, Chloroethane, Chloroform, Chloromethane, cis-1,2-Dichloropropene, Dibromochloromethane, Dibromomethane, Dichlorodifluoromethane, Hexachlorobutadiene, Methyl Ethyl Ketone, Methylene chloride, Tetrachloroethene, Tetrahydrofuran (THF), trans-1,2-Dichloroethene, trans-1,3-Dichloropropene, trans-1,4-dichloro-2-butene, Trichloroethene, Trichlorofluoromethane, Vinyl chloride.

ETPH Narration

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

Instrument:

Au-fid1 04/08/15-2 (BH99838)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/8/2015

QC Comments:

QC Batch 303911 04/08/15 (BH99838)

*The MS/MSD could not be reported due to the presence of hydrocarbon material in the original sample. The LCS was within QA/QC criteria.

QC (Batch Specific)

----- Sample No: BH99553, QA/QC Batch: 303911 -----

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

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

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

Mercury Narration

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

Instrument:

Merlin 04/13/15-1 (BH99838)



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RCP Certification Report

April 14, 2015

SDG I.D.: GBH99838

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

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

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name

Rick Schweitzer

Position:

Chemist

Date:

4/13/2015

QC (Batch Specific)

----- Sample No: BJ00087, QA/QC Batch: 304181 -----

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.

ICP Narration

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

Instrument:

Arcos 04/09/15-1 (BH99838)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name

Laura Kinnin

Position:

Chemist

Date:

4/9/2015

QC (Batch Specific)

----- Sample No: BH99665, QA/QC Batch: 303918 -----

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.



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RCP Certification Report

April 14, 2015

SDG I.D.: GBH99838

VOA Narration

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

Instrument:

Chem15 04/08/15-2 (BH99838, BH99839, BH99840)

Initial Calibration Verification (CHEM15/voa5g_0407):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (26%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0408B33-voa5g_0407):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Jane Li

Position:

Chemist

Date:

4/8/2015

Instrument:

Chem15 04/09/15-1 (BH99838)

Initial Calibration Verification (CHEM15/voa5g_0407):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (26%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0409B03-voa5g 0407):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Jane Li

Position: Date:

Chemist 4/9/2015

OC Comments:

QC Batch 304213 04/09/15 (BH99838)

A blank MS/MSD was analyzed with this batch.



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RCP Certification Report

April 14, 2015

SDG I.D.: GBH99838

QC (Batch Specific)

----- Sample No: BJ00002, QA/QC Batch: 303990 ------

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.

Temperature Narration

The samples were received at 4C with cooling initiated. (Note acceptance criteria is above freezing up to 6°C)

Coolant: PK I ICE No

ATU STATE OF THAT IT AND THAT	* SURCHARGE APPLIES	Comments, Special Requirements or Regulations: Turnaround: 1 Day* 2 Days* 3 Days* Standard		J. 1/8/15 16	Relinquished by: Accented by: Time:		99840 IBOHOBIS (NIGH) S HAPIS X	99839. 78040815 (w) 5 4/18/15 X	$A \circ C - A - 1 (A - C) = C = A - 1 (A - C) = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = C = A - 1 (A - C) = A - 1 (A - C) = C = A - 1 (A - C) = A - 1 (A - C$	Customer Sample Sample Date Time Identification Matrix Sampled Sampled	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	Signature Control Sample - Information - Identification Analysis Signature Ontrol Signature Date: 4/8/15 Request	Address: 63 Williams Blank UK JUTE YO. Report to: Invoice to:	GZA Project:	
Project P.O: This section comple Bottle Q Volume Solution Soluti		GB Mobility Residential DEC S-2 I/C DEC MWRA eSMART Other Other	SW Protection	Direct Exposure RCP Cert (Residential) GW Protection			<i>A</i>	X	XXX					FILE	Experience (coo) or one of



Tuesday, April 14, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS

Sample ID#s: BH92474 - BH92480, BH92482 - BH92492

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301 CT Lab Registration #PH-0618

MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

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

VT Lab Registration #VT11301



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SDG Comments

April 14, 2015

SDG I.D.: GBH92474

BH92476 - Client provided soil jar for volatile analysis. Phoenix prepared sample per method 5035.

BH92480 - Client high level could not be analyzed. Methanol had leaked from vial Sample weight and dilution could not be determined. Phoenix prepared sample per method 5035.



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

В

Glastonbury, CT 06033

Sample Information

SOIL

GZA-AMER

Rush Request:

Location Code:

Standard

Analyzed by: see "By" below **Laboratory Data**

Custody Information

Collected by:

Received by:

SDG ID: GBH92474

Time

7:50

16:30

Phoenix ID: BH92474

<u>Date</u> 04/06/15

04/06/15

Project ID:

Matrix:

P.O.#:

AMERBELLE MILLS

Client ID:

A0C-18-5 0.5-2 FT

RL/

Parameter	Result	PQL		Units	Dilution	Date/Time	Ву	Reference
Percent Solid	93			%		04/06/15	w	SW846-%Solid
Extraction of CT ETPH	Completed					04/06/15	CC/V	SW3545A
TPH by GC (Extractable	Products	s)						
Ext. Petroleum HC	ND	54		mg/Kg	1	04/07/15	JRB	CTETPH 8015D
Identification	ND			mg/Kg	1	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates								
% n-Pentacosane	70			%	1	04/07/15	JRB	50 - 150 %
Halogenated Volatiles								
1,1,1,2-Tetrachloroethane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.5	190	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.5		ug/Kg	1	04/07/15	JLi	SW8260C
2,2-Dichloropropane	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C
Bromobenzene	ND	4.5		ug/Kg	1	04/07/15	JLI	SW8260C

Ver 1 Page 1 of 37

Project ID: AMERBELLE MILLS Phoenix I.D.: BH92474

Client ID: A0C-18-5 0.5-2 FT

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Bromomethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	4.5	ug/Kg	1	04/07/15	JL1	SW8260C
Chloromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	9.0	ug/Kg	1	04/07/15	JL1	SW8260C
Trichloroethene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	100		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	93		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 2 of 37 Ver 1



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information

Laboratory Data

Collected by:

Received by:

Analyzed by:

В

see "By" below

<u>Date</u> **Time** 04/06/15

04/06/15

10:00

16:30

SDG ID: GBH92474

Phoenix ID: BH92475

Project ID:

AMERBELLE MILLS

Client ID:

A0C-18-5 14-16 FT

	RL/					
Result	PQL	Units	Dilution	Date/Time	Ву	Reference
93		%		04/06/15	W	SW846-%Solid
Completed				04/06/15	CC/V	SW3545A
Products)					
ND	53	mg/Kg	1	04/07/15	JRB	CTETPH 8015D
ND		mg/Kg	1	04/07/15	JRB	CTETPH 8015D
89		%	1	04/07/15	JRB	50 - 150 %
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
	93 Completed Products ND	Result PQL 93 Completed Products 53 ND 53 ND 5.1 ND 5.1	93 Completed Products) ND 53 mg/Kg mg/Kg ND 53 mg/Kg mg/Kg 89 % ND 5.1 ug/Kg	Result PQL Units Dilution 93 % Completed ** Products) ND 53 mg/Kg 1 ND 53 mg/Kg 1 ND 51 ug/Kg 1 ND 5.1 ug/Kg 1 <	Result PQL Units Dilution Date/Time 93 % 04/06/15 Completed 04/06/15 Products) ND 53 mg/Kg 1 04/07/15 ND 53 mg/Kg 1 04/07/15 ND 5.1 ug/Kg 1 04/07/15 ND	Result PQL Units Dilution Date/Time By 93 % 04/06/15 W Completed % 04/06/15 CC/V Products) ND 53 mg/Kg 1 04/07/15 JRB ND 53 mg/Kg 1 04/07/15 JRB 89 % 1 04/07/15 JRB ND 5.1 ug/Kg 1 04/07/15 JLI ND 5.1 ug/Kg 1 04/07/15 JLI

Ver 1 Page 3 of 37

Client ID: A0C-18-5 14-16 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Bromomethane	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.1	ug/Kg	-1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	04/07/15	JLI	SW8260C
Trichloroethene	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	5.1	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	104		%	1	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	90		%	1	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	103		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	101		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:SOILCollected by:04/06/1510:30Location Code:GZA-AMERReceived by:B04/06/1516:30

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH92474

Phoenix ID: BH92476

Project ID: AMERBELLE MILLS
Client ID: A0C-17-1 2-4 FT

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	88		%		04/06/15	w	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A
TPH by GC (Extractable	Products)					
Ext. Petroleum HC	ND	55	mg/Kg	1	04/07/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	85		%	1	04/07/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Bromobenzene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C

Page 5 of 37 Ver 1

Phoenix I.D.: BH92476

Project ID: AMERBELLE MILLS Client ID: A0C-17-1 2-4 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Bromomethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.7	ug/Kg	, 1	04/07/15	JLI	SW8260C
Methylene chloride	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.7	ug/Kg	- 1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	04/07/15	JLI	SW8260C
Trichloroethene	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.7	ug/Kg	1	04/07/15	JLi	SW8260C
Trichlorotrifluoroethane	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	5.7	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	105		%	1	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	99		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Ver 1 Page 6 of 37



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

SDG ID: GBH92474

Phoenix ID: BH92477

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:SOILCollected by:04/06/1511:00Location Code:GZA-AMERReceived by:B04/06/1516:30

Laboratory Data

uest: Standard Analyzed by: see "By" below

Rush Request: Standar P.O.#:

Project ID:

Bromobenzene

AMERBELLE MILLS

Client ID: A0C-18-1 0.5-2 FT

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	90		%		04/06/15	w	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A
TPH by GC (Extractable	Products	· ·					
Ext. Petroleum HC	ND	1 54	mg/Kg	1	04/07/15	JRB	CTETPH 8015D
Identification	ND	54	mg/Kg	1	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates	ND		mg/Ng		04/0//10	0110	012111100103
% n-Pentacosane	86		%	1	04/07/15	JRB	50 - 150 %
/6 II-Feillacosaile	00		70	381	0-1/0///10	0110	00 100 70
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C

ug/Kg

1

04/07/15

ND

4.8

JLI SW8260C

Project ID: AMERBELLE MILLS

Client ID: A0C-18-1 0.5-2 FT

Phoenix I.D.: BH92477

December	Decut	RL/	Linita	Dilution	Date/Time	D.,	Reference
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Bromomethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	9.7	ug/Kg	1	04/07/15	JLI	SW8260C
Trichloroethene	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	4.8	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	100		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	98		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 8 of 37 Ver 1



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Custody Information

Collected by:

Received by: В

Analyzed by:

see "By" below

04/06/15 04/06/15

<u>Date</u>

11:10

<u>Time</u>

16:30

P.O.#:

Laboratory Data

SDG ID: GBH92474

Phoenix ID: BH92478

Project ID:

AMERBELLE MILLS

Client ID:

A0C-19-1 8-10 FT

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	82		%		04/06/15	w	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A
ΓΡΗ by GC (Extractable	e Products	3)					
Ext. Petroleum HC	1200	120	mg/Kg	2	04/07/15	JRB	CTETPH 8015D
dentification	**		mg/Kg	2	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates							
6 n-Pentacosane	79		%	2	04/07/15	JRB	50 - 150 %
lalogenated Volatiles							
,1,1,2-Tetrachloroethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,1,1-Trichloroethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,1,2,2-Tetrachloroethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,1,2-Trichloroethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,1-Dichloroethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,1-Dichloroethene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,1-Dichloropropene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,2,3-Trichloropropane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,2-Dibromo-3-chloropropane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,2-Dibromoethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,2-Dichlorobenzene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,2-Dichloroethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,2-Dichloropropane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,3-Dichlorobenzene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,3-Dichloropropane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
,4-Dichlorobenzene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Bromobenzene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BH92478

Client ID: A0C-19-1 8-10 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Bromomethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	5.4	ug/Kg	3	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	04/07/15	JLI	SW8260C
Trichloroethene	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	5.4	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	105		%	1	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	91		%	1	04/07/15	JL	70 - 130 %
% Toluene-d8	97		%	1	04/07/15	JLĪ	70 - 130 %

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

Comments:

TPH Comment:

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

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

^{**}Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C16 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Custody Information Sample Information **Date** <u>Time</u> Matrix: SOIL Collected by: 04/06/15 11:40 Received by: 04/06/15 **Location Code: GZA-AMER** 16:30 Rush Request:

Analyzed by: Standard see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH92474

Phoenix ID: BH92479

Project ID: **AMERBELLE MILLS** A0C-19-2 0.5-2 FT Client ID:

		RL/						
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
Percent Solid	92		%		04/06/15	W	SW846-%Solid	
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A	
MS/MSD Ext. for CT ETPH	Completed				04/07/15			
TPH by GC (Extractable	Products)						
Ext. Petroleum HC	410	54	mg/Kg	1	04/07/15	JRB	CTETPH 8015D	
Identification	**		mg/Kg	1	04/07/15	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	109		%	1	04/07/15	JRB	50 - 150 %	
Halogenated Volatiles								
1,1,1,2-Tetrachloroethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1,1-Trichloroethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	5.3	ug/Kg	1	04/07/15	JLi	SW8260C	
1,1,2-Trichloroethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1-Dichloroethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1-Dichloroethene	ND	5.3	ug/Kg	1	04/07/15	JL1	SW8260C	
1,1-Dichloropropene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,2-Dibromoethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,2-Dichloroethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,2-Dichloropropane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,3-Dichloropropane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	
2,2-Dichloropropane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C	

Page 11 of 37 Ver 1 Project ID: AMERBELLE MILLS

Client ID: A0C-19-2 0.5-2 FT

Phoenix I.D.: BH92479

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromobenzene	ND	5.3					
Bromodichloromethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	5.3	ug/Kg	1	04/07/15	JLI 	SW8260C
Bromomethane	ND	5.3	ug/Kg	1	04/07/15	JLI 	SW8260C
Carbon tetrachloride	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane			ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	04/07/15	JLI	SW8260C
Trichloroethene	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	5.3	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	91		%	1	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	101		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	95		%	1	04/07/15	JLI	70 - 130 %
QC for Volatile				1	04/07/15	JLI	
QC for Volatile				1	04/07/15	JLI	
MS/MSD Volatiles				1	04/07/15	JLI	

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

Comments:

TPH Comment:

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

^{**}Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C12 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Custody Information Collected by:

Received by:

Analyzed by:

В

see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH92474

Time

11:30

16:30

Phoenix ID: BH92480

Date 04/06/15

04/06/15

Project ID:

AMERBELLE MILLS

Client ID:

A0C-19-2 6-7.5 FT

F	Ł	_/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	87		%		04/06/15	W	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A
TPH by GC (Extractable	e Products	3)					
Ext. Petroleum HC	2200	570	mg/Kg	10	04/07/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	10	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	Diluted Out		%	10	04/07/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.5	ug/Kg	1	04/07/15	JLi	SW8260C
1,1-Dichloropropene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	290	ug/Kg	56	04/10/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	290	ug/Kg	56	04/10/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	290	ug/Kg	56	04/10/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	290	ug/Kg	56	04/10/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	290	ug/Kg	56	04/10/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Bromobenzene	ND	290	ug/Kg	56	04/10/15	JLI	SW8260C

Project ID: AMERBELLE MILLS

Client ID: A0C-19-2 6-7.5 FT

Phoenix I.D.: BH92480

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	290	ug/Kg	56	04/10/15	JLI	SW8260C
Bromomethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	29	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	570	ug/Kg	56	04/10/15	JLI	SW8260C
Trichloroethene	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	4.5	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	56	04/10/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	56	04/10/15	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	92		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

Volatile Comment:

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

TPH Comment:

**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C19 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 14 of 37 Ver 1



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

<u>Custody Information</u>

Collected by:

Analyzed by:

Received by:

В

В

see "By" below

04/06/15

<u>Date</u>

13:10

<u>Time</u>

04/06/15 16:30

Laboratory Data

SDG ID: GBH92474

Phoenix ID: BH92482

Project ID:

AMERBELLE MILLS

Client ID:

A0C-19-3 5-7 FT

RL/

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	90		%		04/06/15	w	SW846-%Solid
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Bromobenzene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Bromodichloromethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Bromomethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C

Project ID: AMERBELLE MILLS

Client ID: A0C-19-3 5-7 FT

Phoenix I.D.: BH92482

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Chloromethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	8.7	ug/Kg	1	04/07/15	JLI	SW8260C
Trichloroethene	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	4.3	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	105		%	1	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	99		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 16 of 37 Ver 1



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Dilution

Date/Time

04/06/15

04/06/15

Sample Information **Custody Information Time Date** Matrix: SOIL Collected by: 04/06/15 13:30 **Location Code: GZA-AMER** Received by: В 04/06/15 16:30

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH92474

Reference

SW846-%Solid

Phoenix ID: BH92483

CC/V SW3545A

By

W

AMERBELLE MILLS Project ID: A0C-19-4 0.5-2 FT Client ID:

RL/ Parameter **PQL** Units Result 92 % Percent Solid Completed **Extraction of CT ETPH**

TPH by GC (Extractab	de Product	c)					
Ext. Petroleum HC	3200	<u>3)</u> 270	mg/Kg	5	04/08/15	JRB	CTETPH 8015I
Identification	**		mg/Kg	5	04/08/15	JRB	CTETPH 80150
QA/QC Surrogates							
% n-Pentacosane	98		%	5	04/08/15	JRB	50 - 150 %
para s present							

Ext. Petroleum HC	3200	270	mg/Kg	5	04/08/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	5	04/08/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	98		%	5	04/08/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	260	ug/Kg	38	04/08/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	260	ug/Kg	38	04/08/15	JLI	SW8260C
1,2-Dibromoethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	260	ug/Kg	38	04/08/15	JLI	SW8260C
1,2-Dichloroethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	260	ug/Kg	38	04/08/15	JLI	SW8260C
1,3-Dichloropropane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	260	ug/Kg	38	04/08/15	JLI	SW8260C
2,2-Dichloropropane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Bromobenzene	ND	260	ug/Kg	38	04/08/15	JLI	SW8260C

Page 17 of 37 Ver 1 Project ID: AMERBELLE MILLS Phoenix I.D.: BH92483

Client ID: A0C-19-4 0.5-2 FT

Doromotos	Desult	RL/	1.1-:4-	Diletian	Data (Tima	р.,	Defenence
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	260	ug/Kg	38	04/08/15	JLI	SW8260C
Bromomethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	1100	260	ug/Kg	38	04/08/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	520	ug/Kg	38	04/08/15	JLI	SW8260C
Trichloroethene	6.4	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	6.1	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	38	04/08/15	JLI	70 - 130 %
% Bromofluorobenzene	92		%	38	04/08/15	JLI	70 - 130 %
% Dibromofluoromethane	101		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	91		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

TPH Comment:

Volatile Comment:

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

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 18 of 37 Ver 1

^{**}Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C12 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:SOILCollected by:04/06/1513:40Location Code:GZA-AMERReceived by:B04/06/1516:30

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH92474

Phoenix ID: BH92484

Project ID: AMERBELLE MILLS Client ID: A0C-19-4 10-12 FT

	RL/							
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
Percent Solid	74		%		04/06/15	w	SW846-%Solid	
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A	
TPH by GC (Extractable	Products)						
Ext. Petroleum HC	1000	130	mg/Kg	2	04/07/15	JRB	CTETPH 8015D	
Identification	**		mg/Kg	2	04/07/15	JRB	CTETPH 8015D	
QA/QC Surrogates								
% n-Pentacosane	79		%	2	04/07/15	JRB	50 - 150 %	
Halogenated Volatiles								
1,1,1,2-Tetrachloroethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1,1-Trichloroethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1,2-Trichloroethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1-Dichloroethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1-Dichloroethene	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,1-Dichloropropene	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	330	ug/Kg	50	04/07/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	330	ug/Kg	50	04/07/15	JLI	SW8260C	
1,2-Dibromoethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	330	ug/Kg	50	04/07/15	JLI	SW8260C	
1,2-Dichloroethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,2-Dichloropropane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	330	ug/Kg	50	04/07/15	JLI	SW8260C	
1,3-Dichloropropane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	330	ug/Kg	50	04/07/15	JLI	SW8260C	
2,2-Dichloropropane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C	
Bromobenzene	ND	330	ug/Kg	50	04/07/15	JLI	SW8260C	

Page 19 of 37 Ver 1

Project ID: AMERBELLE MILLS

Client ID: A0C-19-4 10-12 FT

Phoenix I.D.: BH92484

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	330	ug/Kg	50	04/07/15	JLI	SW8260C
Bromomethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	7.8	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	650	ug/Kg	50	04/07/15	JLI	SW8260C
Trichloroethene	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	5.6	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	50	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	95		%	50	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	99		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	94		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

Volatile Comment:

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

TPH Comment:

**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C14 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

В

Units

%

mg/Kg

mg/Kg

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

GZA-AMER

Location Code: Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

RL/

530

93

04/06/15 16:30

Ву

W

JRB

JRB

SDG ID: GBH92474 Phoenix ID: BH92485

Reference

CC/V SW3545A

SW846-%Solid

CTETPH 8015D

CTETPH 8015D

Date

Date/Time

04/06/15

04/06/15

04/07/15

04/07/15

04/06/15

Time

14:00

see "By" below

Dilution

10

10

AMERBELLE MILLS Project ID:

Client ID:

Percent Solid

P.O.#:

A0C-19-5 8-10 FT

Parameter PQL Result

Extraction of CT ETPH	Completed
TPH by GC (Extracta	ble Products)
Ext. Petroleum HC	10000
Identification	**
QA/QC Surrogates	

QA/QC Surrogates								
% n-Pentacosane	Diluted Out		%	10	04/07/15	JRB	50 - 150 %	
Halogenated Volatiles								
1,1,1,2-Tetrachloroethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,1,1-Trichloroethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,1,2,2-Tetrachloroethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,1,2-Trichloroethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,1-Dichloroethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,1-Dichloroethene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,1-Dichloropropene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,2,3-Trichloropropane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,2-Dibromo-3-chloropropane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,2-Dibromoethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,2-Dichloroethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,2-Dichloropropane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,3-Dichlorobenzene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,3-Dichloropropane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
1,4-Dichlorobenzene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
2,2-Dichloropropane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	
Bromobenzene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C	

Project ID: AMERBELLE MILLS Phoenix I.D.: BH92485

Client ID: A0C-19-5 8-10 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Bromoform	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Bromomethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Carbon tetrachloride	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Chlorobenzene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Chloroethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Chloroform	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Chloromethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Dibromochloromethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Dibromomethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Dichlorodifluoromethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Methylene chloride	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Tetrachloroethene	5600	530	ug/Kg	83	04/08/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	530	ug/Kg	42	04/08/15	JLI	SW8260C
Trichloroethene	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Trichlorofluoromethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
Vinyl chloride	ND	270	ug/Kg	42	04/08/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	42	04/08/15	JLI	70 - 130 %
% Bromofluorobenzene	91		%	42	04/08/15	JLI	70 - 130 %
% Dibromofluoromethane	87		%	42	04/08/15	JLI	70 - 130 %
% Toluene-d8	95		%	42	04/08/15	JLI	70 - 130 %

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

Comments:

TPH Comment:

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

^{**}Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C16 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

В

Glastonbury, CT 06033

see "By" below

Sample Information

Matrix:

SOIL

GZA-AMER

Location Code: Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

04/06/15 16:30

<u>Time</u>

14:10

Date

04/06/15

SDG ID: GBH92474

Phoenix ID: BH92486

Project ID:

P.O.#:

AMERBELLE MILLS

Client ID: A0C-19-5 13.5-15.5 FT

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	88		%		04/06/15	w	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A
TPH by GC (Extractable	Products)					
Ext. Petroleum HC	7900	1100	mg/Kg	20	04/07/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	20	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	Diluted Out		%	20	04/07/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	290	ug/Kg	63	04/07/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	290	ug/Kg	63	04/07/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	290	ug/Kg	63	04/07/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	290	ug/Kg	63	04/07/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	290	ug/Kg	63	04/07/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Bromobenzene	ND	290	ug/Kg	63	04/07/15	JLI	SW8260C

Page 23 of 37 Ver 1 Project ID: AMERBELLE MILLS Phoenix I.D.: BH92486

Deremeter	Popult	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Parameter	Result	PQL		Dilution		Ву	
Bromodichloromethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Bromoform	ND	290	ug/Kg	63	04/07/15	JLI	SW8260C
Bromomethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Carbon tetrachloride	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Chlorobenzene	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Chloroethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Chloroform	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Chloromethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
cis-1,2-Dichloroethene	67	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Dibromochloromethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Dibromomethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Methylene chloride	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Tetrachloroethene	77	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	580	ug/Kg	63	04/07/15	JLI	SW8260C
Trichloroethene	51	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
Vinyl chloride	5.9	4.7	ug/Kg	1	04/08/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	63	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	109		%	63	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	123		%	1	04/08/15	JLI	70 - 130 %
% Toluene-d8	77		%	1	04/08/15	JLI	70 - 130 %

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

Comments:

Volatile Comment:

Client ID: A0C-19-5 13.5-15.5 FT

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

TPH Comment:

**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C16 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 24 of 37 Ver 1

^{**}Poor internal standard response was observed for volatiles due to matrix interference.



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

 Sample Information
 Custody Information
 Date
 Time

 Matrix:
 SOIL
 Collected by:
 04/06/15
 12:50

 Location Code:
 GZA-AMER
 Received by:
 B
 04/06/15
 16:30

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data SDG ID: GBH92474

Phoenix ID: BH92487

Project ID: AMERBELLE MILLS
Client ID: A0C-19-6 0.5-2 FT

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	83		%		04/06/15	w	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A
TPH by GC (Extractable	Products)					
Ext. Petroleum HC	33000	3000	mg/Kg	50	04/09/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	50	04/09/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	Diluted Out		%	50	04/09/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	330	ug/Kg	25	04/08/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	330	ug/Kg	25	04/08/15	JLI	SW8260C
1,2-Dibromoethane	ND	7	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	380	330	ug/Kg	25	04/08/15	JLI	SW8260C
1,2-Dichloroethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	330	ug/Kg	25	04/08/15	JLI	SW8260C
1,3-Dichloropropane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	330	ug/Kg	25	04/08/15	JLI	SW8260C
2,2-Dichloropropane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C
Bromobenzene	ND	330	ug/Kg	25	04/08/15	JLI	SW8260C

Page 25 of 37 Ver 1

Phoenix I.D.: BH92487

Project ID: AMERBELLE MILLS Client ID: A0C-19-6 0.5-2 FT

		RL/						
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
Bromodichloromethane	ND	11	ug/Kg	1	04/07/15	JLI	SW8260C	
Bromoform	ND	330	ug/Kg	25	04/08/15	JLI	SW8260C	
Bromomethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Carbon tetrachloride	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Chlorobenzene	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Chloroethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Chloroform	330	330	ug/Kg	25	04/08/15	JLI	SW8260C	
Chloromethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
cis-1,2-Dichloroethene	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
cis-1,3-Dichloropropene	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Dibromochloromethane	ND	10	ug/Kg	1	04/07/15	JLI	SW8260C	
Dibromomethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Dichlorodifluoromethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Methylene chloride	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Tetrachloroethene	13000	1600	ug/Kg	125	04/09/15	JLI	SW8260C	
trans-1,2-Dichloroethene	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
trans-1,3-Dichloropropene	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
trans-1,4-dichloro-2-butene	ND	650	ug/Kg	25	04/08/15	JLI	SW8260C	
Trichloroethene	280	250	ug/Kg	25	04/08/15	JLI	SW8260C	
Trichlorofluoromethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Trichlorotrifluoroethane	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
Vinyl chloride	ND	14	ug/Kg	1	04/07/15	JLI	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	25	04/08/15	JLI	70 - 130 %	
% Bromofluorobenzene	88		%	25	04/08/15	JLI	70 - 130 %	
% Dibromofluoromethane	119		%	1	04/07/15	JLI	70 - 130 %	
% Toluene-d8	77		%	1	04/07/15	JLI	70 - 130 %	

Page 26 of 37 Ver 1

Project ID: AMERBELLE MILLS Client ID: A0C-19-6 0.5-2 FT

Phoenix I.D.: BH92487

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

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

Comments:

TPH Comment:

**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C14 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

Volatile Comment:

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

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

^{**}Poor internal standard response was observed for volatiles due to matrix interference.



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request: P.O.#:

Standard

Custody Information

Collected by:

Analyzed by:

Received by:

Laboratory Data

В

04/06/15

<u>Date</u>

04/06/15

13:00 16:30

SDG ID: GBH92474

Phoenix ID: BH92488

<u>Time</u>

see "By" below

Project ID:

AMERBELLE MILLS

Client ID:

A0C-19-6 4.5-6.5 FT

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	80		%		04/06/15	W	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A
TPH by GC (Extractable	Products	3)					
Ext. Petroleum HC	1300	120	mg/Kg	2	04/07/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	2	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	70		%	2	04/07/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	300	ug/Kg	42	04/08/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	300	ug/Kg	42	04/08/15	JLI	SW8260C
1,2-Dibromoethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	300	ug/Kg	42	04/08/15	JLI	SW8260C
1,2-Dichloroethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	300	ug/Kg	42	04/08/15	JLI	SW8260C
1,3-Dichloropropane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	300	ug/Kg	42	04/08/15	JLI	SW8260C
2,2-Dichloropropane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Bromobenzene	ND	300	ug/Kg	42	04/08/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BH92488

Client ID: A0C-19-6 4.5-6.5 FT

		RL/			- .	_	
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	300	ug/Kg	42	04/08/15	JLI	SW8260C
Bromomethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	2500	300	ug/Kg	42	04/08/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	600	ug/Kg	42	04/08/15	JLI	SW8260C
Trichloroethene	7.9	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	6.4	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	42	04/08/15	JLI	70 - 130 %
% Bromofluorobenzene	90		%	42	04/08/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	95		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

TPH Comment:

**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C16 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

Volatile Comment:

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

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 29 of 37 Ver 1



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: Location Code: SOIL GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information

Laboratory Data

Collected by:

Received by:

Analyzed by:

В

see "By" below

SDG ID: GBH92474

<u>Time</u>

15:40

16:30

Phoenix ID: BH92489

<u>Date</u>

04/06/15

04/06/15

Project ID:

AMERBELLE MILLS

Client ID: A0C-19-7 2-4 FT

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	83		%		04/06/15	W	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A
TPH by GC (Extractable	e Products	3)					
Ext. Petroleum HC	4000	300	mg/Kg	5	04/08/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	5	04/08/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	145		%	5	04/08/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,2-Dibromoethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,2-Dichloroethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,3-Dichloropropane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
2,2-Dichloropropane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Bromobenzene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BH92489

Client ID: A0C-19-7 2-4 FT

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Bromoform	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Bromomethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Chlorobenzene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Chloroethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Chloroform	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Chloromethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Dibromomethane	ND	280	ug/Kg	56	04/07/15	JLi	SW8260C
Dichlorodifluoromethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Methylene chloride	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Tetrachloroethene	1700000	51000	ug/Kg	10000	04/09/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	570	ug/Kg	56	04/07/15	JLI	SW8260C
Trichloroethene	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
Vinyl chloride	ND	280	ug/Kg	56	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	92		%	56	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	100		%	56	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	92		%	56	04/07/15	JLI	70 - 130 %
% Toluene-d8	97		%	56	04/07/15	JLI	70 - 130 %

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

Comments:

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

TPH Comment:

**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C12 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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

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

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

Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:SOILCollected by:04/06/1515:50Location Code:GZA-AMERReceived by:B04/06/1516:30

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data SDG ID: GBH92474

Phoenix ID: BH92490

Project ID: AMERBELLE MILLS
Client ID: A0C-19-7 6-8 FT

RL/

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	64		%		04/06/15	w	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	CC/V	SW3545A
TPH by GC (Extractable	e Products	i)					
Ext. Petroleum HC	ND	 76	mg/Kg	1	04/07/15	JRB	CTETPH 8015D
dentification	ND		mg/Kg	1	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	91		%	1	04/07/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachioroethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
,2-Dibromo-3-chloropropane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,2-Dibromoethane	ND	400	ug/Kg	56	04/07/15	JLi	SW8260C
1,2-Dichlorobenzene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,2-Dichloroethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,3-Dichloropropane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
2,2-Dichloropropane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Bromobenzene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C

Client ID: A0C-19-7 6-8 FT

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Bromoform	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Bromomethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Chlorobenzene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Chloroethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Chloroform	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Chloromethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Dibromomethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Methylene chloride	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Tetrachloroethene	1200000	37000	ug/Kg	5000	04/08/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	790	ug/Kg	56	04/07/15	JLI	SW8260C
Trichloroethene	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
Vinyl chloride	ND	400	ug/Kg	56	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	56	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	102		%	56	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	91		%	56	04/07/15	JLI	70 - 130 %
% Toluene-d8	97		%	56	04/07/15	JLI	70 - 130 %

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

Comments:

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

В

Glastonbury, CT 06033

see "By" below

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

P.O.#:

Standard

_aboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

16:30 04/06/15

<u>Date</u>

04/06/15

SDG ID: GBH92474

<u>Time</u>

0:00

Phoenix ID: BH92491

Project ID:

AMERBELLE MILLS

Client ID:

TB 040615 LOW

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.0	ug/ Kg	1	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Bromobenzene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Bromodichloromethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Bromoform	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Bromomethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Chloroform	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Chloromethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C

Ver 1 Page 34 of 37

Project ID: AMERBELLE MILLS Phoenix I.D.: BH92491

Client ID: TB 040615 LOW

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Methylene chloride	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	04/07/15	JLI	SW8260C
Trichloroethene	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
Vinyl chloride	ND	5.0	ug/Kg	1	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	95		%	1	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	04/07/15	JLI	70 - 130 %
% Toluene-d8	99		%	1	04/07/15	JLI	70 - 130 %

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

Comments:

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

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

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

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Phyllis Shiller, Laboratory Director

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 35 of 37



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

Analysis Report

April 14, 2015

FOR: Attn: Mr Chris Frey

В

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

see "By" below

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code: Rush Request:

GZA-AMER

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBH92474

Time

0:00

16:30

Phoenix ID: BH92492

<u>Date</u>

04/06/15

04/06/15

Project ID:

P.O.#:

AMERBELLE MILLS

Client ID:

TB 040615 HIGH

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
(A)	_						
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,1-Dichloroethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,1-Dichloroethene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,1-Dichloropropene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,2-Dibromoethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,2-Dichloroethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,2-Dichloropropane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,3-Dichloropropane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
2,2-Dichloropropane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Bromobenzene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Bromodichloromethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Bromoform	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Bromomethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Carbon tetrachloride	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Chloroethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Chloroform	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Chloromethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BH92492

Client ID: TB 040615 HIGH

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
cis-1,2-Dichloroethene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Dibromochloromethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Dibromomethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Dichlorodifluoromethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Methylene chloride	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Tetrachloroethene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	1300	ug/Kg	50	04/07/15	JLI	SW8260C
Trichloroethene	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Trichlorofluoromethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
Vinyl chloride	ND	250	ug/Kg	50	04/07/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	50	04/07/15	JLI	70 - 130 %
% Bromofluorobenzene	95		%	50	04/07/15	JLI	70 - 130 %
% Dibromofluoromethane	92		%	50	04/07/15	JLI	70 - 130 %
% Toluene-d8	98		%	50	04/07/15	JLI	70 - 130 %

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

Comments:

Results are reported on an "as received" basis, and are not corrected for dry weight. TRIP BLANK INCLUDED

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

April 14, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

QA/QC Report

April 14, 2015

QA/QC Data

SDG I.D.: GBH92474

		Blk		LCS		LCS	MS	MSD	MS	% Rec	% RPD
Parameter	Blank	RL		<u> </u>	%	RPD	%	<u>%</u>	RPD	Limits	Limits
QA/QC Batch 303650 (mg/Kg BH92481, BH92482, BH9248	3, BH9248	4, BH92	485, BH9248						ŀ78, B⊦	192479,	BH92480
TPH by GC (Extractable	Produc	7	<u>oil</u>								
Ext. Petroleum HC	ND	50		64	67	4.6				60 - 120	30
% n-Pentacosane Comment:	112	%		84	88	4.7				50 - 150	30
*The MS/MSD could not be repo	orted due to	the prese	ence of ETPH in	n the original sam	ple. The l	_CS was	within C	A/QC cr	iteria.		
QA/QC Batch 303731 (ug/kg) BH92483, BH92484 (1X, 50X)											
Volatiles - Soil											
1,1,1,2-Tetrachloroethane	ND	5.0		114	117	2.6	97	94	3.1	70 - 130	30
1,1,1-Trichloroethane	ND	5.0		104	108	3.8	85	84	1.2	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0		117	118	0.9	90	90	0.0	70 - 130	30
1,1,2-Trichloroethane	ND	5.0	(e);	106	110	3.7	90	88	2.2	70 - 130	30
1,1-Dichloroethane	ND	5.0		109	108	0.9	87	82	5.9	70 - 130	30
1,1-Dichloroethene	ND	5.0		104	108	3.8	78	79	1.3	70 - 130	30
1,1-Dichloropropene	ND	5.0		104	113	8.3	90	89	1.1	70 - 130	30
1,2,3-Trichloropropane	ND	5.0		112	112	0.0	90	91	1.1	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0		121	117	3.4	86	89	3.4	70 - 130	30
1,2-Dibromoethane	ND	5.0		111	113	1.8	92	91	1.1	70 - 130	30
1,2-Dichlorobenzene	ND	5.0		104	110	5.6	87	87	0.0	70 - 130	30
1,2-Dichloroethane	ND	5.0		103	109	5.7	91	89	2.2	70 - 130	30
1,2-Dichloropropane	ND	5.0		103	111	7.5	91	89	2.2	70 - 130	30
1,3-Dichlorobenzene	ND	5.0		103	110	6.6	86	86	0.0	70 - 130	30
1,3-Dichloropropane	ND	5.0		116		0.0	95	94	1.1	70 - 130	30
1,4-Dichlorobenzene	ND	5.0		103	108	4.7	85	86	1.2	70 - 130	30
2,2-Dichloropropane	ND	5.0		100	104	3.9	79	79	0.0	70 - 130	30
Bromobenzene	ND	5.0		106		4.6	88	89	1.1	70 - 130	30
Bromodichloromethane	ND	5.0		110		5.3	91	90	1.1	70 - 130	30
Bromoform	ND	5.0		125		1.6	93	93	0.0	70 - 130	30
Bromomethane	ND	5.0		101		8.5	51	57	11.1	70 - 130	30 1
Carbon tetrachloride	ND	5.0		104		3.8	83	82	1.2	70 - 130	30
Chlorobenzene	ND	5.0		107		4.6	92	92	0.0	70 - 130	30
Chloroethane	ND	5.0		103		5.7	38	36	5.4	70 - 130	30
Chloroform	ND	5.0		104		4.7	86	86	0.0	70 - 130	30
Chloromethane	ND	5.0		96	99	3.1	83	84	1.2	70 - 130	30
cis-1,2-Dichloroethene	ND	5.0		102		8.5	87	84	3.5	70 - 130	30
cis-1,3-Dichloropropene	ND	5.0		112		6.1	91	91	0.0	70 - 130	
Dibromochloromethane	ND	3.0		120		1.7	93	92	1.1	70 - 130	30
Dibromomethane	ND	5.0		107		3.7	92	89	3.3	70 - 130	
Dichlorodifluoromethane	ND	5.0		99	106	6.8	81	80	1.2	70 - 130	30
Methylene chloride	ND	5.0		96	99	3.1	80	78	2.5	70 - 130	30
Tetrachloroethene	ND	5.0		110		2.7	95	94	1.1	70 - 130	
i du acinordenierie	ND	5.0		110	113	2.1	90	34	1.1	70 - 130	30

SDG I.D.: GBH92474

Parameter	Blank	Bik RL	 LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
trans-1,2-Dichloroethene	ND	5.0	107	111	3.7	83	81	2.4	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	118	121	2.5	92	91	1.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	122	121	8.0	87	87	0.0	70 - 130	30	
Trichloroethene	ND	5.0	105	113	7.3	89	91	2.2	70 - 130	30	
Trichlorofluoromethane	ND	5.0	101	105	3.9	25	24	4.1	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0	102	108	5.7	81	79	2.5	70 - 130	30	
Vinyl chloride	ND	5.0	110	115	4.4	86	86	0.0	70 - 130	30	
% 1,2-dichlorobenzene-d4	96	%	97	100	3.0	98	99	1.0	70 - 130	30	
% Bromofluorobenzene	100	%	103	101	2.0	102	101	1.0	70 - 130	30	
% Dibromofluoromethane	96	%	99	97	2.0	89	91	2.2	70 - 130	30	
% Toluene-d8	103	%	96	99	3.1	97	98	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%.

OA/OC Batch 303857 (ug/kg), OC Sample No: BH92481 (BH92483 (38X), BH92485 (42X, 83X), BH92486, BH92487 (25X)

QA/QC Batch 303857 (ug/kg), 0 BH92488 (42X), BH92490 (500		ole No: E	3H92481 (BH	92483 (38X) , BH9	92485 (4	42X, 83	X) , BH	92486,	BH924	187 (25X)),	
Volatiles - Soil												
1,1,1,2-Tetrachloroethane	ND	5.0		111	115	3.5	111	114	2.7	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0		102	105	2.9	94	95	1.1	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0		115	122	5. 9	107	112	4.6	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0		99	105	5.9	100	103	3.0	70 - 130	30	
1,1-Dichloroethane	ND	5.0		100	106	5.8	97	99	2.0	70 - 130	30	
1,1-Dichloroethene	ND	5.0		101	105	3.9	86	88	2.3	70 - 130	30	
1,1-Dichloropropene	ND	5.0		115	116	0.9	104	110	5.6	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0		106	112	5.5	104	108	3.8	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0		115	121	5.1	108	117	8.0	70 - 130	30	
1,2-Dibromoethane	ND	5.0		102	107	4.8	100	104	3.9	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0		108	112	3.6	105	113	7.3	70 - 130	30	
1,2-Dichloroethane	ND	5.0		99	102	3.0	99	101	2.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0		99	103	4.0	97	101	4.0	70 - 130	30	10
1,3-Dichlorobenzene	ND	5.0		112	116	3.5	105	113	7.3	70 - 130	30	
1,3-Dichloropropane	ND	5.0		109	113	3.6	110	115	4.4	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0		108	113	4.5	104	111	6.5	70 - 130	30	
2,2-Dichloropropane	ND	5.0		100	104	3.9	88	89	1.1	70 - 130	30	
Bromobenzene	ND	5.0		108	113	4.5	108	112	3.6	70 - 130	30	
Bromodichloromethane	ND	5.0		105	111	5.6	99	104	4.9	70 - 130	30	
Bromoform	ND	5.0		112	121	7.7	111	114	2.7	70 - 130	30	
Bromomethane	ND	5.0		90	97	7.5	70	75	6.9	70 - 130	30	
Carbon tetrachloride	ND	5.0		104	111	6.5	94	96	2.1	70 - 130	30	
Chlorobenzene	ND	5.0		109	111	1.8	108	111	2.7	70 - 130	30	
Chloroethane	ND	5.0		98	101	3.0	43	45	4.5	70 - 130	30	m
Chloroform	ND	5.0		95	101	6.1	91	96	5.3	70 - 130	30	
Chloromethane	ND	5.0		86	89	3.4	93	94	1.1	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0		93	101	8.2	91	94	3.2	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0		106	112	5.5	101	107	5.8	70 - 130	30	
Dibromochloromethane	ND	3.0		116	118	1.7	109	113	3.6	70 - 130	30	
Dibromomethane	ND	5.0		100	106	5.8	100	101	1.0	70 - 130	30	
Dichlorodifluoromethane	ND	5.0		91	94	3.2	99	103	4.0	70 - 130	30	
Methylene chloride	ND	5.0		86	91	5.6	84	87	3.5	70 - 130	30	
Tetrachloroethene	ND	5.0		121	118	2.5	112	115	2.6	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0		102	106	3.8	91	96	5.3	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0		111	116	4.4	103	106	2.9	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0		123	130	5.5	108	114	5.4	70 - 130	30	

SDG I.D.: GBH92474

			<u>WAGE</u>	Jala				SDG I.	D G	DI1324	74	
Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Trichloroethene	ND	5.0		108	114	5.4	104	108	3.8	70 - 130	30	
Trichlorofluoromethane	ND	5.0		96	102	6.1	30	30	0.0	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0		105	106	0.9	91	93	2.2	70 - 130	30	
Vinyl chloride	ND	5.0		102	105	2.9	95	102	7.1	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%		99	98	1.0	98	98	0.0	70 - 130	30	
% Bromofluorobenzene	93	%		98	95	3.1	97	96	1.0	70 - 130	30	
% Dibromofluoromethane	92	%		91	89	2.2	93	86	7.8	70 - 130	30	
% Toluene-d8 Comment:	96	%		94	96	2.1	95	95	0.0	70 - 130	30	
Additional 8260 criteria: 10% of	LCS/LCSD	compou	unds can be outside of acce	eptance o	riteria as	long as	recover	ry is 40-1	60%.			
QA/QC Batch 303699 (ug/kg)	. QC Sami	ole No:	BH92539 (BH92474)									
Volatiles - Soil	,,		,									
1,1,1,2-Tetrachloroethane	ND	5.0	*	103	102	1.0	86	88	2.3	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0		110	107	2.8	88	90	2.2	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0		105	105	0.0	83	81	2.4	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0		99	99	0.0	84	85	1.2	70 - 130	30	
1,1-Dichloroethane	ND	5.0		106	104	1.9	85	88	3.5	70 - 130	30	
1,1-Dichloroethene	ND	5.0		123	121	1.6	90	93	3.3	70 - 130	30	
1,1-Dichloropropene	ND	5.0		99	101	2.0	85	88	3.5	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0		104	104	0.0	85	84	1.2	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0		103	106	2.9	88	82	7.1	70 - 130	30	
1,2-Dibromoethane	ND	5.0		102	104	1.9	84	85	1.2	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0		101	103	2.0	83	82	1.2	70 - 130	30	
1,2-Dichloroethane	ND	5.0		110	109	0.9	88	88	0.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0		101	101	0.0	86	88	2.3	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0		102	102	0.0	82	82	0.0	70 - 130	30	
1,3-Dichloropropane	ND	5.0		99	98	1.0	83	82	1.2	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0		101	102	1.0	83	81	2.4	70 - 130	30	
2,2-Dichloropropane	ND	5.0		125	119	4.9	89	92	3.3	70 - 130	30	
Bromobenzene	ND	5.0		103	102	1.0	85	84	1.2	70 - 130	30	
Bromodichloromethane	ND	5.0		109	110	0.9	88	88	0.0	70 - 130	30	
Bromoform	ND	5.0		104	104	0.0	81	80	1.2	70 - 130	30	
Bromomethane	ND	5.0		121	117	3.4	91	92	1.1	70 - 130	30	
Carbon tetrachloride	ND	5.0		104	105	1.0	86	91	5.6	70 - 130	30	
Chlorobenzene	ND	5.0		101	100	1.0	85	85	0.0	70 - 130	30	
Chloroethane	ND	5.0		125	121	3.3	88	93	5.5	70 - 130	30	
Chloroform	ND	5.0		104	102	1.9	83	87	4.7	70 - 130	30	
Chloromethane	ND	5.0		97	94	3.1	65	67	3.0	70 - 130	30	m
cis-1,2-Dichloroethene	ND	5.0		109	103	5.7	85	85	0.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0		108	110	1.8	84	86	2.4	70 - 130	30	
Dibromochloromethane	ND	3.0		107	106	0.9	85	83	2.4	70 - 130	30	
Dibromomethane	ND	5.0		105	106	0.9	85	85	0.0	70 - 130	30	
Dichlorodifluoromethane	ND	5.0		105	109	3.7	59	61	3.3	70 - 130	30	m
Methylene chloride	ND	5.0		116	114	1.7	94	97	3.1	70 - 130	30	
Tetrachloroethene	ND	5.0		100	101	1.0	90	89	1.1	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0		122	118	3.3	88	94	6.6	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0		118	119	8.0	87	87	0.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0		119	119	0.0	82	82	0.0	70 - 130	30	
Trichloroethene	ND	5.0		104	105	1.0	89	91	2.2	70 - 130	30	
Trichlorofluoromethane	ND	5.0		119	117	1.7	90	93	3.3	70 - 130	30	
Trichlorotrifluoroethane	ND	5.0		113	117	3.5	90	93	3.3	70 - 130	30	

129

125

3.1

80

84

4.9 70 - 130 30

Vinyl chloride

ND

5.0

QA/QC Data

99

99

0.0

SDG I.D.: GBH92474 % RPD LCS LCSD LCS MS MSD MS Rec **RPD** % % % % **RPD** Limits Limits 103 103 0.0 101 100 1.0 70 - 130 30 100 101 99 1.0 101 0.0 70 - 130 30 104 105 1.0 101 100 1.0 70 - 130 30

100

99

1.0

70 - 130

30

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

QA/QC Batch 304200 (ug/kg), QC Sample No: BH93341 (BH92487 (125X), BH92489 (10000X))

Blk

RL

%

%

%

%

Blank

98

100

108

93

Volatiles - Soil

Parameter

% Toluene-d8

Comment:

% 1,2-dichlorobenzene-d4

% Bromofluorobenzene

% Dibromofluoromethane

Tetrachloroethene ND 5.0 95 100 5.1 98 98 0.0 70 - 130 30 Comment:

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

QA/QC Batch 304378 (ug/kg), QC Sample No: BJ00652 (BH92480 (56X))

Volatiles - Soil

1,2,3-Trichloropropane	ND	5.0	84	92	9.1	85	90	5.7	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	88	102	14.7	93	97	4.2	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	87	93	6.7	81	82	1.2	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	86	92	6.7	79	82	3.7	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	85	91	6.8	78	82	5.0	70 - 130	30	
Bromobenzene	ND	5.0	87	94	7.7	87	89	2.3	70 - 130	30	
Bromoform	ND	5.0	90	97	7.5	85	90	5.7	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	94	99	5.2	87	92	5.6	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%	101	100	1.0	100	100	0.0	70 - 130	30	
% Bromofluorobenzene	98	%	100	101	1.0	98	97	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%.

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

April 14, 2015

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

Tuesday, April 14, 2015 Criteria: CT: GAM, RC State: CT

Sample Criteria Exceedences Report GBH92474 - GZA-AMER

State: CT	CT		GDD924/4 - GZA-AMEN				굺	Analysis
SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	Units
BH92478	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	1200	120	200	200	mg/Kg
BH92478	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	1200	120	200	200	mg/Kg
BH92480	\$8010-MAR	Bromoform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	290	80	80	ug/Kg
BH92480	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	2200	920	200	200	mg/Kg
BH92480	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	2200	220	200	200	mg/Kg
BH92483	\$8010-MAR	Вготогогт	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	260	80	80	ug/Kg
BH92483	\$8010-MAR	Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	1100	260	100	100	ug/Kg
BH92483	SETPH SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	3200	270	200	200	mg/Kg
BH92483	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	3200	270	200	200	mg/Kg
BH92484	\$8010-MAR	Вготобот	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	330	80	80	ug/Kg
BH92484	SETPH SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	1000	130	200	200	mg/Kg
BH92484	\$ETPH_SMR	Ext. Petroleum HC	_	1000	130	200	200	mg/Kg
BH92485	\$8010-MAR	Bromomethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	9	270	200	200	ug/Kg
BH92485	\$8010-MAR	Вготобот	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	270	80	80	ug/Kg
BH92485	\$8010-MAR	Vinyl chloride	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	270	40	4	ug/Kg
BH92485	\$8010-MAR	Trichloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	270	100	100	ug/Kg
BH92485	\$8010-MAR	Tetrachloroethene	_	2600	530	100	100	ug/Kg
BH92485	\$8010-MAR	Methylene chloride	_	Q	270	100	100	ug/Kg
BH92485	\$8010-MAR	Dibromochloromethane	/ VOLATILE ORGANIC COMPOUND /	Q	270	10	9	ug/Kg
BH92485	\$8010-MAR	Chloromethane	-	Q	270	75	72	ug/Kg
BH92485	\$8010-MAR	Chloroform	/ VOLATILE ORGANIC COMPOUND / 0	2	270	120	120	ug/Kg
BH92485	\$8010-MAR	Bromodichloromethane	/ VOLATILE ORGANIC COMPOUND /	Q	270	11	Ξ	ug/Kg
BH92485	\$8010-MAR	1,1,1,2-Tetrachloroethane	/ VOLATILE ORGANIC COMPOUND /	Q	270	20	20	ug/Kg
BH92485	\$8010-MAR	1,2-Dichloropropane	/ VOLATILE ORGANIC COMPOUND / GA/GAA	Q	270	100	100	ug/Kg
BH92485	\$8010-MAR	1,2-Dichloroethane	/ VOLATILE ORGANIC COMPOUND /	Q	270	20	8	ug/Kg
BH92485	\$8010-MAR	1,2-Dibromoethane	/ VOLATILE ORGANIC COMPOUND /	Q	270	9	5	ug/Kg
BH92485	\$8010-MAR	1,1-Dichloroethene	/ VOLATILE ORGANIC COMPOUND / (Q	270	140	140	ug/Kg
BH92485	\$8010-MAR	1,1,2-Trichloroethane	/ VOLATILE ORGANIC COMPOUND /	Q	270	100	9	ug/Kg
BH92485	\$8010-MAR	1,1,2,2-Tetrachloroethane	/ VOLATILE ORGANIC COMPOUND /	Q	270	10	9	ug/Kg
BH92485	\$8010-MAR	Carbon tetrachloride	/ VOLATILE ORGANIC COMPOUND /	Q	270	100	100	ug/Kg
BH92485	\$8010-MAR	1,2-Dibromoethane	_	Q	270	7	7	ug/Kg
BH92485	\$ETPH_SMR	Ext. Petroleum HC	/ PESTICIDES, PCB's, TPH, a /	10000	530	200	200	mg/Kg
BH92485	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	10000	230	200	200	тд/Кд
BH92486	\$8010-MAR	Bromoform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	2	290	80	80	ug/Kg
BH92486	SETPH SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	7900	1100	200	200	mg/Kg
BH92486	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	7900	1100	200	200	mg/Kg
BH92487	\$8010-MAR	Chloroform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	330	330	120	120	ug/Kg

Tuesday, April 14, 2015 Criteria: CT: GAM, RC State: CT

Sample Criteria Exceedences Report GBH92474 - GZA-AMER

State: (CT		GBR824/4 - GZA-AMER				ō	Analysis
SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	Units
BH92487	\$8010-MAR	Trichloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	280	250	100	100	ug/Kg
BH92487	\$8010-MAR	Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	13000	1600	100	100	ug/Kg
BH92487	\$8010-MAR	Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / RES DEC (mg/	13000	1600	12000	12000	ug/Kg
BH92487	\$8010-MAR	Bromoform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	330	80	80	ug/Kg
BH92487	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	33000	3000	200	200	mg/Kg
BH92487	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	33000	3000	200	200	mg/Kg
BH92488	\$8010-MAR	Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	2500	300	100	100	ug/Kg
BH92488	\$8010-MAR	Bromoform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	ND	300	80	80	ug/Kg
BH92488	SETPH SMR	Ext. Petroleum HC	1	1300	120	200	200	mg/Kg
BH92488	\$ETPH_SMR	Ext. Petroleum HC	/ PESTICIDES, PCB's,	1300	120	200	200	mg/Kg
BH92489	\$8010-MAR	Bromodichloromethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	280	7	7	ug/Kg
BH92489	\$8010-MAR	Trichloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	280	100	100	ug/Kg
BH92489	\$8010-MAR	Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	1700000	51000	100	100	ug/Kg
BH92489	\$8010-MAR	Methylene chloride	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	280	100	100	ug/Kg
BH92489	\$8010-MAR	Dibromochloromethane	_	Q	280	10	10	ug/Kg
BH92489	\$8010-MAR	Chloromethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	QN	280	72	22	ug/Kg
BH92489	\$8010-MAR	Chloroform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	280	120	120	ug/Kg
BH92489	\$8010-MAR	Carbon tetrachloride	_	Q	280	100	2	ug/Kg
BH92489	\$8010-MAR	Bromoform	/ VOLATILE ORGANIC COMPOUND /	Q	280	80	80	ug/Kg
BH92489	\$8010-MAR	Vinyl chloride	/ VOLATILE ORGANIC COMPOUND / GA/GAA	Q	280	40	40	ug/Kg
BH92489	\$8010-MAR	1,2-Dichloropropane	/ VOLATILE ORGANIC COMPOUND /	Q	280	100	100	ug/Kg
BH92489	\$8010-MAR	1,2-Dichloroethane	_	Q	280	20	70	ug/Kg
BH92489	\$8010-MAR	1,2-Dibromoethane	/ VOLATILE ORGANIC COMPOUND /	2	280	10	9	ug/Kg
BH92489	\$8010-MAR	1,1-Dichloroethene	/ VOLATILE ORGANIC COMPOUND /	2	280	140	140	ug/Kg
BH92489	\$8010-MAR	1,1,2-Trichloroethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	280	100	9	ug/Kg
BH92489	\$8010-MAR	1,1,2,2-Tetrachloroethane	/ VOLATILE ORGANIC COMPOUND /	2	280	10	9	ug/Kg
BH92489	\$8010-MAR	1,1,1,2-Tetrachloroethane	/ VOLATILE ORGANIC COMPOUND /	Q	280	20	20	ug/Kg
BH92489	\$8010-MAR	Bromomethane	_	Q	280	200	200	ug/Kg
BH92489	\$8010-MAR	1,2-Dibromoethane	/ VOLATILE ORGANIC COMPOUND /	Q	280	7	7	ug/Kg
BH92489	\$8010-MAR	Tetrachloroethene	_	1700000	51000	12000	12000	ug/Kg
BH92489	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	4000	300	200	200	mg∕Kg
BH92489	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	4000	300	200	200	mg/Kg
BH92490	\$8010-MAR	Bromodichloromethane	_	Q	400	=	7	ug/Kg
BH92490	\$8010-MAR	Vinyl chloride	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	400	40	4	ug/Kg
BH92490	\$8010-MAR	Trichloroethene	_	2	400	100	100	ug/Kg
BH92490	\$8010-MAR	Tetrachloroethene	/ VOLATILE ORGANIC COMPOUND / GA/GAA	1200000	37000	100	100	ug/Kg
BH92490	\$8010-MAR	Methylene chloride	/ VOLATILE ORGANIC COMPOUND /	Q	400	100	100	ug/Kg
BH92490	\$8010-MAR	Dibromochloromethane	1	9	400	10	10	ug/Kg
BH92490	\$8010-MAR	Chloromethane	_	Q	400	72	72	ug/Kg
BH92490	\$8010-MAR	Chloroform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	ΩN	400	120	120	ug/Kg

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Analysis

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Sample Criteria Exceedences Report GBH92474 - GZA-AMER

Tuesday, April 14, 2015 Criteria: CT: GAM, RC

State: CT

SampNo Acode	Acode	Phoenix Analyte	Criteria	Result	묍	Criteria	Criteria	Units
BH92490	\$8010-MAR	Carbon tetrachloride	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	QN	400	100	100	ug/Kg
BH92490	\$8010-MAR	Bromoform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	400	80	8	ug/Kg
BH92490	\$8010-MAR	1,2-Dichloropropane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	400	100	100	ug/Kg
BH92490	\$8010-MAR	1,2-Dichloroethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	400	20	20	ug/Kg
BH92490	\$8010-MAR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	400	10	10	ug/Kg
BH92490	\$8010-MAR	1,1-Dichloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	400	140	140	ug/Kg
BH92490	\$8010-MAR	1,1,2-Trichloroethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	400	100	100	ug/Kg
BH92490	\$8010-MAR	1,1,2,2-Tetrachloroethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	400	10	10	ug/Kg
BH92490	\$8010-MAR	1,1,1,2-Tetrachloroethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	2	400	20	20	ug/Kg
BH92490	\$8010-MAR	Bromomethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	400	200	200	ug/Kg
BH92490	\$8010-MAR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / RES DEC (mg/	2	400	7	7	ug/Kg
BH92490	\$8010-MAR	Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / RES DEC (mg/	1200000	37000	12000	12000	ug/Kg
BH92490	\$8010-MAR	Vinyl chloride	CT / VOLATILE ORGANIC COMPOUND / RES DEC (mg/	Q	400	320	320	ug/Kg

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	oratory Name:	Phoen	ix Environn	nental Labs,	Inc.	Client:		GZA	A GeoEnvir	onmenta	I, Inc.
Proje	Project Location: AMERBELLE MILLS Project Number: Laboratory Sample ID(s): BH92474, BH92475, BH92476, BH92477, BH92478, BH92479, BH92480,										
Labo	oratory Sample	ID(s):	BH92481,	BH92475, BH92482, BH92489,	BH924	83, BH92	2484, B	H92485,			
Samı	pling Date(s):	4/6/20	15								
RCP	Methods Used	i:									
13	311/1312 [] 60	10	7000	7196	7 <i>4</i>	470/7471	808	31	EPH		TO15
□ 80	082 🗌 818	51	✔ 8260	8270	✓ E	TPH	901	0/9012	☐ VPH		
18	For each analytic specified QA/QC any criteria fallin method-specific	perforr g outsid	nance criteri e of accepta	a followed, in ible guideline	cluding s, as s	the requi	rement	to explain	✓ Yes	□ No	=
1a.	Were the method	d specif	ied preserva	tion and hold	ing tim	e requiren	nents m	et?	✓ Yes	□ No	
	EPH and VPH m significant modif							thout	□ Yes	□ No	☑ NA
2.	Were all sample described on the						ent with	that	✓ Yes	□No	
3.	Were samples re	eceived	at an approp	oriate temper	ature (< 6 Degree	es C)?		□ Yes	✓ No	□NA
4.	Were all QA/QC Protocol docume						Confide	nce	☐ Yes	☑ No	
5a.	Were reporting li	imits sp	ecified or ref	erenced on t	he chai	n-of-custo	dy?		✓ Yes	□ No	
5b.	Were these repo								□ Yes	✓ No	□NA
6.	For each analytic results reported presented in the	for all co	onstituents id	dentified in th	e meth	od-specifi			☐ Yes	✓ No	
7.	Are project-spec	ific mati	rix spikes an	d laboratory	duplica	tes include	ed in the	data set	? ✓ Yes	□ No	□NA
Note:	Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence".										
and	e undersigned belief and bas tained in this a	ed upo	n my pers	onal inquir	y of th	ose resp	onsib	e for pro	oviding the		
							Da	te: Tues	day, April 1	14, 2015	
	horized nature:	Ext	tan :	See		Print		ne: Ethai	• •	,	
							Positio	on: Proje	ct Manage	r	



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

April 14, 2015

SDG I.D.: GBH92474

8260 Volatile Organics:

Only the halogenated volatile organic 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 bias is suspected.

BH92480, BH92484, BH92486, BH92487, BH92488 - Due to a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the high level analysis. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

BH92485, BH92489, BH92490 - Sample(s) required a dilution for Volatiles due to the presence of target and/or non-target compounds. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

ETPH Narration

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

Instrument:

Au-fid1 04/06/15-3 (BH92488)

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

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

Printed Name Jeff Bucko Position: Chemist

Date: 4/6/2015

Instrument:

Au-fid84 04/06/15-1 (BH92479, BH92484)

Initial Calibration (FID84 - ETPH_13) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Jeff Bucko
Position: Chemist

Date: 4/6/2015

Instrument: Au-fid84 04/07/15-1 (BH92485)

Initial Calibration (FID84 - ETPH_13) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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



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RCP Certification Report

April 14, 2015

SDG I.D.: GBH92474

Printed Name Jeff Bucko Position: Chemist

Date:

4/7/2015

Instrument: Au-fid84 04/08/15-1 (BH92483, BH92489)

Initial Calibration (FID84 - ETPH 13) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Jeff Bucko Position: Chemist 4/8/2015

Instrument: Au-fid84 04/09/15-1 (BH92487)

Initial Calibration (FID84 - ETPH 13) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Jeff Bucko Position: Chemist 4/9/2015

Instrument: Aufid-d1 04/06/15-1 (BH92474, BH92475, BH92476, BH92477)

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

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

Printed Name Jeff Bucko
Position: Chemist
Date: 4/6/2015

Instrument: Aufid-d1 04/08/15-1 (BH92479)

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

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

Printed Name Jeff Bucko Position: Chemist 4/8/2015



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RCP Certification Report

April 14, 2015

SDG I.D.: GBH92474

Instrument: Au-xl2 04/07/15-1 (BH92478, BH92480, BH92484, BH92486, BH92488, BH92490)

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

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

Printed Name Jeff Bucko
Position: Chemist
Date: 4/7/2015

QC Comments:

QC Batch 303650 04/06/15 (BH92474, BH92475, BH92476, BH92477, BH92478,

BH92479, BH92480, BH92483, BH92484, BH92485, BH92486, BH92487,

BH92488, BH92489, BH92490)

*The MS/MSD could not be reported due to the presence of ETPH in the original sample. The LCS was within QA/QC criteria.

QC (Site Specific)

----- Sample No: BH92479, QA/QC Batch: 303650 -----

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.

VOA Narration

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

QC Batch 303731 (Samples: BH92475, BH92476, BH92477, BH92478, BH92479, BH92480, BH92482, BH92483, BH92484, BH92486, BH92487, BH92488, BH92489, BH92490, BH92491, BH92492): ——

The LCS/LCSD recovery is acceptable. One or more analytes in the site specific matrix spike recovery is below the method criteria, therefore a low bias is likely. (Bromomethane, Chloroethane, Trichlorofluoromethane)

Instrument:

Chem03 04/06/15-2 (BH92475, BH92476, BH92477, BH92478, BH92479, BH92480,

BH92481, BH92482, BH92483, BH92484, BH92485, BH92486, BH92487,

BH92488, BH92489, BH92490, BH92491, BH92492)

Initial Calibration Verification (CHEM03/RCPS_0406A):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (22%)

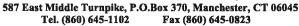
The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM03/0406L28-RCPS 0406A):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.







RCP Certification Report

April 14, 2015

SDG I.D.: GBH92474

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

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

Printed Name J

Jane Li

Position:

Chemist

Date:

4/6/2015

Instrument:

Chem03 04/08/15-1 (BH92481, BH92483, BH92485, BH92486, BH92487, BH92488,

BH92489, BH92490)

Initial Calibration Verification (CHEM03/RCPS 0406A):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (22%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM03/0407L34-RCPS 0406A):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Jane Li

Position: Date:

Chemist 4/8/2015

Instrument:

Chem03 04/09/15-1 (BH92487, BH92489)

Initial Calibration Verification (CHEM03/RCPS 0408):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (29%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM03/0409L02-RCPS_0408):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Jane Li

Position:

Chemist

Date:

4/9/2015

Instrument:

Chem15 04/10/15-1 (BH92480)

Initial Calibration Verification (CHEM15/voa5g_0407):

99% of target compounds met criteria.



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RCP Certification Report

April 14, 2015

SDG I.D.: GBH92474

The following compounds had %RSDs >20%: Acetone (26%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0410B03-voa5g_0407):

97% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: Acetone (32%)[30%], Methylene Chloride (32%)[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.

Printed Name

Jane Li Chemist

Position: Date:

4/10/2015

Instrument:

Chem18 04/06/15-2 (BH92474)

Initial Calibration Verification (CHEM18/voa5g_0402):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.

 $Continuing\ Calibration\ Verification\ (CHEM18/0406M30-voa5g_0402):$

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Jane Li

Position: Date:

Chemist 4/6/2015



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RCP Certification Report

April 14, 2015

SDG I.D.: GBH92474

QC (Site Specific) Sample No: BH92479, QA/QC Batch: 303731
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: Bromomethane(51%), Chloroethane(38%), Trichlorofluoromethane(25%)
All MSD recoveries were within 70 - 130 with the following exceptions: Bromomethane(57%), Chloroethane(36%), Trichlorofluoromethane(24%)
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.
QC (Batch Specific)
Sample No: BH92481, QA/QC Batch: 303857
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.
Sample No: BH92539, QA/QC Batch: 303699
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.
Sample No: BH93341, QA/QC Batch: 304200
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.
Sample No: BJ00652, QA/QC Batch: 304378
All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None



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RCP Certification Report

April 14, 2015

SDG I.D.: GBH92474

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

Temperature Narration

The samples were received at 8C with cooling initiated. (Note acceptance criteria is above freezing up to 6°C)

Comments, Special Requirements or Regulations: 184Cb ってんち Sampler's Signature >8heb SAMPLE # Environmental Laboratories, Inc 23/160 18166 91 16 10 Relinguished by C9789/80-19-3 もしんのち 8つちの OIL=Oil B=Bulk L=Liquid RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe <u>Matrix Code:</u> **DW**=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water Customer: Address: A0C-19-3 AOC-19-4 CO.S-2 ADC-19-2 A0C-19-5 AOC-19-2 B(-19-) AC J DOC-18-5 10C-19-4 AGC-19-1 AOC-18-5 (0:5-2) Client Sample - Information - Identification BUT MUNDANG BUDOIL GLANTION OUT ST 33 Customer Sample Identification (5-7) 250 (6-),5) 10-12 01-8 2-2.0 8-10 (0,5-2) (1416) Sample 1/8/0 Sampled Date 2 MIL 40) 587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040 1370 1300 유 D B 1330 1130 B idee 0250 1340 Sampled 1400 1040 Time Email: info@phoenixlabs.com CHAIN OF CUSTODY RECORD Turnaround: 1 Day* Client Services (860) 645-8726 R 毒 Standard ☐ 3 Days* SURCHARGE APPLIES ☐ 2 Days* Analysis Request X × <u>,</u> Report to: Invoice to: Project: l ime: AMERACAL E CHILLY HIEY Fax (860) 645-0823 RI ☐ Direct Exposure □GW ☐ Other State where samples were collected: (Residential) RCP Cert Other Residential DEC GA Mobility GW Protection ☐ SW Protection ☐ GB Mobility × X × × ८ 8 Ci Soil Corlainer Phone: Email: Fax: ☐ GW-2 ☐ GW-1 ☐ GW-3 MA ☐ MCP Certification X S-2 s-1 MWRA eSMART Project P.O: CX 7 chris. By Grze con 2012-375- 098 Coolant: Contact Options: Temp & °C This section MUST be **Bottle Quantities.** かって completed with R R Ser! Excel PDF ☐ GIS/Key Phoenix Std Report Other ☐ EQuIS Data Package Data Format * SURCHARGE APPLIES ☐ Tier II Checklist Full Data Package* Yes No No Pg R 잋 2

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\$ 500 PM SOOR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			to Water	Mater MAN-Mas	Matrix Code:	tor CW-Comp	Matrix Code:
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Projec × On. 597 East Middle Tumpika, P.O. Box 310, Manufrasiar, CT Cepted MARYON (M. CIVIN FEBY (PRO), 645-50823 ETCH MACUETY FREW Client Services (860) 645-8726 Amented . CHRIT En all info@phoenixlabs.com REFERE REMOVE Invoice to: Report to: Project Analysis Request 強 30 GUESS TO Sampled 000 Time DW=Dentang Water GW=Ground Water SW=Surface Water WW=Waste Water 1600 1730 9 1130 17/0 1300 RWHRaw Water SExCediment StaStudge SaSoil SDaSpile Welvipe Sampled Date 36 Client Sample - Information - Identification Sample ATT WONDOWS BROTH 3 Environmental Laboratories, Inc. ADC-19-1 (0.5-2) Anc-18-5(0.502) Customer Sample はいっていることが Apr - (3-1) 1 (-9) (200) 14.5 03-23 THE GIVENAY Identification 1-1/-376 Intho POL-10-2 Appendix 2 S-619-3 F-67-300 OIL = Oil B=Bulk L=Liquid PHOENIX USE ONLY Customer: Address; Matrix Code BH 92 482 849481 Sampler's Skinature

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Thursday, April 09, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BH92148 - BH92161

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

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



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Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Α

LPB

see "By" below

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

aboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBH92148

Time

10:00

16:29

Phoenix ID: BH92148

Date

04/03/15

04/03/15

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

AOC-13-1 (0.5-2)

_		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	89		%		04/03/15	ı	SW846-%Solid
Soil Extraction SVOA PAH	Completed				04/03/15	JJ/VH	SW3545A
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractable	Products)					
Ext. Petroleum HC	ND	55	mg/Kg	1	04/04/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/04/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	79		%	1	04/04/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromobenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Bromodichloromethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Bromomethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroform	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	9.7	ug/Kg	1	04/04/15	JLI	SW8260C
Trichloroethene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates			•				
% 1,2-dichlorobenzene-d4	103		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	87		%	1	04/04/15	JLÏ	70 - 130 %
% Dibromofluoromethane	98		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	93		%	1	04/04/15	JLI	70 - 130 %
Aromatic Volatiles							
	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	4.8			04/04/15	JLI	SW8260C
1,2,4-Trichlorobenzene			ug/Kg	1			
1,2,4-Trimethylbenzene	ND ND	4.8	ug/Kg	1(9)	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.8	ug/Kg	3.	04/04/15	JLI 	SW8260C
Benzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	4.8	ug/Kg	(1)	04/04/15	JLI 	SW8260C
Ethylbenzene	ND	4.8	ug/Kg	(1.)	04/04/15	JLI	SW8260C
Isopropylbenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
m&p-Xylene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Naphthalene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
n-Butylbenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
n-Propylbenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
o-Xylene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
p-Isopropyltoluene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
sec-Butylbenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Styrene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C

Page 2 of 35

Phoenix I.D.: BH92148

Project ID: AMERBELLE MILLS Client ID: AOC-13-1 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
tert-Butylbenzene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Toluene	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
Total Xylenes	ND	4.8	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	87		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	93		%	1	04/04/15	JLI	70 - 130 %
Polynuclear Aromatic	HC_						
2-Methylnaphthalene	ND	260	ug/Kg	1	04/04/15	DD	SW8270D
Acenaphthene	ND	260	ug/Kg	1	04/04/15	DD	SW8270D
Acenaphthylene	ND	260	ug/Kg	1	04/04/15	DD	SW8270D
Anthracene	ND	260	ug/Kg	1	04/04/15	DD	SW8270D
Benz(a)anthracene	450	260	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(a)pyrene	460	260	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(b)fluoranthene	680	260	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(ghi)perylene	340	260	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(k)fluoranthene	ND	260	ug/Kg	1	04/04/15	DD	SW8270D
Chrysene	600	260	ug/Kg	1	04/04/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	04/04/15	DD	SW8270D
Fluoranthene	750	260	ug/Kg	1	04/04/15	DD	SW8270D
Fluorene	ND	260	ug/Kg	1	04/04/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	280	260	ug/Kg	1	04/04/15	DD	SW8270D
Naphthalene	ND	260	ug/Kg	3	04/04/15	DD	SW8270D
Phenanthrene	420	260	ug/Kg	1	04/04/15	DD	SW8270D
Pyrene	750	260	ug/Kg	1	04/04/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	82		%	1	04/04/15	DD	30 - 130 %
% Nitrobenzene-d5	81		%	1	04/04/15	DD	30 - 130 %
% Terphenyl-d14	94		%	1	04/04/15	DD	30 - 130 %

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information** Collected by: Matrix: SOIL

<u>Date</u> 04/03/15

10:40 Received by: **LPB** 04/03/15 16:29

Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH92148

<u>Time</u>

Phoenix ID: BH92149

Project ID:

Location Code:

Rush Request:

AMERBELLE MILLS

GZA-AMER

Standard

Client ID:

AOC-13-2 (0.5-2)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	90		%		04/03/15	1	SW846-%Solid
Soil Extraction SVOA PAH	Completed				04/03/15	JJ/VH	SW3545A
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractable	Products	;)					
Ext. Petroleum HC	ND	55	mg/Kg	1	04/04/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/04/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	90		%	1	04/04/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	8.7	[∈] ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	8.7	ug/Kg	1	04/04/15	JL1	SW8260C
1,1-Dichloroethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	7.0	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C

Page 4 of 35 Ver 1

Phoenix I.D.: BH92149

Project ID: AMERBELLE MILLS Client ID: AOC-13-2 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromobenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
Bromodichloromethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
Bromomethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroform	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	550	ug/Kg	28	04/04/15	JLI	SW8260C
Trichloroethene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	28	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	100		%	28	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	92		%	1	04/04/15	JLI	70 - 130 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene Benzene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	8.7	ug/Kg	i	04/04/15	JLI	SW8260C
Ethylbenzene	ND	280	ug/Kg ug/Kg	28	04/04/15	JLI	SW8260C
Isopropylbenzene	ND	8.7		1	04/04/15	JLI	SW8260C
m&p-Xylene	ND	8.7	ug/Kg ug/Kg	i	04/04/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	280	ug/Kg ug/Kg	28	04/04/15	JLI	SW8260C
Naphthalene				28			SW8260C
n-Butylbenzene	ND ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
n-Propylbenzene	ND	280	ug/Kg	1	04/04/15	JLI	SW8260C SW8260C
o-Xylene	ND ND	8.7	ug/Kg		04/04/15	JLI	
p-Isopropyltoluene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
sec-Butylbenzene	ND ND	280 8.7	ug/Kg ug/Kg	28 1	04/04/15 04/04/15	JLI JLI	SW8260C SW8260C
Styrene	עואו	0.1	ug/Ng	- 8	U-10-11U	ULI	

Page 5 of 35

Client ID: AOC-13-2 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
tert-Butylbenzene	ND	280	ug/Kg	28	04/04/15	JLI	SW8260C
Toluene	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
Total Xylenes	ND	8.7	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates			0 0				
% 1,2-dichlorobenzene-d4	99		%	28	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	100		%	28	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	92		%	1	04/04/15	JLI	70 - 130 %
Polynuclear Aromatic	НС						
2-Methylnaphthalene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Anthracene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Benz(a)anthracene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(a)pyrene	280	250	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(b)fluoranthene	430	250	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(ghi)perylene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(k)fluoranthene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Chrysene	440	250	ug/Kg	1	04/04/15	DD	SW8270D
Dibenz(a,h)anthracene	- ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Fluoranthene	420	250	ug/Kg	1	04/04/15	DD	SW8270D
Fluorene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Naphthalene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Phenanthrene	260	250	ug/Kg	1	04/04/15	DD	SW8270D
Pyrene	450	250	ug/Kg	1	04/04/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	77		%	1	04/04/15	DD	30 - 130 %
% Nitrobenzene-d5	74		%	1	04/04/15	DD	30 - 130 %
% Terphenyl-d14	93		%	1	04/04/15	DD	30 - 130 %

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

Comments:

Volatile Comment:

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

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 6 of 35 Ver 1



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Dilution

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information

Α

04/03/15

Date/Time

04/03/15

04/03/15

Time

Collected by: Received by:

LPB

04/03/15

Date

11:30 16:29

Analyzed by: see "By" below

> Units %

Laboratory Data

SDG ID: GBH92148

Reference

SW8260C

SW8260C

SW8260C

JLI

SW846-%Solid

Phoenix ID: BH92150

JJ/VH SW3545A

By

Project ID:

1,3-Dichloropropane

1,4-Dichlorobenzene

2,2-Dichloropropane

AMERBELLE MILLS

Client ID:

AOC-13-3 (0.5-2)

Parameter	Result	RL/ PQL
Percent Solid	93	
Soil Extraction SVOA PAH	Completed	

CON EXTROGRAM OVER 1741							
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractab	le Products)					
Ext. Petroleum HC	83	- 53	mg/Kg	1	04/04/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	04/04/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	93		%	1	04/04/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	5.1	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	270	ug/Kg	42	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	270	ug/Kg	42	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	270	ug/Kg	42	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	270	ug/Kg	42	04/04/15	JLI	SW8260C

4.5

270

4.5

ND ND

ND

Ver 1 Page 7 of 35

04/04/15

04/04/15

04/04/15

1

42

ug/Kg

ug/Kg

ug/Kg

Project ID: AMERBELLE MILLS Client ID: AOC-13-3 (0.5-2)

Parameter Result PQL Units Dilution Date/Time By Referen Bromobenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600 Bromodichloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Bromoform ND 270 ug/Kg 42 04/04/15 JLI SW82600 Bromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Carbon tetrachloride ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chlorobenzene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroform ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82	
Bromodichloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Bromoform ND 270 ug/Kg 42 04/04/15 JLI SW82600 Bromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Carbon tetrachloride ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chlorobenzene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroform ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Cis-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI	
Bromoform ND 270 ug/Kg 42 04/04/15 JLI SW82600 Bromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Carbon tetrachloride ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chlorobenzene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroform ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI <t< td=""><td></td></t<>	
Bromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Carbon tetrachloride ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chlorobenzene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Cis-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromochloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
Carbon tetrachloride ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chlorobenzene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroform ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Cis-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromochloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
Chlorobenzene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroform ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromochloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
Chloroethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloroform ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromochloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
Chloroform ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Chloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromochloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
Chloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromochloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
cis-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromochloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	_
cis-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW8260C Dibromochloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW8260C Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW8260C	
Dibromochloromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
Dibromomethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
- Dichigrophiane ND 4.3 BU/NO 4 04/04/13 JEI 3002000	
Methylene chloride ND 4.5 ug/Kg 1 04/04/15 JLI SW8260C	
Tetrachloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
trans-1,2-Dichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
trans-1,3-Dichloropropene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
trans-1,4-dichloro-2-butene ND 540 ug/Kg 42 04/04/15 JLI SW82600	
Trichloroethene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
Trichlorofluoromethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
Trichlorotrifluoroethane ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
IP.	
Vinyl chloride ND 4.5 ug/Kg 1 04/04/15 JLI SW82600 QA/QC Surrogates	•
% 1,2-dichlorobenzene-d4 99 % 42 04/04/15 JLI 70 - 130 %	%
% Bromofluorobenzene 99 % 42 04/04/15 JLI 70 - 130 %	
% Dibromofluoromethane 101 % 1 04/04/15 JLI 70 - 130 %	
% Toluene-d8 92 % 1 04/04/15 JLI 70 - 130 %	
% Toldene-do 32 % To 100 /	70
Aromatic Volatiles	
1,2,3-Trichlorobenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600	3
1,2,4-Trichlorobenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600	3
1,2,4-Trimethylbenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600	2
1,2-Dichlorobenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600)
1,3,5-Trimethylbenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600)
1,3-Dichlorobenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600)
1,4-Dichlorobenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600)
Benzene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	2
Chlorobenzene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	3
Ethylbenzene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	3
Isopropylbenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600	3
m&p-Xylene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	2
Methyl t-butyl ether (MTBE) ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	2
Naphthalene ND 270 ug/Kg 42 04/04/15 JLI SW82600	3
n-Butylbenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600	
n-Propylbenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600	
o-Xylene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	
p-Isopropyltoluene ND 270 ug/Kg 42 04/04/15 JLI SW82600	
sec-Butylbenzene ND 270 ug/Kg 42 04/04/15 JLI SW82600	
Styrene ND 4.5 ug/Kg 1 04/04/15 JLI SW82600	

Page 8 of 35 Ver 1

Phoenix I.D.: BH92150

Project ID: AMERBELLE MILLS Client ID: AOC-13-3 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
tert-Butylbenzene	ND	270	ug/Kg	42	04/04/15	JLI	SW8260C
Toluene	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
Total Xylenes	ND	4.5	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	42	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	99		%	42	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	101		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	92		%	1	04/04/15	JLI	70 - 130 %
Polynuclear Aromatic I	<u>1C</u>						
2-Methylnaphthalene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Anthracene	430	250	ug/Kg	1	04/04/15	DD	SW8270D
Benz(a)anthracene	1400	250	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(a)pyrene	1200	250	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(b)fluoranthene	1600	250	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(ghi)perylene	730	250	ug/Kg	1	04/04/15	DD	SW8270D
Benzo(k)fluoranthene	590	250	ug/Kg	1	04/04/15	DD	SW8270D
Chrysene	1400	250	ug/Kg	1	04/04/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Fluoranthene	2900	250	ug/Kg	1	04/04/15	DD	SW8270D
Fluorene	ND	250	ug/Kg	1	04/04/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	660	250	ug/Kg	1	04/04/15	DD	SW8270D
Naphthalene	ND	250	ug/Kg	3	04/04/15	DD	SW8270D
Phenanthrene	2000	250	ug/Kg	1	04/04/15	DD	SW8270D
Pyrene	2400	250	ug/Kg	4	04/04/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	86		%	1	04/04/15	DD	30 - 130 %
% Nitrobenzene-d5	91		%	1	04/04/15	DD	30 - 130 %
% Terphenyl-d14	93		%	1	04/04/15	DD	30 - 130 %

Page 9 of 35 Ver 1

Project ID: AMERBELLE MILLS Client ID: AOC-13-3 (0.5-2)

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

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

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.

Volatile Comment:

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

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Phoenix I.D.: BH92150



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

LPB

see "By" below

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBH92148

Time

13:40

16:29

Phoenix ID: BH92151

Date

04/03/15

04/03/15

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

AOC-18-1 (0.8-2.8)

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	91		%		04/03/15	- 1	SW846-%Solid
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractable	Products	3)					
Ext. Petroleum HC	ND	53	mg/Kg	1	04/04/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/04/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	71		%	1	04/04/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Bromobenzene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C

Client ID: AOC-18-1 (0.8-2.8)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Bromomethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroform	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	4.6	ug/Kg	1	04/04/15	JL1	SW8260C
trans-1,2-Dichloroethene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	9.2	ug/Kg	1	04/04/15	JLI	SW8260C
Trichloroethene	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	4.6	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	96		%	1	04/04/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 12 of 35 Ver 1



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Α

LPB

see "By" below

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code: GZA-AMER

Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBH92148

Time

13:50

16:29

Phoenix ID: BH92152

Date

04/03/15

04/03/15

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

AOC-18-1 (7-9)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	93		%		04/03/15	ı	SW846-%Solid
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractable	Products	3)					
Ext. Petroleum HC	ND	 52	mg/Kg	1	04/04/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/04/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	107		%	1	04/04/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Bromobenzene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C

Ver 1 Page 13 of 35

Project ID: AMERBELLE MILLS Client ID: AOC-18-1 (7-9)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Bromomethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroform	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	8.8	ug/Kg	1	04/04/15	JLI	SW8260C
Trichloroethene	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	4.4	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	95		%	1	04/04/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 14 of 35 Ver 1



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information** <u>Time</u> <u>Date</u> 04/03/15 Matrix: SOIL Collected by: 14:00 Received by: LPB **Location Code: GZA-AMER** 16:29 04/03/15

Rush Request: Analyzed by: Standard see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH92148

Phoenix ID: BH92153

Project ID: **AMERBELLE MILLS** Client ID: AOC-18-2 (0.5-2.5)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	92		%		04/03/15	ı	SW846-%Solid
Extraction of CT ETPH	Completed				04/06/15	JJ/V	SW3545A
TPH by GC (Extractable	e Products	s)					
Ext. Petroleum HC	110	54	mg/Kg	1	04/07/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	81		%	1	04/07/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C

Page 15 of 35 Ver 1

Phoenix I.D.: BH92153

Project ID: AMERBELLE MILLS Client ID: AOC-18-2 (0.5-2.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromomethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroform	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	9.3	ug/Kg	1	04/04/15	JLI	SW8260C
Trichloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	95		%	1	04/04/15	JLI	70 - 130 %

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

Comments:

TPH Comment:

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

^{**}Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C14 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

LPB

see "By" below

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBH92148

<u>Time</u>

14:10

16:29

Phoenix ID: BH92154

<u>Date</u>

04/03/15

04/03/15

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

AOC-18-2 (5.5-7.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	92		%		04/03/15	1	SW846-%Solid
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractable	e Products	s)					
Ext. Petroleum HC	ND	 53	mg/Kg	1	04/04/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/04/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	105		%	1	04/04/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromobenzene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Client ID: AOC-18-2 (5.5-7.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromomethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	5.7	ug/Kg	1 *	04/04/15	JLI	SW8260C
Chloroethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroform	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	04/04/15	JLI	SW8260C
Trichloroethene	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	5.7	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	96		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	96		%	1	04/04/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

LPB

see "By" below

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBH92148

<u>Time</u>

14:40

16:29

Phoenix ID: BH92155

Date

04/03/15

04/03/15

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

AOC-18-3 (0.5-2.5)

_		RL/	-				
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	89		%		04/03/15	1	SW846-%Solid
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractable	e Products	3)					
Ext. Petroleum HC	ND	 55	mg/Kg	1	04/04/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/04/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	85		%	1	04/04/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Bromobenzene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BH92155

Client ID: AOC-18-3 (0.5-2.5)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Bromomethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroform	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	04/04/15	JLI	SW8260C
Trichloroethene	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	5.6	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	114		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	101		%	1	04/04/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 20 of 35 Ver 1



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Analyzed by: see "By" below

Collected by:

Received by:

Custody Information

Α LPB

<u>Date</u> 04/03/15 <u>Time</u> 14:50

04/03/15

16:29

Standard

aboratory Data

SDG ID: GBH92148

Phoenix ID: BH92156

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

AOC-18-3 (8-10)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	87		%		04/03/15	ı	SW846-%Solid
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractable	e Products)					
Ext. Petroleum HC	150	57	mg/Kg	1	04/04/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	04/04/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	90		%	1	04/04/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C
Bromobenzene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BH92156

Client ID: AOC-18-3 (8-10)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Bromodichloromethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Bromoform	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Bromomethane	ND	5,3	ug/Kg	1	04/04/15	JLI	SW8260C	
Carbon tetrachloride	ND	5,3	ug/Kg	1	04/04/15	JLI	SW8260C	
Chlorobenzene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Chloroethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Chloroform	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Chloromethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
cis-1,2-Dichloroethene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
cis-1,3-Dichloropropene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Dibromochloromethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Dibromomethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Dichlorodifluoromethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Methylene chloride	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Tetrachloroethene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
trans-1,2-Dichloroethene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
trans-1,3-Dichloropropene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	04/04/15	JLI	SW8260C	
Trichloroethene	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Trichlorofluoromethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Trichlorotrifluoroethane	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
Vinyl chloride	ND	5.3	ug/Kg	1	04/04/15	JLI	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	101		%	1	04/04/15	JLI	70 - 130 %	
% Bromofluorobenzene	97		%	1	04/04/15	JLI	70 - 130 %	
% Dibromofluoromethane	101		%	1	04/04/15	JLI	70 - 130 %	
% Toluene-d8	100		%	1	04/04/15	JLI	70 - 130 %	

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

Comments:

TPH Comment:

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 22 of 35 Ver 1

^{**}Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C16 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: SOIL

Location Code: GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information

Collected by:

Received by:

RL/

Α

04/03/15

Time 15:10

LPB

04/03/15

Date

16:29

Ver 1

Analyzed by: see "By" below

.aboratory Data

SDG ID: GBH92148

Phoenix ID: BH92157

Project ID:

AMERBELLE MILLS

Client ID: AOC-18-4 (0.5-2)

Parameter Result PQL Units Dilution Date/Time By Reference Percent Solid 89 % 04/03/15 SW846-%Solid Extraction of CT ETPH Completed 04/03/15 JC/V SW3545A TPH by GC (Extractable Products) Ext. Petroleum HC 1800 270 mg/Kg 5 04/04/15 **JRB** CTETPH 8015D Identification mg/Kg 5 04/04/15 **JRB** CTETPH 8015D **QA/QC Surrogates** % n-Pentacosane 104 % 5 04/04/15 JRB 50 - 150 % Halogenated Volatiles 1,1,1,2-Tetrachloroethane ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,1,1-Trichloroethane ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,1,2,2-Tetrachloroethane ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,1,2-Trichloroethane ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1.1-Dichloroethane ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,1-Dichloroethene ND 6.2 1 ug/Kg 04/04/15 JLI SW8260C 1,1-Dichloropropene ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,2,3-Trichloropropane ND 6.2 ug/Kg 1 04/04/15 SW8260C JLI 1,2-Dibromo-3-chloropropane ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,2-Dibromoethane ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,2-Dichlorobenzene ND 6.2 ug/Kg 04/04/15 JLI SW8260C ND 1,2-Dichloroethane 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,2-Dichloropropane ND 6.2 1 ug/Kg 04/04/15 JLI SW8260C 1,3-Dichlorobenzene ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,3-Dichloropropane ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C 1,4-Dichlorobenzene ND 6.2 ug/Kg 1 04/04/15 SW8260C JLI 2,2-Dichloropropane ND 6.2 ug/Kg 1 04/04/15 JLI SW8260C Bromobenzene ND 6.2 ug/Kg 1 04/04/15 SW8260C JLI

Page 23 of 35

Client ID: AOC-18-4 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Bromomethane	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroethane	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroform	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	12	ug/Kg	1	04/04/15	JLI	SW8260C
Trichloroethene	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	6.2	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	105		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	106		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	97		%	1	04/04/15	JLI	70 - 130 %

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

Comments:

TPH Comment:

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Ver 1 Page 24 of 35

^{**}Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C12 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information Date Time** SOIL Matrix: 04/03/15 15:20 Collected by: Α Received by: **Location Code: GZA-AMER LPB** 04/03/15 16:29

Rush Request: Standard Analyzed by: see "By" below

RL/

P.O.#:

Laboratory Data

SDG ID: GBH92148

Phoenix ID: BH92158

Project ID: AMERBELLE MILLS Client ID: AOC-18-4 (10-12)

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	92		%		04/03/15	ı	SW846-%Solid
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractable	Products)					
Ext. Petroleum HC	ND	54	mg/Kg	1	04/04/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/04/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	88		%	1	04/04/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C

Page 25 of 35 Ver 1

Project ID: AMERBELLE MILLS Client ID: AOC-18-4 (10-12)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Bromomethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroform	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	9.5	ug/Kg	1	04/04/15	JLI	SW8260C
Trichloroethene	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	4.7	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	106		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	90		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	101		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	100		%	1	04/04/15	JLI	70 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

LPB

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

GZA-AMER

Location Code: Rush Request:

Standard

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

<u>Time</u> <u>Date</u>

16:20

04/03/15 04/03/15

16:29

see "By" below

SDG ID: GBH92148

Phoenix ID: BH92159

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

AOC-20-2 (24-27)

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	72		%		04/03/15	ı	SW846-%Solid
Extraction of CT ETPH	Completed				04/03/15	JC/V	SW3545A
TPH by GC (Extractable	e Products	5)					
Ext. Petroleum HC	2200	140	mg/Kg	2	04/07/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	2	04/07/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	96		%	2	04/07/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,1-Dichloropropene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,2-Dibromoethane	ND	7.0	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,3-Dichloropropane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
2,2-Dichloropropane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Bromobenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
,							

Phoenix I.D.: BH92159

Project ID: AMERBELLE MILLS Client ID: AOC-20-2 (24-27)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromodichloromethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Bromoform	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
Bromomethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Chloroethane	ND	8.3	ug/Kg	1	04/04/15	JL1	SW8260C
Chloroform	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Chloromethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	1100	360	ug/Kg	28	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	730	ug/Kg	28	04/04/15	JLI	SW8260C
Trichloroethene	16	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	0.5	ug/Kg	D#	04/04/10	ULI	01102000
QA/QC Surrogates	400		%	28	04/04/15	JLI	70 - 130 %
% 1,2-dichlorobenzene-d4	100		% %	28	04/04/15	JLI	70 - 130 % 70 - 130 %
% Bromofluorobenzene	99				04/04/15	JLI	70 - 130 % 70 - 130 %
% Dibromofluoromethane	105		%	1			
% Toluene-d8	91		%	1	04/04/15	JLI	70 - 130 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
Benzene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Ethylbenzene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Isopropylbenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
m&p-Xylene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Naphthalene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
n-Butylbenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
n-Propylbenzene	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
o-Xylene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
-	ND	360	ug/Kg	28	04/04/15	JLI	SW8260C
n-Isonronvitoli iene							
p-Isopropyltoluene	ND	360	ua/Ka	28	04/04/15	JLI	SW8260C
p-isopropyitoluene sec-Butylbenzene Styrene	ND ND	360 8.3	ug/Kg ug/Kg	28 1	04/04/15 04/04/15	JLI JLI	SW8260C SW8260C

Page 28 of 35 Ver 1

Project ID: AMERBELLE MILLS

Client ID: AOC-20-2 (24-27)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Toluene	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
Total Xylenes	ND	8.3	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	28	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	99		%	28	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	105		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	91		%	1	04/04/15	JLI	70 - 130 %

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

Comments:

Volatile Comment:

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

TPH Comment:

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

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

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Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Phoenix I.D.: BH92159

^{**}Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C12 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Custody Information Date **Time** Sample Information Matrix: SOIL Collected by: Α 04/03/15 9:40 Received by: **Location Code: GZA-AMER** LPB 04/03/15 16:29

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH92148

Phoenix ID: BH92160

Project ID: AMERBELLE MILLS

Client ID: TB040315 LL

RL/ Parameter Result PQL Units **Dilution** Date/Time By Reference **Halogenated Volatiles** 1,1,1,2-Tetrachloroethane ND 5.0 ug/Kg 1 04/04/15 JLI SW8260C ND 5.0 ug/Kg 1 04/04/15 JLI SW8260C 1,1,1-Trichloroethane 04/04/15 JLI SW8260C ND 5.0 1 1,1,2,2-Tetrachloroethane ug/Kg ND 5.0 1 04/04/15 JLI SW8260C ug/Kg 1,1,2-Trichloroethane 04/04/15 SW8260C ND 5.0 ug/Kg 1 JLI 1,1-Dichloroethane 04/04/15 SW8260C ND 5.0 ug/Kg 1 JLI 1,1-Dichloroethene 04/04/15 JLI SW8260C ND 5.0 ug/Kg 1,1-Dichloropropene ND 5.0 ug/Kg 04/04/15 JLI SW8260C 1,2,3-Trichloropropane 5.0 1 04/04/15 JLI SW8260C ND ug/Kg 1,2-Dibromo-3-chloropropane 04/04/15 SW8260C 1 JLI ND 5.0 ug/Kg 1.2-Dibromoethane ND 5.0 ug/Kg 1 04/04/15 JLI SW8260C 1,2-Dichlorobenzene ND 5.0 1 04/04/15 JLI SW8260C ug/Kg 1,2-Dichloroethane 04/04/15 SW8260C ND 5.0 ug/Kg 1 JLI 1,2-Dichloropropane ND 5.0 ug/Kg 1 04/04/15 SW8260C 1,3-Dichlorobenzene 04/04/15 SW8260C ND 5.0 ug/Kg 1 JLI 1,3-Dichloropropane 1 04/04/15 JLI SW8260C ND 5.0 ug/Kg 1,4-Dichlorobenzene SW8260C ND 5.0 1 04/04/15 JLI ug/Kg 2,2-Dichloropropane 04/04/15 SW8260C ND 5.0 ug/Kg 1 JLI Bromobenzene 1 04/04/15 JLI SW8260C ND 5.0 ug/Kg Bromodichloromethane 04/04/15 SW8260C **Bromoform** ND 5.0 ug/Kg 1 JLI 04/04/15 JLI SW8260C ND 5.0 ug/Kg 1 Bromomethane SW8260C ND 5.0 ug/Kg 1 04/04/15 JLI Carbon tetrachloride ND 5.0 ug/Kg 1 04/04/15 JLI SW8260C Chlorobenzene SW8260C 04/04/15 ND 5.0 1 JLI Chloroethane ug/Kg 04/04/15 JLI SW8260C ND 5.0 ug/Kg 1 Chloroform ND 5.0 ug/Kg 1 04/04/15 JLI SW8260C Chloromethane

Page 30 of 35 Ver 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Methylene chloride	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	04/04/15	JLI	SW8260C
Trichloroethene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Vinyl chloride	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	92		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	102		%	1	04/04/15	JLI	70 - 130 %
% Toluene-d8	106		%	1	04/04/15	JLI	70 - 130 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Isopropylbenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
m&p-Xylene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	04/04/15	JLI	SW8260C
tert-Butylbenzene	ND	5.0	ug/Kg	1	04/04/15	JLI	
Toluene	ND	5.0	ug/Kg ug/Kg	1	04/04/15	JLI	SW8260C SW8260C
Total Xylenes	ND	5.0	ug/Kg ug/Kg	1	04/04/15	JLI	
QA/QC Surrogates	NO	5.0	ug/Ng		U47U4710	JLI	SW8260C
% 1,2-dichlorobenzene-d4	QQ		0/	4	04/04/45		70 420 9/
	98		%	1	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	92		%	1	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	102		%	1	04/04/15	JLI 	70 - 130 %
% Toluene-d8	106		%	1	04/04/15	JLI	70 - 130 %

Project ID: AMERBELLE MILLS

Client ID: TB040315 LL

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Phoenix I.D.: BH92160

Page 32 of 35 Ver 1



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

Analysis Report

April 09, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information

Collected by:

Received by:

Analyzed by:

Α

04/03/15

Date

04/03/15

<u>Time</u> 9:40 16:29

LPB

see "By" below

Laboratory Data

SDG ID: GBH92148

Phoenix ID: BH92161

Project ID:

AMERBELLE MILLS

Client ID:

TB040315 HL

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Helegeneted Veletiles							
Halogenated Volatiles					0.40.445		0.440000
1,1,1,2-Tetrachloroethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,1-Dichloroethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,1-Dichloroethene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,2-Dichloroethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,2-Dichloropropane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Bromobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Bromodichloromethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Bromoform	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Bromomethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Carbon tetrachloride	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Chloroethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Chloroform	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Chloromethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Dibromochloromethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Dibromomethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Dichlorodifluoromethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C

Client ID: TB040315 HL

Client ID: 18040315 Hi	L	RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Methylene chloride	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Tetrachloroethene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Trichloroethene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Trichlorofluoromethane	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Vinyl chloride	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	116		%	50	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	101		%	50	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	94		%	50	04/04/15	JLI	70 - 130 %
% Toluene-d8	103		%	50	04/04/15	JLI	70 - 130 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Benzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Ethylbenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Isopropylbenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
m&p-Xylene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	500	ug/Kg	50	04/04/15	JLI	SW8260C
Naphthalene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
n-Butylbenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
n-Propylbenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
o-Xylene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
p-Isopropyltoluene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
sec-Butylbenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Styrene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
tert-Butylbenzene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Toluene	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
Total Xylenes	ND	250	ug/Kg	50	04/04/15	JLI	SW8260C
QA/QC Surrogates			33				
% 1,2-dichlorobenzene-d4	116		%	50	04/04/15	JLI	70 - 130 %
% Bromofluorobenzene	101		%	50	04/04/15	JLI	70 - 130 %
% Dibromofluoromethane	94		%	50	04/04/15	JLI	70 - 130 %
% Toluene-d8	103		%	50	04/04/15	JLI	70 - 130 %
70 TOIGETIE-GO	100		,,,	30	0	361	. 3

Page 34 of 35

Ver 1

Phoenix I.D.: BH92161

Project ID: AMERBELLE MILLS Client ID: TB040315 HL

Phoenix I.D.: BH92161

RL/

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

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

Comments:

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

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

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

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

Phyllis Shiller, Laboratory Director

April 09, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

QA/QC Report

April 09, 2015

Parameter

Benzene

Bromoform

Bromobenzene

Bromomethane

Chlorobenzene

Chloromethane

Ethylbenzene

m&p-Xylene

o-Xylene

Styrene

Toluene

Tetrachloroethene

trans-1,2-Dichloroethene

ND

ND

ND

5.0

5.0

5.0

Chloroethane

Chloroform

QA/QC Data

SDG I.D.: GBH92148 RPD MS Rec Blk LCS LCSD LCS MS MSD RPD Limits **RPD** % Limits Blank % RL % QA/QC Batch 303604 (ug/kg), QC Sample No: BH91949 (BH92149, BH92150, BH92151, BH92152, BH92153, BH92154) Volatiles - Soil 5.0 111 109 1.8 100 105 4.9 70 - 130 30 1,1,1,2-Tetrachloroethane ND 1,1,1-Trichloroethane ND 5.0 108 106 1.9 98 102 4.0 70 - 130 30 109 0.0 97 100 3.0 70 - 130 30 109 ND 5.0 1.1.2.2-Tetrachloroethane 101 100 1.0 97 99 2.0 70 - 130 30 ND 5.0 1,1,2-Trichloroethane 107 0.9 101 104 2.9 70 - 13030 1,1-Dichloroethane ND 5.0 108 ND 5.0 110 106 3.7 87 90 34 70 - 130 30 1,1-Dichloroethene 103 108 70 - 13030 ND 5.0 108 106 1.9 4.7 1,1-Dichloropropene 96 100 4.1 92 93 1.1 70 - 130 30 ND 5.0 1,2,3-Trichloropropane 7.9 92 70 - 130 99 98 1.0 85 30 1,2-Dibromo-3-chloropropane ND 5.0 102 101 1.0 96 99 3.1 70 - 130 30 1,2-Dibromoethane ND 5.0 ND 5.0 104 101 2.9 98 102 4.0 70 - 130 30 1,2-Dichlorobenzene 105 103 1.9 100 103 3.0 70 - 13030 5.0 1,2-Dichloroethane ND 107 2.8 103 104 70 - 130 30 ND 5.0 104 1.0 1,2-Dichloropropane 70 - 130 104 100 3.9 98 102 4.0 30 1.3-Dichlorobenzene ND 5.0 ND 5.0 105 104 1.0 99 101 2.0 70 - 130 30 1,3-Dichloropropane 5.0 103 97 6.0 98 102 4.0 70 - 130 30 1,4-Dichlorobenzene ND 108 0.9 96 101 5.1 70 - 130 30 5.0 109 ND 2,2-Dichloropropane 110 107 2.8 104 107 2.8 70 - 130 30 ND 5.0 102 3.0 30 105 104 1.0 99 70 - 130ND 5.0 ND 5.0 113 110 2.7 96 100 4.1 70 - 130 30 Bromodichloromethane 88 70 - 130 ND 5.0 106 108 1.9 83 5.8 30 ND 95 91 4.3 74 80 7.8 70 - 130 30 5.0 2.7 7.0 70 - 130 5.0 114 111 96 103 30 Carbon tetrachloride ND 106 103 2.9 101 105 3.9 70 - 130 30 ND 5.0 91 88 3.4 34 35 2.9 70 - 130 30 ND 5.0 29 91 94 3.2 70 - 130 30 106 103 ND 5.0 100 97 3.0 113 117 3.5 70 - 130 30 ND 5.0 106 100 104 70 - 13030 108 1.9 3.9 cis-1,2-Dichloroethene ND 5.0 103 ND 5.0 112 109 2.7 99 4.0 70 - 130 30 cis-1,3-Dichloropropene 92 97 5.3 70 - 130 5.0 114 113 0.9 30 Dibromochloromethane ND 105 103 1.9 98 99 1.0 70 - 130 30 ND 5.0 Dibromomethane 110 104 5.6 134 140 4.4 70 - 130 30 Dichlorodifluoromethane ND 5.0 m 109 106 2.8 103 104 1.0 70 - 13030 ND 5.0 ND 5.0 106 103 2.9 101 104 2.9 70 - 130 30 99 70 - 130 105 97 2.0 30 Methyl t-butyl ether (MTBE) ND 10 107 1.9 96 94 2.1 86 84 2.4 70 - 130 30 Methylene chloride ND 5.0 5.0 106 103 2.9 101 103 2.0 70 - 130 30 ND 102 2.9 101 104 2.9 70 - 130 30 ND 5.0 105

105

107

112

103

105

112

1.9

1.9

0.0

100

101

101

104

106

105

3.9

4.8

3.9

70 - 130

70 - 130

70 - 130

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		QA/QC D	SDG I.D.: GBH92148									
Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
trans-1,3-Dichloropropene	ND	5.0		114	111	2.7	99	102	3.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	10		116	117	0.9	95	99	4.1	70 - 130	30	
Trichloroethene	ND	5.0		106	104	1.9	101	104	2.9	70 - 130	30	
Trichlorofluoromethane	ND	5.0		99	97	2.0	28	29	3.5	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0		108	105	2.8	92	95	3.2	70 - 130	30	
Vinyl chloride	ND	5.0		111	109	1.8	114	118	3.4	70 - 130	30	
% 1,2-dichlorobenzene-d4	99	%		100	101	1.0	101	100	1.0	70 - 130	30	
% Bromofluorobenzene	98	%		99	99	0.0	100	100	0.0	70 - 130	30	
% Dibromofluoromethane	100	%		97	97	0.0	94	94	0.0	70 - 130	30	
% Toluene-d8	95	%		100	99	1.0	100	100	0.0	70 - 130	30	
Comment:												
Additional 8260 criteria: 10% of	LCS/LCSD	compou	inds can be outside of accep	otance c	riteria as	long as	recover	y is 40-1	60%.			
QA/QC Batch 303505 (ug/kg), QC Samp	ole No:	BH91952 (BH92148, BH	92149,	BH921	50)						
Polynuclear Aromatic F	IC - Soil											
2-Methylnaphthalene	ND	230		93	94	1.1	100	93	7.3	30 - 130	30	
Acenaphthene	ND	230		81	83	2.4	85	85	0.0	30 - 130	30	
Acenaphthylene	ND	230		83	88	5.8	90	87	3.4	30 - 130	30	
Anthracene	ND	230		90	96	6.5	93	87	6.7	30 - 130	30	
Benz(a)anthracene	ND	230		89	95	6.5	89	83	7.0	30 - 130	30	
Benzo(a)pyrene	ND	230		87	93	6.7	83	80	3.7	30 - 130	30	
Benzo(b)fluoranthene	ND	230		85	97	13.2	89	83	7.0	30 - 130	30	

86

94

89

86

89

86

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87

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83

98

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102

88

95

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104

86

81

13.0

3.2

4.4

6.7

13.6

2.3

8.8

1.1

4.4

13.3

7.2

2.4

94

83

87

92

86

88

88

95

84

91

84

89

86

86

85

92

74

83

86

90

80

77

82

84

8.9

3.6

2.3

0.0

15.0

5.8

2.3

5.4

4.9

16.7

2.4

5.8

30 - 130

30 - 130

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30 - 130

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30 - 130

30 - 130

30 - 130

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% Terphenyl-d14 79 % 89 105 16.5 101 89 12.6 30 - 130 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%)

Benzo(ghi)perylene

Chrysene

Fluorene

Pyrene

Fluoranthene

Naphthalene

Phenanthrene

% 2-Fluorobiphenyl

% Nitrobenzene-d5

Benzo(k)fluoranthene

Dibenz(a,h)anthracene

Indeno(1,2,3-cd)pyrene

ND

69

69

230

230

230

230

230

230

230

230

230

230

%

%

QA/QC Batch 303607 (ug/kg), QC Sample No: BH91955 (BH92148, BH92149 (28X), BH92150 (42X), BH92159 (28X))

Volatiles - Soil											
1,1,1,2-Tetrachloroethane	ND	5.0	106	110	3.7	82	87	5.9	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	102	108	5.7	82	88	7.1	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	5.0	108	111	2.7	85	84	1.2	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	97	100	3.0	82	84	2.4	70 - 130	30	
1,1-Dichloroethane	ND	5.0	105	109	3.7	85	89	4.6	70 - 130	30	
1,1-Dichloroethene	ND	5.0	106	112	5.5	74	79	6.5	70 - 130	30	
1,1-Dichloropropene	ND	5.0	102	108	5.7	86	91	5.6	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	100	102	2.0	80	82	2.5	70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	95	101	6.1	81	82	1.2	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	99	101	2.0	78	80	2.5	70 - 130	30	
1,2,4-Trimethylbenzene	ND	5.0	96	99	3.1	84	86	2.4	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	101	103	2.0	74	77	4.0	70 - 130	30	
1,2-Dibromoethane	ND	5.0	98	103	5.0	81	82	1.2	70 - 130	30	

QA/QC Data

SDG I.D.: GBH92148

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2-Dichlorobenzene	ND	5.0	100	102	2.0	82	85	3.6	70 - 130	30	
1,2-Dichloroethane	ND	5.0	101	105	3.9	84	86	2.4	70 - 130	30	
1,2-Dichloropropane	ND	5.0	101	106	4.8	86	88	2.3	70 - 130	30	
1,3,5-Trimethylbenzene	ND	5.0	101	103	2.0	85	87	2.3	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	100	103	3.0	81	85	4.8	70 - 130	30	
1,3-Dichloropropane	ND	5.0	99	104	4.9	84	86	2.4	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	99	102	3.0	83	85	2.4	70 - 130	30	
2,2-Dichloropropane	ND	5.0	105	109	3.7	80	86	7.2	70 - 130	30	
Benzene	ND	5.0	104	108	3.8	87	90	3.4	70 - 130	30	
Bromobenzene	ND	5.0	99	103	4.0	83	85	2.4	70 - 130	30	
Bromodichloromethane	ND	5.0	108	110	1.8	79	83	4.9	70 - 130	30	
Bromoform	ND	5.0	103	111	7.5	66	70	5.9	70 - 130	30	m
Bromomethane	ND	5.0	95	101	6.1	57	66	14.6	70 - 130	30	m
Carbon tetrachloride	ND	5.0	108	114	5.4	79	87	9.6	70 - 130	30	
Chlorobenzene	ND	5.0	100	104	3.9	84	87	3.5	70 - 130	30	
Chloroethane	ND	5.0	86	93	7.8	28	29	3.5	70 - 130	30	m
Chloroform	ND	5.0	101	105	3.9	78	81	3.8	70 - 130	30	
Chloromethane	ND	5.0	107	114	6.3	91	95	4.3	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0	103	108	4.7	85	88	3.5	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0	107	111	3.7	82	85	3.6	70 - 130	30	
Dibromochloromethane	ND	5.0	107	113	5.5	75	78	3.9	70 - 130	30	
Dibromomethane	ND	5.0	100	104	3.9	82	84	2.4	70 - 130	30	
Dichlorodifluoromethane	ND	5.0	132	137	3.7	101	104	2.9	70 - 130	30	16
Ethylbenzene	ND	5.0	101	106	4.8	85	89	4.6	70 - 130	30	
Isopropylbenzene	ND	5.0	100	102	2.0	87	90	3.4	70 - 130	30	
m&p-Xylene	ND	5.0	100	104	3.9	85	89	4.6	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	10	103	107	3.8	82	83	1.2	70 - 130	30	
Methylene chloride	ND	5.0	92	98	6.3	72	65	10.2	70 - 130	30	m
Naphthalene	ND	5.0	98	103	5.0	81	83	2.4	70 - 130	30	
n-Butylbenzene	ND	5.0	103	104	1.0	86	91	5.6	70 - 130	30	
n-Propylbenzene	ND	5.0	97	99	2.0	86	89	3.4	70 - 130	30	
o-Xylene	ND	5.0	98	103	5.0	84	88	4.7	70 - 130	30	
p-Isopropyltoluene	ND	5.0	101	103	2.0	86	89	3.4	70 - 130	30	
sec-Butylbenzene	ND	5.0	103	105	1.9	86	90	4.5	70 - 130	30	
Styrene	ND	5.0	100	103	3.0	85	87	2.3	70 - 130	30	
tert-Butylbenzene	ND	5.0	100	103	3.0	86	89	3.4	70 - 130	30	
Tetrachloroethene	ND	5.0	100	102	2.0	84	88	4.7	70 - 130	30	
Toluene	ND	5.0	101	105	3.9	85	89	4.6	70 - 130	30	
trans-1,2-Dichloroethene	ND	5.0	110	115	4.4	85	91	6.8	70 - 130	30	
trans-1,3-Dichloropropene	ND	5.0	109	114	4.5	81	85	4.8	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	10	117	122	4.2	81	83	2.4	70 - 130	30	
Trichloroethene	ND	5.0	101	104	2.9	85	88	3.5	70 - 130	30	
Trichlorofluoromethane	ND	5.0	97	101	4.0	24	24	0.0	70 - 130	30	m
Trichlorotrifluoroethane	ND	5.0	103	106	2.9	79	85	7.3	70 - 130	30	
Vinyl chloride	ND	5.0	116	122	5.0	92	98	6.3	70 - 130	30	
% 1,2-dichlorobenzene-d4	99	%	101	99	2.0	101	99	2.0	70 - 130	30	
% Bromofluorobenzene	98	%	99	99	0.0	100	100	0.0	70 - 130	30	
% Dibromofluoromethane	94	%	100	97	3.0	94	93	1.1	70 - 130	30	
% Toluene-d8	95	%	99	100	1.0	99	99	0.0	70 - 130	30	
Comment:											

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

QA/QC Data

SDG I.D.: GBH92148

Parameter	Blank	Blk RL			LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Rec Limits	RPD Limits	
QA/QC Batch 303573 (ug/kg), (50X))	QC Samp	ole No	BH91967	(BH92155,	BH92156,	BH921	57, BH9	92158,	BH9215	59, BH9	92160, E	3H9216	51
Volatiles - Soil													
1,1,1,2-Tetrachloroethane	ND	5.0			105	99	5.9	95	115	19.0	70 - 130	30	
1,1,1-Trichloroethane	ND	5.0			98	95	3.1	94	96	2.1	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	5.0			100	98	2.0	115	120	4.3	70 - 130	30	
1,1,2-Trichloroethane	ND	5.0			95	93	2.1	90	87	3.4	70 - 130	30	
1,1-Dichloroethane	ND	5.0			96	96	0.0	96	99	3.1	70 - 130	30	
1,1-Dichloroethene	ND	5.0			101	94	7.2	92	95	3.2	70 - 130	30	
1,1-Dichloropropene	ND	5.0			103	99	4.0	93	93	0.0	70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0			104	101	2.9	40	40	0.0	70 - 130	30	m
1,2,3-Trichloropropane	ND	5.0			93	91	2.2	118	125	5.8	70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0			108	104	3.8	43	40	7.2	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	5.0			101	99	2.0	93	105	12.1	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0			97	94	3.1	90	97	7.5	70 - 130	30	
1,2-Dibromoethane	ND	5.0			100	99	1.0	87	86	1.2	70 - 130	30	
1,2-Dichlorobenzene	ND	5.0			100	97	3.0	79	85	7.3	70 - 130	30	
1,2-Dichloroethane	ND	5.0			97	95	2.1	95	96	1.0	70 - 130	30	
1,2-Dichloropropane	ND	5.0			99	96	3.1	95	97	2.1	70 - 130	30	
1,3,5-Trimethylbenzene	ND	5.0			106	103	2.9	96	112	15.4	70 - 130	30	
1,3-Dichlorobenzene	ND	5.0			102	101	1.0	82	91	10.4	70 - 130	30	
1,3-Dichloropropane	ND	5.0			101	99	2.0	99	113	13.2	70 - 130	30	
1,4-Dichlorobenzene	ND	5.0			101	97	4.0	83	91	9.2	70 - 130	30	
2,2-Dichloropropane	ND	5.0			99	96	3.1	89	92	3.3	70 - 130	30	
Benzene	ND	5.0			100	98	2.0	94	98	4.2	70 - 130	30	
Bromobenzene	ND	5.0			99	97	2.0	108	107	0.9	70 - 130	30	
Bromodichloromethane	ND	5.0			102	101	1.0	94	97	3.1	70 - 130	30	
Bromoform	ND	5.0			106	101	4.8	88	97	9.7	70 - 130	30	
Bromomethane	ND	5.0			102	98	4.0	79	83	4.9	70 - 130	30	
Carbon tetrachloride	ND	5.0			97	94	3.1	87	97	10.9	70 - 130	30	
Chlorobenzene	ND	5.0			101	97	4.0	86	96	11.0	70 - 130	30	
Chloroethane	ND	5.0			101	97	4.0	99	99	0.0	70 - 130	30	
Chloroform	ND	5.0			98	95	3.1	92	89	3.3	70 - 130	30	
Chloromethane	ND	5.0			89	85	4.6	79	82	3.7	70 - 130	30	
cis-1,2-Dichloroethene	ND	5.0			102	101	1.0	92	97	5.3	70 - 130	30	
cis-1,3-Dichloropropene	ND	5.0			107	104	2.8	89	90	1.1	70 - 130	30	
Dibromochloromethane	ND	5.0			106	102	3.8	98	114	15.1	70 - 130	30	
Dibromomethane	ND	5.0			98	96	2.1	88	91	3.4	70 - 130	30	
Dichlorodifluoromethane	ND	5.0			97	93	4.2	96	96	0.0	70 - 130	30	
Ethylbenzene	ND	5.0			107	102	4.8	95	109	13.7	70 - 130	30	
Isopropylbenzene	ND	5.0			105	103	1.9	109	127	15.3	70 - 130	30	
m&p-Xylene	ND	5.0			105	102	2.9	89	102	13.6	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	10			102	100	2.0	98	104	5.9	70 - 130	30	
Methylene chloride	ND	5.0			101	100	1.0	90	90	0.0	70 - 130	30	
Naphthalene	ND	5.0			108	107	0.9	52	53	1.9	70 - 130	30	m
n-Butylbenzene	ND	5.0			108	103	4.7	63	85	29.7	70 - 130	30	m
n-Propylbenzene	ND	5.0			99	95	4.1	98	111	12.4	70 - 130	30	
o-Xylene	ND	5.0			108	105	2.8	93	103	10.2	70 - 130	30	
p-Isopropyltoluene	ND	5.0			110	106	3.7	78	98	22.7	70 - 130	30	
sec-Butylbenzene	ND	5.0			106	105	0.9	77	102	27.9	70 - 130	30	
Styrene	ND	5.0			107	104	2.8	83	98	16.6	70 - 130	30	
tert-Butylbenzene	ND	5.0			106	104	1.9	91	112	20.7	70 - 130	30	

QA/QC Data

% Blk LCS LCSD LCS MS MSD MS Rec **RPD** Blank RL % % **RPD** % % RPD Limits Limits **Parameter** Tetrachloroethene ND 5.0 105 100 4.9 96 103 7.0 70 - 130 30 ND 100 97 89 92 70 - 130 Toluene 5.0 3.0 3.3 30 ND 5.0 99 98 1.0 87 93 6.7 70 - 130 30 trans-1,2-Dichloroethene 86 trans-1,3-Dichloropropene ND 5.0 107 105 1.9 83 3.6 70 - 130 30 trans-1,4-dichloro-2-butene ND 10 107 106 0.9 105 107 1.9 70 - 130 30 Trichloroethene ND 5.0 102 98 4.0 90 89 1.1 70 - 130 30 98 ND 5.0 94 4.2 97 70 - 130 30 Trichlorofluoromethane 98 1.0 ND 102 98 4.0 90 96 70 - 130 Trichlorotrifluoroethane 5.0 6.5 30 Vinyl chloride ND 5.0 107 103 3.8 88 94 6.6 70 - 130 30 101 % 101 99 2.0 98 103 5.0 70 - 130 30 % 1,2-dichlorobenzene-d4 % Bromofluorobenzene 95 % 103 101 2.0 90 105 15.4 70 - 130 30 97 % 99 94 5.2 97 91 6.4 70 - 130 30 % Dibromofluoromethane

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

QA/QC Batch 303516 (mg/Kg), QC Sample No: BH92016 (BH92148, BH92149, BH92150, BH92151, BH92152, BH92153, BH92154, BH92155, BH92156, BH92157, BH92158, BH92159)

99

100

1.0

94

97

3.1

70 - 130

30

TPH by GC (Extractable Products) - Soil

xt. Petroleum HC	ND	50	72	75	4.1	86	92	6.7	60 - 120	
% п-Pentacosane	88	%	85	91	6.8	90	103	13.5	50 - 150	

I = This parameter is outside laboratory lcs/lcsd specified recovery limits.

101

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

% Toluene-d8

Comment:

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis/Shiller, Laboratory Director

SDG I.D.: GBH92148

April 09, 2015

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

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Sample Criteria Exceedences Report

Thursday, April 09, 2015 Criteria: CT: GAM, RC

Criteria:	Criteria: CT: GAM, RC		GBH92148 - GZA-AMFR					
State: CT	CT						Ē.	Analysis
SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	Criteria	Units
BH92149	\$8010-MAR	Вготобот	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	QN	280	80	80	ng/Kg
BH92150	\$8010-MAR	Bromoform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	270	80	80	ug/Kg
BH92150	\$8100SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (1600	250	1000	1000	ug/Kg
BH92150	\$8100SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (1200	250	1000	1000	ug/Kg
BH92150	\$8100SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (1400	250	1000	1000	ug/Kg
BH92150	\$8100SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	1600	250	1000	1000	ug/Kg
BH92150	\$8100SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	1200	250	1000	1000	ug/Kg
BH92150	\$8100SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	1400	250	1000	1000	ug/Kg
BH92157	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	1800	270	200	200	mg/Kg
BH92157	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	1800	270	200	200	mg/Kg
BH92159	\$8010-MAR	Tetrachloroethene	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	1100	360	100	100	ug/Kg
BH92159	\$8010-MAR	Bromoform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	360	80	80	ug/Kg
BH92159	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	2200	140	200	200	mg/Kg
BH92159	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	2200	140	200	200	mg/Kg

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	oratory Name: Phoenix Environmental Labs, Inc. Client: GZA	GeoEnvironmental, Inc.
Proje	ect Location: AMERBELLE MILLS Project Number:	
Labo	pratory Sample ID(s): BH92148, BH92149, BH92150, BH92151, BH92152, BH92156, BH92157, BH92158, BH92159,	
Sam	pling Date(s): 4/3/2015	
RCP	Methods Used:	
☐ 13	311/1312	☐ EPH ☐ TO15
<u> </u>	082	☐ VPH
1.=	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	✓ Yes □ No
1a.	Were the method specified preservation and holding time requirements met?	✓ Yes □ No
1b.	EPH and VPH methods only: Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)	☐ Yes ☐ No ☑ NA
2.	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?	✓ Yes □ No
3.	Were samples received at an appropriate temperature (< 6 Degrees C)?	✓ Yes □ No □ NA
4.	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Section: VOA Narration.	☐ Yes ☑ No
5a.	Were reporting limits specified or referenced on the chain-of-custody?	✓ Yes □ No
5b.	Were these reporting limits met?	☐ Yes ☑ No ☐ NA
6.	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☐ Yes ☑ No ☐ NA
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	☐ Yes ☑ No ☐ NA
Note:	For all questions to which the response was "No" (with the exception of question #5a, #5 be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the the requirements for "Reasonable Confidence".	
and	e undersigned, attest under the pains and penalties of perjury that, to the belief and based upon my personal inquiry of those responsible for pro- tained in this analytical report, such information is accurate and complet	viding the information
	Date: Thurs	day, April 09, 2015
	horized hature: Printed Name: Ethan	•
	Position: Project	t Manager



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



RCP Certification Report

April 09, 2015

SDG I.D.: GBH92148

BH92148, BH92149, BH92150 - The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

BH92148, BH92149, BH92150, BH92159, BH92160, BH92161 - The client requested a short list of analytes from the 8260 RCP Volatile list. Only the volatile aromatic and halogenated constituents are reported as requested on the chain-of-custody.

BH92151, BH92152, BH92153, BH92154, BH92155, BH92156, BH92157, BH92158 - The client requested a short list of analytes from the 8260 RCP Volatile list. Only the halogenated volatile organic constituents are reported as requested on the chain-of-custody.

BH92149, BH92150, BH92159 - Due to a suppression of the last internal standard in the low level analysis, several compounds are reported from the high level analysis. This resulted in elevated reporting limits for one or more analytes that exceed the requested criteria.

ETPH Narration

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

Instrument: Au-fid1 04/04/15-1 (BH92148, BH92149, BH92150, BH92151)

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

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

Printed Name Jeff Bucko Chemist Date: 4/4/2015

Instrument: Au-fid1 04/06/15-2 (BH92159)

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

As per section 7.2.3, a discrimination check standard was run and contained the following outliers: C9

Printed Name Jeff Bucko Position: Chemist 4/6/2015

Instrument: Au-fid1 04/06/15-3 (BH92153)

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

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







RCP Certification Report

April 09, 2015

SDG I.D.: GBH92148

Printed Name Jeff Bucko
Position: Chemist
Date: 4/6/2015

Instrument: Au-fid84 04/04/15-1 (BH92154, BH92156, BH92157, BH92158, BH92159)

Initial Calibration (FID84 - ETPH_13) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Jeff Bucko Position: Chemist Date: 4/4/2015

Instrument: Au-xl2 04/03/15-2 (BH92152, BH92155)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Jeff Bucko
Position: Chemist
Date: 4/3/2015

QC (Batch Specific)

----- Sample No: BH92016, QA/QC Batch: 303516 -----

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.

PAH Narration

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

Instrument: Chem05 04/03/15-1 (BH92148, BH92149, BH92150)

Initial Calibration Verification (CHEM05/BN_0323):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.



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RCP Certification Report

April 09, 2015

SDG I.D.: GBH92148

Continuing Calibration Verification (CHEM05/0403 04-BN 0323):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Damien Drobinski

Position:

Chemist

Date:

4/3/2015

QC (Batch Specific)

----- Sample No: BH91952, QA/QC Batch: 303505 ------

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.

VOA Narration

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

QC Batch 303607 (Samples: BH92148, BH92149, BH92150, BH92159): ----

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. (Dichlorodifluoromethane)

Instrument:

Chem03 04/03/15-2 (BH92155, BH92156, BH92157, BH92158, BH92159, BH92160,

BH92161)

Initial Calibration Verification (CHEM03/RCPS 0403):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Chloroethane (21%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM03/0403L16-RCPS 0403):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Position:

Jane Li Chemist

Date:

4/3/2015



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RCP Certification Report

April 09, 2015

SDG I.D.: GBH92148

Instrument: Chem15 04/03/15-2 (BH92148, BH92149, BH92150, BH92151, BH92152, BH92153,

BH92154)

Initial Calibration Verification (CHEM15/voa5g_0331):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (28%), Chloroethane (21%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0403B36-voa5g_0331):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name Jane Li Position: Chemist Date: 4/3/2015

Instrument: Chem15 04/04/15-1 (BH92148, BH92149, BH92150, BH92159)

Initial Calibration Verification (CHEM15/voa5g_0331):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (28%), Chloroethane (21%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0404B02-voa5g_0331):

99% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: Acetone (34%)[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.

Printed Name Jane Li Position: Chemist Date: 4/4/2015



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RCP Certification Report

April 09, 2015

SDG I.D.: GBH92148

QC (Batch Specific) Sample No: BH91949, QA/QC Batch: 303604
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.
Sample No: BH91955, QA/QC Batch: 303607
All LCS recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(132%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(137%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Sample No: BH91967, QA/QC Batch: 303573
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.

Temperature Narration

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

Š.	Temp °C Pg / of	ere 200	Christing Eggs Can	P.O:	This section MUST be	completed with	Bottle Quantities.		1 11000 1 250	1000 10	1468.7 1468.7 1460.7	2 8 8 8 8 10 10 10 10 10 10 10 10 10 10 10 10 10													Data Format	X	GIS/Key	EQuIS	Data Package	☐ Tier II Checklist ☐ Full Data Package*	WART Noenix Std Report Other	* SILOCUADOE ADDITION
Coolant:	- 0	Fax:	Email: CAC	Project P.O			0	1////		100 P		50 14 04 150 150 150 150 150 150 150 150 150 150				- &	一 ※	 485		- 6e	- E	- 4	~ 4 ~		-11		SW Protection GW-2			Residential DEC S-2	or MWRA eSMART Other	were collected:
	RECORD	0, Manchester, CT 06040	(860) 645-8726	BELL: PALL	J FREV			11111																		Direct Exposure R RCP Cert (Residential)		<u> </u>	89 []	Resi	Other	State where samples were collected:
	CHAIN OF CUSTODY RECORD	87 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040	60	Project: AMERRELU:	Report to: CHRIS				Analysis) sephan	10000	TO THE PROPERTY OF THE PARTY OF	メメメン	ベスメン	××××	X	*	×	×	X	×	×	×	\ \ \ \ \	tteX Time:	YEIL THIS			Turnaround:] 1 Day⁴ ∏ 2 Days⁴	3 Days*	Other
	CHA	587 East Midd			DRINK FUTTE YOU	l I			4/2/V		W=Wasie water	Date Time Sampled Sampled	H	1040 D	X 0511	X 0481	(350 X	X 20H	× 014:	X 04.41		1510	X 0551		2 0240 X		je.		<u>ਜ</u>			
			Inc.		BRODIC DR			on - Identification	Da		S=Soil SD=Solid V	Sample D Matrix Sar	-,/	<u> </u>	и	7 (8	4	5	5	5	4	-	4	5	7 / 5				ions:			34
	WALL THE	JENIX W	Environmental Laboratories, Inc.	GZA	GSS WINDTINE	TONBURY		Client Sample - Information - Identification	Josh 2		DW=Drinking water CW=Ground water SW=Surface water WW=waste water RW=Raw Water SE=Sediment SL=Studge S=Soil SD=Soild W=Wipe OIL=Oil B=Bulk L=Liquid	Customer Sample Identification	AOC-13-1 (0,5-2)	(C-5-0) 7-51-30H	Acc-17-3 (0.5-2)	ACC-15-1 (0.3-2.3)	RGC-18-1 (7-9)	Acc-18-2 (0.5-2.5)	(5,1-7) (5,5-2) A	ABC-18-3 (05-25)	Dec 18-3 (8-10)		(C1-01) 4-81-200		Shallov: TR 0403 CF Abolisted by	_			Comments, Special Requirements or Regulations:	No II		
			Environment	Customer:	Address: (Vac-			Sampler's Signature	ee:	RW=Raw Water SE=Sedim OIL=Oil B=Bulk L=Liquid	PHOENIX USE ONLY SAMPLE #		92149 1	1 05176	92151	9215	92153	25157	7215		9215+ 1	1 85/26	12159	Relinate heal (by: 7	and 2			Comments, Special	750	(Ø)(£	



Tuesday, April 07, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS #45441

Sample ID#s: BH89849 - BH89857

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301

CT Lab Registration #PH-0618

MA Lab Registration #MA-CT-007

ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

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

VT Lab Registration #VT11301



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

Analysis Report

April 07, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

see "By" below

Sample Information

SOIL

GZA-AMER

Location Code:

Standard

P.O.#:

Matrix:

Custody Information

Laboratory Data

Analyzed by:

Collected by: Received by:

LB

03/30/15 03/30/15

16:29

<u>Time</u>

10:00

SDG ID: GBH89849

Phoenix ID: BH89849

<u>Date</u>

Rush Request:

AMERBELLE MILLS #45441

Project ID: Client ID:

AOC 1-2 (8-10)

RL/

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	95		%	1	03/30/15	ŀ	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/30/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/30/15	BC/V	SW3545A
TPH by GC (Extractab	le Products)					
Ext. Petroleum HC	340	52	mg/Kg	1	04/02/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	04/02/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	84		%	1	04/02/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
Benzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
Chlorobenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
Ethylbenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
sopropylbenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
m&p-Xylene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
Naphthalene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
n-Butylbenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
n-Propylbenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
o-Xylene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C

Client ID: AOC 1-2 (8-10)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
p-Isopropyltoluene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
sec-Butylbenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
Styrene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
tert-Butylbenzene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
Toluene	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
Total Xylenes	ND	4.5	ug/Kg	1	03/30/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	03/30/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	03/30/15	JLI	70 - 130 %
% Dibromofluoromethane	100		%	1	03/30/15	JLI	70 - 130 %
% Toluene-d8	99		%	1	03/30/15	JLI	70 - 130 %
Polynuclear Aromatic	НС						
2-Methylnaphthalene	MD	240	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthylene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Anthracene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Benz(a)anthracene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(a)pyrene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(b)fluoranthene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(ghi)perylene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(k)fluoranthene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Chrysene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Fluoranthene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Fluorene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Naphthalene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Phenanthrene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
Pyrene	ND	240	ug/Kg	1	03/31/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	81		%	1	03/31/15	DĐ	30 - 130 %
% Nitrobenzene-d5	83		%	1	03/31/15	DD	30 - 130 %
% Terphenyl-d14	79		%	1	03/31/15	DD	30 - 130 %
is responding .							

Page 2 of 25 Ver 1

Client ID: AOC 1-2 (8-10)

Parameter Result PQL Units Dilution Date/Time By Reference

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

RL/

Comments:

TPH Comment:

**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C14 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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

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

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

Phyllis Shiller, Laboratory Director

April 07, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Page 3 of 25 Ver 1



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

Analysis Report

April 07, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:SOILCollected by:03/30/1511:20Location Code:GZA-AMERReceived by:LB03/30/1516:29

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH89849

Phoenix ID: BH89850

Project ID: AMERBELLE MILLS #45441

Client ID: AOC 1-1 (8-10)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	91		%	1	03/30/15	ı	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/30/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/30/15	BC/V	SW3545A
TPH by GC (Extractab	le Products	1					
Ext. Petroleum HC	74	55	mg/Kg	1	04/01/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	1	04/01/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	106		%	1	04/01/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
Benzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
Chlorobenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
Ethylbenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
Isopropylbenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
m&p-Xylene	ND	5.2	ug/Kg	1 "	03/30/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
Naphthalene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
n-Butylbenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
n-Propylbenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
o-Xylene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C

Page 4 of 25 Ver 1

Project ID: AMERBELLE MILLS #45441

Client ID: AOC 1-1 (8-10)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
p-Isopropyltoluene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
sec-Butylbenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
Styrene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
tert-Butylbenzene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
Toluene	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
Total Xylenes	ND	5.2	ug/Kg	1	03/30/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	03/30/15	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	03/30/15	JLI	70 - 130 %
% Dibromofluoromethane	102		%	1	03/30/15	JLI	70 - 130 %
% Toluene-d8	97		%	1	03/30/15	JLI	70 - 130 %
Polynuclear Aromatic H	łC						
2-Methylnaphthalene	 ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Anthracene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benz(a)anthracene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(a)pyrene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(b)fluoranthene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(ghi)perylene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(k)fluoranthene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Chrysene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Fluoranthene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Fluorene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Naphthalene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Phenanthrene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Pyrene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	34		%	1	03/31/15	DD	30 - 130 %
% Nitrobenzene-d5	31	14	%	1	03/31/15	DD	30 - 130 %
% Terphenyl-d14	32		%	1	03/31/15	DD	30 - 130 %

Page 5 of 25 Ver 1

Phoenix I.D.: BH89850

Project ID: AMERBELLE MILLS #45441

Client ID: AOC 1-1 (8-10)

Phoenix I.D.: BH89850

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

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

Comments:

TPH Comment:

**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C14 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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

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

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Phyllis Shiller, Laboratory Director

April 07, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President



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

Analysis Report

April 07, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:SOILCollected by:03/30/1511:40Location Code:GZA-AMERReceived by:LB03/30/1516:29

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH89849

Phoenix ID: BH89851

Project ID: AMERBELLE MILLS #45441

Client ID: AOC 2-1 (0.5-2)

RL/ **Parameter PQL** Units Result **Dilution** Date/Time By Reference 89 % 1 03/30/15 SW846-%Solid Percent Solid Completed 03/30/15 BJ/VH SW3545A Soil Extraction SVOA PAH Extraction of CT ETPH Completed 03/30/15 BC/V SW3545A TPH by GC (Extractable Products) Ext. Petroleum HC ND 56 mg/Kg 1 03/31/15 **JRB** CTETPH 8015D Identification ND mg/Kg 1 03/31/15 JRB CTETPH 8015D QA/QC Surrogates 63 % 1 03/31/15 % n-Pentacosane JRB 50 - 150 % **Aromatic Volatiles** 1,2,3-Trichlorobenzene ND 5.3 ug/Kg 1 03/30/15 JLI SW8260C 1,2,4-Trichlorobenzene ND 5.3 ug/Kg 1 03/30/15 JLI SW8260C ND 5.3 1 03/30/15 SW8260C 1,2,4-Trimethylbenzene ug/Kg JLI ND 5.3 ug/Kg 1 03/30/15 JLI SW8260C 1,2-Dichlorobenzene ND 1 03/30/15 SW8260C 1,3,5-Trimethylbenzene 5.3 ug/Kg JLI 1,3-Dichlorobenzene ND 5.3 ug/Kg 1 03/30/15 JLI SW8260C ND 5.3 1 03/30/15 SW8260C 1,4-Dichlorobenzene ug/Kg JLI Benzene ND 5.3 ug/Kg 1 03/30/15 JLI SW8260C 1 SW8260C Chlorobenzene ND 5.3 ug/Kg 03/30/15 JLI ND 5.3 1 03/30/15 JLI SW8260C Ethylbenzene ug/Kg Isopropylbenzene ND 5.3 ug/Kg 1 03/30/15 JLI SW8260C 1 SW8260C ND 5.3 03/30/15 m&p-Xylene ug/Kg JLI SW8260C Methyl t-butyl ether (MTBE) ND 5.3 ug/Kg 1 03/30/15 JLI ND 5.3 1 03/30/15 JLI SW8260C Naphthalene ug/Kg SW8260C n-Butylbenzene ND 5.3 ug/Kg 1 03/30/15 JLI ND 5.3 1 03/30/15 SW8260C n-Propylbenzene ug/Kg JLI o-Xylene ND 5.3 ug/Kg 1 03/30/15 JLI SW8260C

Page 7 of 25 Ver 1

Client ID: AOC 2-1 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
p-Isopropyltoluene	ND	5.3	ug/Kg	1	03/30/15	JLI	SW8260C
sec-Butylbenzene	ND	5.3	ug/Kg	1	03/30/15	JLI	SW8260C
Styrene	ND	5.3	ug/Kg	1	03/30/15	JLI	SW8260C
tert-Butylbenzene	ND	5.3	ug/Kg	1	03/30/15	JLI	SW8260C
Toluene	ND	5.3	ug/Kg	1	03/30/15	JLI	SW8260C
Total Xylenes	ND	5.3	ug/Kg	1	03/30/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	03/30/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	1	03/30/15	JLI	70 - 130 %
% Dibromofluoromethane	102		%	1	03/30/15	JLi	70 - 130 %
% Toluene-d8	99		%	1	03/30/15	JLI	70 - 130 %
Polynuclear Aromatic	HC						
2-Methylnaphthalene	MD	250	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Anthracene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benz(a)anthracene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(a)pyrene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(b)fluoranthene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(ghi)perylene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(k)fluoranthene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Chrysene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Fluoranthene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Fluorene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Naphthalene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Phenanthrene	ND	250	ug/Kg	1	03/31/15	DD	SW8270D
Pyrene	ND	250	ug/ Kg	1	03/31/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	71		%	1	03/31/15	DD	30 - 130 %
% Nitrobenzene-d5	63		%	1	03/31/15	DD	30 - 130 %
% Terphenyl-d14	82		%	1	03/31/15	DD	30 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 07, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Page 8 of 25 Ver 1



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

Analysis Report

April 07, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code: Rush Request:

GZA-AMER

Standard

Custody Information

Collected by:

Received by:

LB

11:50

Time

16:29

Analyzed by:

RI/

see "By" below

Laboratory Data

SDG ID: GBH89849

Phoenix ID: BH89852

<u>Date</u>

03/30/15

03/30/15

Project ID:

AMERBELLE MILLS #45441

Client ID:

P.O.#:

AOC 2-2 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.36	0.36	mg/Kg	1	03/31/15	EK	SW6010C
Arsenic	2.8	0.7	mg/Kg	1	03/31/15	EK	SW6010C
Barium	120	0.36	mg/Kg	1	03/31/15	EK	SW6010C
Cadmium	< 0.36	0.36	mg/Kg	1	03/31/15	EK	SW6010C
Chromium	14.8	0.36	mg/Kg	1	03/31/15	EK	SW6010C
Mercury	0.12	0.03	mg/Kg	1	03/31/15	RS	SW7471B
Lead	90.4	0.36	mg/Kg	1	03/31/15	EK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	03/31/15	EK	SW6010C
Percent Solid	90		%	1	03/30/15	I	SW846-%Solid
Ammonia as Nitrogen	< 27	27	mg/Kg	1	04/01/15	WHM	E350.1
Soil Extraction for SVOA	Completed				03/30/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/30/15	BC/V	SW3545A
Formaldehyde Prep for HPLC	Completed				04/01/15	ML/D	
Mercury Digestion	Completed				03/31/15	1/1	SW7471B
TCLP Extraction for Formaldehyde	Completed				03/31/15	ı	SW1311
Total Metals Digest	Completed				03/30/15	CB/AG	SW3050B
TPH by GC (Extractable	Products	3)					
Ext. Petroleum HC	ND	54	mg/Kg	1	03/31/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	03/31/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	58		%	1	03/31/15	JRB	50 - 150 %
Glycols							
Ethylene glycol	ND	11	mg/Kg	1	04/01/15	JRB	SW8015D GLY
Propylene glycol	ND	11	mg/Kg	1	04/01/15	JRB	SW8015D GLY
QA/QC Surrogates							
% DPG (surrogate)	99		%	1	04/01/15	JRB	70 - 130 %

Page 9 of 25

Ver 1

Phoenix I.D.: BH89852

Project ID: AMERBELLE MILLS #45441

Client ID: AOC 2-2 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Methanol	20	5.6	mg/Kg	1	04/01/15	JRB	SW8015D
Formaldehyde	ND	2200	ug/kg	1	04/02/15	RM	SW8315A
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
Benzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
Chlorobenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
Ethylbenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
Isopropylbenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
m&p-Xylene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
Naphthalene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
n-Butylbenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
n-Propylbenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
o-Xylene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
sec-Butylbenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
Styrene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
tert-Butylbenzene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
Toluene	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
Total Xylenes	ND	5.6	ug/Kg	1	03/30/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	03/30/15	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	03/30/15	JLI	70 - 130 %
% Dibromofluoromethane	99		%	1	03/30/15	JLI	70 - 130 %
% Toluene-d8	99		%	1	03/30/15	JLI	70 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	260	ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
1,2-Dichlorobenzene	ND	370	ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	260	ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
1,3-Dichlorobenzene	ND	260	ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
1,4-Dichlorobenzene				_	03/30/15	DD	SW8270D
2,4,5-Trichlorophenol	ND ND	260 260	ug/Kg ug/Kg	1 1	03/30/15	DD	SW8270D
2,4,6-Trichlorophenol	ND ND	260	ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
2,4-Dichlorophenol			ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
2,4-Dimethylphenol	ND	260 500		1	03/30/15	DD	SW8270D
2,4-Dinitrophenol	ND	590 360	ug/Kg	4	03/30/15	DD	SW8270D SW8270D
2,4-Dinitrotoluene	ND	260 260	ug/Kg	1		DD	SW8270D SW8270D
2,6-Dinitrotoluene	ND	260	ug/Kg	1	03/30/15		
2-Chloronaphthalene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2-Chlorophenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2-Methylnaphthalene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D

Page 10 of 25 Ver 1

Client ID: AOC 2-2 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2-Methylphenol (o-cresol)	ND	260	ug/Kg	4	03/30/15	DD	SW8270D
2-Nitroaniline	ND	590	ug/Kg	1	03/30/15	DD	SW8270D
2-Nitrophenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
3-Nitroaniline	ND	590	ug/Kg	1	03/30/15	DD	SW8270D
I,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	03/30/15	DD	SW8270D
I-Bromophenyl phenyl ether	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
-Chloro-3-methylphenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
l-Chloroaniline	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
-Chlorophenyl phenyl ether	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
-Nitroaniline	ND	590	ug/Kg	1	03/30/15	DD	SW8270D
-Nitrophenol	ND	1100	ug/Kg	1	03/30/15	DD	SW8270D
Acenaphthene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Acenaphthylene	ND	260	ug/Kg	:1	03/30/15	DD	SW8270D
Acetophenone	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
niline	ND	1100	ug/Kg	1	03/30/15	DD	SW8270D
Inthracene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Benz(a)anthracene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
enzidine	ND	440	ug/Kg	1	03/30/15	DD	SW8270D
enzo(a)pyrene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
enzo(b)fluoranthene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
enzo(ghi)perylene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
enzo(k)fluoranthene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
enzoic acid	ND	1100	ug/Kg	1	03/30/15	DD	SW8270D
enzyl butyl phthalate	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
is(2-chloroethoxy)methane	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
is(2-chloroethyl)ether	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
is(2-chloroisopropyl)ether	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
is(2-ethylhexyl)phthalate	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Carbazole	ND	550	ug/Kg	1	03/30/15	DD	SW8270D
Chrysene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
Dibenzofuran	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Diethyl phthalate	ND	260	ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
Dimethylphthalate	ND	260	ug/Kg ug/Kg	1	03/30/15		SW8270D
Pi-n-butylphthalate	ND	260		1		DD DD	
• •	ND	260	ug/Kg	1	03/30/15		SW8270D
i-n-octylphthalate luoranthene	ND	260	ug/Kg	1	03/30/15 03/30/15	DD	SW8270D
luoranmene			ug/Kg			DD	SW8270D
	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
exachlorobenzene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
exachlorobutadiene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
lexachlorocyclopentadiene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
lexachloroethane	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
ndeno(1,2,3-cd)pyrene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
sophorone	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
laphthalene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
litrobenzene	ND	260	ug/Kg	1	03/30/15	ĐD	SW8270D
N-Nitrosodimethylamine	ND	370	ug/Kg	1	03/30/15	DD	SW8270D

Page 11 of 25

Client ID: AOC 2-2 (0.5-2)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
N-Nitrosodi-n-propylamine	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
Pentachloronitrobenzene	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
Pentachlorophenol	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
Phenanthrene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Phenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Pyrene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Pyridine	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	93		%	1	03/30/15	DD	30 - 130 %
% 2-Fluorobiphenyl	82		%	1	03/30/15	DD	30 - 130 %
% 2-Fluorophenol	72		%	1	03/30/15	DD	30 - 130 %
% Nitrobenzene-d5	75		%	1	03/30/15	DD	30 - 130 %
% Phenol-d5	79		%	1	03/30/15	DD	30 - 130 %
% Terphenyl-d14	94		%	1	03/30/15	DD	30 - 130 %

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

Comments:

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

Ammonia:

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.

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

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

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

Phyllis Shiller, Laboratory Director

April 07, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President



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

Analysis Report

April 07, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

SOIL

Location Code: GZA-AMER

Rush Request:

Standard

Custody Information

Collected by:

Received by:

Analyzed by:

LB

see "By" below

P.O.#:

Matrix:

Laboratory Data

SDG ID: GBH89849

<u>Time</u>

12:00

16:29

Ver 1

Phoenix ID: BH89853

<u>Date</u>

03/30/15

03/30/15

Project ID:

AMERBELLE MILLS #45441

Client ID:

AOC 2-3 (0.5-2)

Parameter	Dogult	RL/	l lmita	Dilution	Dete/Time	D	Deference
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	88		%	1	03/30/15	1	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/30/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/30/15	BC/V	SW3545A
TPH by GC (Extractable	e Products)					
Ext. Petroleum HC	ND	56	mg/Kg	1	03/31/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	03/31/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	62		%	1	03/31/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
Benzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
Chlorobenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
Ethylbenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
Isopropylbenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
m&p-Xylene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
Naphthalene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
n-Butylbenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
n-Propylbenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
o-Xylene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C

Page 13 of 25

Client ID: AOC 2-3 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
p-Isopropyltoluene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
sec-Butylbenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
Styrene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
tert-Butylbenzene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
Toluene	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
Total Xylenes	ND	4.7	ug/Kg	1	03/30/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	03/30/15	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	03/30/15	JLI	70 - 130 %
% Dibromofluoromethane	101		%	1	03/30/15	JLI	70 - 130 %
% Toluene-d8	97		%	1	03/30/15	JLI	70 - 130 %
Polynuclear Aromatic H	IC						
2-Methylnaphthalene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthylene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Anthracene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Benz(a)anthracene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(a)pyrene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(b)fluoranthene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(ghi)perylene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(k)fluoranthene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Chrysene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Fluoranthene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Fluorene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Naphthalene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Phenanthrene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
Pyrene	ND	260	ug/Kg	1	03/31/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	75		%	1	03/31/15	DD	30 - 130 %
% Nitrobenzene-d5	70		%	1	03/31/15	DD	30 - 130 %
% Terphenyl-d14	77		%	1	03/31/15	DD	30 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 07, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Page 14 of 25 Ver 1



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

Analysis Report

April 07, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: SOIL

Location Code: GZA-AMER

Rush Request:

Standard

Custody Information
Collected by:

Received by:

Analyzed by:

LB

see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH89849

<u>Time</u>

13:00

16:29

Phoenix ID: BH89854

<u>Date</u>

03/30/15

03/30/15

Project ID:

AMERBELLE MILLS #45441

Client ID:

AOC 3-1 (0.5-2)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.34	0.34	mg/Kg	1	03/31/15	EK	SW6010C
Arsenic	1.7	0.7	mg/Kg	1	03/31/15	EK	SW6010C
Barium	39.9	0.34	mg/Kg	1	03/31/15	EK	SW6010C
Cadmium	< 0.34	0.34	mg/Kg	1	03/31/15	EK	SW6010C
Chromium	11.1	0.34	mg/Kg	1	03/31/15	EK	SW6010C
Mercury	< 0.03	0.03	mg/Kg	1	03/31/15	RS	SW7471B
Lead	11.0	0.34	mg/Kg	1	03/31/15	EK	SW6010C
Selenium	< 1.4	1.4	mg/Kg	1	03/31/15	EK	SW6010C
Percent Solid	86		%	1	03/30/15	1	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/30/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/30/15	BC/V	SW3545A
Mercury Digestion	Completed				03/31/15	1/1	SW7471B
Total Metals Digest	Completed				03/30/15	CB/AG	SW3050B
TPH by GC (Extractab	le Products	3)					
Ext. Petroleum HC	ND	57	mg/Kg	1	03/31/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	03/31/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	61		%	1	03/31/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
1,0 Didiliolopolizono							

Page 15 of 25 Ver 1

Project ID: AMERBELLE MILLS #45441

Client ID: AOC 3-1 (0.5-2)

Client ID: AUC 3-1 (0.5	1-2)	51.7					
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Benzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
Chlorobenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
Ethylbenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
Isopropylbenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
m&p-Xylene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
Naphthalene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
n-Butylbenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
n-Propylbenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
o-Xylene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
p-Isopropyltoluene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
sec-Butylbenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
Styrene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
tert-Butylbenzene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
Toluene	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
Total Xylenes	ND	5.1	ug/Kg	1	03/31/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	03/31/15	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	03/31/15	JLÍ	70 - 130 %
% Dibromofluoromethane	71		%	1	03/31/15	JLI	70 - 130 %
% Toluene-d8	99		%	1	03/31/15	JLI	70 - 130 %
Polynuclear Aromatic	HC_						
2-Methylnaphthalene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Anthracene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Benz(a)anthracene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(a)pyrene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(b)fluoranthene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(ghi)perylene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Benzo(k)fluoranthene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Chrysene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Fluoranthene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Fluorene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Naphthalene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Phenanthrene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
Pyrene	ND	270	ug/Kg	1	03/31/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	1	03/31/15	DD	30 - 130 %
% Nitrobenzene-d5	72		%	1	03/31/15	DD	30 - 130 %
% Terphenyl-d14	80		%	1	03/31/15	DD	30 - 130 %
•							

Page 16 of 25 Ver 1

Phoenix I.D.: BH89854

Client ID: AOC 3-1 (0.5-2)

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

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

Comments:

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

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

Phyllis Shiller, Laboratory Director

April 07, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Page 17 of 25 Ver 1



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

Analysis Report

April 07, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

SDG ID: GBH89849 Phoenix ID: BH89855

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:SOILCollected by:03/30/1513:10Location Code:GZA-AMERReceived by:LB03/30/1516:29

Laboratory Data

Duck Democrate Chanderd Analyzed by the Bull helevy

Rush Request: Standard Analyzed by: see "By" below

Project ID: AMERBELLE MILLS #45441

Project ID: AMERBELLE MIL
Client ID: AOC 3-2 (4-6)

P.O.#:

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.41	0.41	mg/Kg	1	03/31/15	EK	SW6010C
Arsenic	0.8	8.0	mg/Kg	1	03/31/15	EK	SW6010C
Barium	614	0.41	mg/Kg	1	03/31/15	EK	SW6010C
Cadmium	< 0.41	0.41	mg/Kg	1	03/31/15	EK	SW6010C
Chromium	44.4	0.41	mg/Kg	1	03/31/15	EK	SW6010C
Mercury	< 0.03	0.03	mg/Kg	1	03/31/15	RS	SW7471B
Lead	3.94	0.41	mg/Kg	1	03/31/15	EK	SW6010C
Selenium	< 1.6	1.6	mg/Kg	1	03/31/15	EK	SW6010C
Percent Solid	88		%	1	03/30/15	I .	SW846-%Solid
Soil Extraction for SVOA	Completed				03/30/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/30/15	BC/V	SW3545A
Formaldehyde Prep for HPLC	Completed				04/01/15	ML/D	
Mercury Digestion	Completed				03/31/15	1/1	SW7471B
TCLP Extraction for Formaldehyde	Completed				03/31/15	l	SW1311
Total Metals Digest	Completed				03/30/15	CB/AG	SW3050B
TPH by GC (Extractable	e Products	<u>s)</u>					
Ext. Petroleum HC	ND	56	mg/Kg	1	03/31/15	JRB	CTETPH 8015D
dentification	ND		mg/Kg	1	03/31/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	83		%	1	03/31/15	JRB	50 - 150 %
Glycols							
Ethylene glycol	ND	11	mg/Kg	1	04/01/15	JRB	SW8015D GLY
Propylene glycol	ND	11	mg/Kg	1	04/01/15	JRB	SW8015D GLY
QA/QC Surrogates							
% DPG (surrogate)	83		%	1	04/01/15	JRB	70 - 130 %
Methanol	18	5.7	mg/Kg	1	04/01/15	JRB	SW8015D

Client ID: AOC 3-2 (4-6)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Formaldehyde	6100	2300	ug/kg	1	04/02/15	RM	SW8315A
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
Benzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
Chlorobenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
Ethylbenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
Isopropylbenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
m&p-Xylene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
Naphthalene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
n-Butylbenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
n-Propylbenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
o-Xylene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
p-Isopropyltoluene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
sec-Butylbenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
Styrene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
tert-Butylbenzene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
Toluene	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
Total Xylenes	ND	4.8	ug/Kg	1	03/31/15	JLI	SW8260C
QA/QC Surrogates			-55	·	33.3 3		01102000
% 1,2-dichlorobenzene-d4	100		%	1	03/31/15	JLI	70 - 130 %
% Bromofluorobenzene	107		%	1	03/31/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	03/31/15	JLI	70 - 130 %
% Toluene-d8	99		%	1	03/31/15	JLI	70 - 130 %
				15	33,31,13	02.	76 166 76
<u>Semivolatiles</u>			***	oan			
1,2,4,5-Tetrachlorobenzene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
1,2-Dichlorobenzene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
1,3-Dichlorobenzene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
1,4-Dichlorobenzene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2,4-Dichlorophenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2,4-Dimethylphenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2,4-Dinitrophenol	ND	590	ug/Kg	1	03/30/15	DD	SW8270D
2,4-Dinitrotoluene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2,6-Dinitrotoluene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2-Chloronaphthalene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2-Chlorophenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2-Methylnaphthalene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	260	ug/Kg	1	03/30/15	DD	SW8270D

Page 19 of 25 Ver 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2-Nitroaniline	ND	590	ug/Kg	1	03/30/15	DD	SW8270D
2-Nitrophenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
3-Nitroaniline	ND	590	ug/Kg	1	03/30/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1100	ug/Kg	1	03/30/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
4-Chloroaniline	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
4-Nitroaniline	ND	590	ug/Kg	1	03/30/15	DD	SW8270D
4-Nitrophenol	ND	1100	ug/Kg	1	03/30/15	DD	SW8270D
Acenaphthene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Acenaphthylene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Acetophenone	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Aniline	ND	1100	ug/Kg	1	03/30/15	DD	SW8270D
Anthracene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Benz(a)anthracene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Benzidine	ND	440	ug/Kg	1	03/30/15	DD	SW8270D
Benzo(a)pyrene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Benzo(b)fluoranthene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Benzo(ghi)perylene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Benzo(k)fluoranthene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Benzoic acid	ND	1100	ug/Kg	1	03/30/15	DD	SW8270D
Benzyl butyl phthalate	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Carbazole	ND	550	ug/Kg	1	03/30/15	DD	SW8270D
Chrysene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Dibenzofuran	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Diethyl phthalate	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Dimethylphthalate	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Di-n-butylphthalate	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Di-n-octylphthalate	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Fluoranthene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Fluoranmene Fluorene	ND	260	ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
	ND	260	ug/Kg ug/Kg	1	03/30/15	DD	SW8270D
Hexachlorobenzene	ND	260		1	03/30/15	DD	SW8270D
Hexachlorobutadiene			ug/Kg		03/30/15		
Hexachlorocyclopentadiene	ND	260 260	ug/Kg	1		DD	SW8270D
Hexachloroethane	ND	260 260	ug/Kg		03/30/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Isophorone	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Naphthalene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Nitrobenzene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
N-Nitrosodimethylamine	ND	370	ug/Kg	1	03/30/15	DD 	SW8270D
N-Nitrosodi-n-propylamine	ND	260	ug/Kg	1	03/30/15	DD	SW8270D

Page 20 of 25 Ver 1

Phoenix I.D.: BH89855

Client ID: AOC 3-2 (4-6)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
N-Nitrosodiphenylamine	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
Pentachloronitrobenzene	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
Pentachlorophenol	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
Phenanthrene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Phenol	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Pyrene	ND	260	ug/Kg	1	03/30/15	DD	SW8270D
Pyridine	ND	370	ug/Kg	1	03/30/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	90		%	1	03/30/15	DD	30 - 130 %
% 2-Fluorobiphenyl	67		%	1	03/30/15	DD	30 - 130 %
% 2-Fluorophenol	64		%	1	03/30/15	DD	30 - 130 %
% Nitrobenzene-d5	64		%	1	03/30/15	DD	30 - 130 %
% Phenol-d5	72		%	1	03/30/15	DD	30 - 130 %
% Terphenyl-d14	76		%	_1	03/30/15	DD	30 - 130 %

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 07, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President



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

Analysis Report

April 07, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

LB

Glastonbury, CT 06033

Sample Information

SOIL

Collected by:

DI /

250

250

ND

ND

99

97

Date 03/30/15 Time

Location Code:

Matrix:

GZA-AMER

Received by:

03/30/15

9:20 16:29

Rush Request:

Standard

Analyzed by: see "By" below

Custody Information

SDG ID: GBH89849

P.O.#:

Laboratory Data

Phoenix ID: BH89856

Project ID:

tert-Butylbenzene

% 1,2-dichlorobenzene-d4

% Bromofluorobenzene

Total Xylenes QA/QC Surrogates

Toluene

AMERBELLE MILLS #45441

Client ID:

TB 033015 HIGH

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
Aromatic Volatiles								
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	03/30/15	JLI	SW8260C	
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	03/30/15	JLI	SW8260C	
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	03/30/15	JLI	SW8260C	
1,2-Dichlorobenzene	ND	250	ug/Kg	50	03/30/15	JLI	SW8260C	
4.0.5 T-i	ND	250	ualVa	EΩ	02/20/45	11.1	CMRSCOC	

03/30/15

03/30/15

03/30/15

03/30/15

JLI

JLI

JLI

SW8260C

SW8260C

70 - 130 %

70 - 130 %

50

50

50

50

ug/Kg

ug/Kg

%

%

Client ID: TB 033015 HIGH

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
% Dibromofluoromethane	100		%	50	03/30/15	JLI	70 - 130 %
% Toluene-d8	97		%	50	03/30/15	JLI	70 - 130 %

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

Comments:

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

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

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

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Phyllis Shiller, Laboratory Director

April 07, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Ver 1



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

Analysis Report

April 07, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample InformationCustody InformationDateTimeMatrix:SOILCollected by:03/30/150:00Location Code:GZA-AMERReceived by:LB03/30/1516:29

Rush Request: S

Standard

Analyzed by:

RL/

see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH89849

Phoenix ID: BH89857

Project ID:

AMERBELLE MILLS #45441

Client ID:

TB 033015 LOW

Result	PQL	Units	Dilution	Date/Time	Ву	Reference
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
ND	5.0	ug/Kg	1	03/30/15	JLI	SW8260C
99		%	1	03/30/15	JLI	70 - 130 %
98		%	1	03/30/15	JLI	70 - 130 %
	ND N	ND 5.0 ND 5.0	Result PQL Units ND 5.0 ug/Kg ND 5.0 <td>ND 5.0 ug/Kg 1 ND 5.0 ug/Kg 1</td> <td>Result PQL Units Dilution Date/Time ND 5.0 ug/Kg 1 03/30/15 ND 5.0 ug/Kg 1 03/30/15</td> <td> ND 5.0 Ug/Kg 1 03/30/15 JLI ND 5.0 Ug/Kg 1 03/30/15 JLI </td>	ND 5.0 ug/Kg 1 ND 5.0 ug/Kg 1	Result PQL Units Dilution Date/Time ND 5.0 ug/Kg 1 03/30/15 ND 5.0 ug/Kg 1 03/30/15	ND 5.0 Ug/Kg 1 03/30/15 JLI ND 5.0 Ug/Kg 1 03/30/15 JLI

Project ID: AMERBELLE MILLS #45441

Client ID: TB 033015 LOW

Phoenix I.D.: BH89857

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
% Dibromofluoromethane	103		%	1	03/30/15	JLI	70 - 130 %
% Toluene-d8	98		%	1	03/30/15	JLI	70 - 130 %

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

Comments:

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

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

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

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Phyllis Shiller, Laboratory Director

April 07, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President



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

QA/QC Report

April 07, 2015

QA/QC Data

SDG I.D.: GBH89849

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 303052 (m	ng/kg), QC Sample	No: BH8949	5 (BH89	852)								ėl	
Mercury - Soil	BRL	< 0.03	<0.03	NC	104	107	2.8	115	108	6.3	70 - 130	30	
Comment:													
Additional Mercury criteria	: LCS acceptance ran	ge for waters	is 80-120	% and fo	or soils i	s 70-130 ⁴	%.						
QA/QC Batch 302964 (m	ng/kg), QC Sample	No: BH8987	1 (BH89	852, BH	189854	, BH898	355)						
ICP Metals - Soil													
Arsenic	BRL	2.2	1.96	NC	92.1	99.2	7.4	95.5	93.6	2.0	75 - 125	30	
Barium	BRL	25.1	24.2	3.70	92.6	95.1	2.7	103	102	1.0	75 - 125	30	
Cadmium	BRL	<0.38	< 0.36	NC	91.5	93.9	2.6	95.6	94.7	0.9	75 - 125	30	
Chromium	BRL	16.7	15.8	5.50	94.2	98.1	4.1	99.9	98.4	1.5	75 - 125	30	
Lead	BRL	6.0	5.98	0.30	91.2	98.4	7.6	95.3	94.0	1.4	75 - 125	30	
Selenium	BRL	<1.5	<1.4	NC	88.8	94.3	6.0	85.3	83.5	2.1	75 - 125	30	
Silver	BRL	<0.38	< 0.36	NC	93.9	99.2	5.5	98.4	96.3	2.2	75 - 125	30	
QA/QC Batch 303053 (m	ng/kg), QC Sample	No: BH8991	4 (BH89	854, BI	H89855	i)							
Mercury - Soil	BRL	0.43	0.32	29.3	105	99.8	5.1	73.7	104	34.1	70 - 130	30	m,r
Comment:													
Additional Mercury criteria	: LCS acceptance ran	nge for waters	is 80-120	% and fe	or soils i	s 70-130	%.						

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



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

Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

April 07, 2015

QA/QC Data

SDG I.D.: GBH89849

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 303156 (mg/	L), QC Sample No	: BH90440	(BH898	52)									
Ammonia as Nitrogen	BRL	0.52	0.47	10.1	105			101			85 - 115	20	



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QA/QC Report

April 07, 2015

QA/QC Data

SDG I.D.: GBH89849

	OC Sample No. BH99939 /		%	RPD	%	%	RPD	Limits	Limits	
QA/QC Batch 303093 (ug/kg) (50X), BH89857)	, QC Sample No. Bridges (BH89849, BH89850,	BH898	51, BH8	39852,	BH8985	3, BH8	39855, E	3H898	56
Volatiles - Soil										
1,2,3-Trichlorobenzene	ND	100	93	7.3	74	53	33.1	70 - 130	30	m,r
1,2,4-Trichlorobenzene	ND	98	93	5.2	76	55	32.1	70 - 130	30	m,r
1,2,4-Trimethylbenzene	ND	95	92	3.2	109	91	18.0	70 - 130	30	
1,2-Dichlorobenzene	ND	99	96	3.1	98	78	22.7	70 - 130	30	
1,3,5-Trimethylbenzene	ND	99	95	4.1	114	96	17.1	70 - 130	30	
1,3-Dichlorobenzene	ND	99	94	5.2	98	78	22.7	70 - 130	30	
1,4-Dichlorobenzene	ND	97	94	3.1	97	76	24.3	70 - 130	30	
Benzene	ND	101	97	4.0	113	102	10.2	70 - 130	30	
Chlorobenzene	ND	97	93	4.2	103	88	15.7	70 - 130	30	
Ethylbenzene	ND	100	97	3.0	111	97	13.5	70 - 130	30	
Isopropylbenzene	ND	99	96	3.1	118	102	14.5	70 - 130	30	
m&p-Xylene	ND	99	95	4.1	107	92	15.1	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	106	103	2.9	113	105	7.3	70 - 130	30	
Naphthalene	ND	102	97	5.0	67	45	39.3	70 - 130	30	m,r
n-Butylbenzene	ND	96	93	3.2	102	81	23.0	70 - 130	30	
n-Propylbenzene	ND	93	89	4.4	112	95	16.4	70 - 130	30	
o-Xylene	ND	101	97	4.0	112	97	14.4	70 - 130	30	
p-isopropyltoluene	ND	98	94	4.2	113	94	18.4	70 - 130	30	
sec-Butylbenzene	ND	101	98	3.0	110	93	16.7	70 - 130	30	
Styrene	ND	100	95	5.1	98	81	19.0	70 - 130	30	
tert-Butylbenzene	ND	98	95	3.1	116	100	14.8	70 - 130	30	
Toluene	ND	101	97	4.0	112	99	12.3	70 - 130	30	
% 1,2-dichlorobenzene-d4	99	101	101	0.0	100	100	0.0	70 - 130	30	
% Bromofluorobenzene	97	101	100	1.0	98	97	1.0	70 - 130	30	
% Dibromofluoromethane	97	101	97	4.0	103	100	3.0	70 - 130	30	
% Toluene-d8 Comment:	97	101	100	1.0	100	101	1.0	70 - 130	30	
Additional 8260 criteria: 10% of	LCS/LCSD compounds can be	outside of acceptance of	riteria as	long as	recove	ry is 40-10	60%.			
QA/QC Batch 302832 (ug/Kg)), QC Sample No: BH89420	(BH89852, BH89855)							
Semivolatiles - Soil	•									
1,2,4,5-Tetrachlorobenzene	ND	81	82	1.2	91	94	3.2	30 - 130	30	
1,2,4-Trichlorobenzene	ND	80	78	2.5	92	84	9.1	30 - 130		
1,2-Dichlorobenzene	ND	78	75	3.9	81	82	1.2	30 - 130		
1,2-Diphenylhydrazine	ND	86	97	12.0	99	<10	NC	30 - 130		m
1,3-Dichlorobenzene	ND	76	72	5.4	79	79	0.0	30 - 130		
1,4-Dichlorobenzene	ND	78	74	5.3	81	82	1.2	30 - 130		
2,4,5-Trichlorophenol	ND	109	104	4.7	84	87	3.5	30 - 130		
2,4,6-Trichlorophenol	ND	112	104	7.4	89	94	5.5	30 - 130		
2,4-Dichlorophenol	ND	90	90	0.0	106	91	15.2	30 - 130		
2,4-Dimethylphenol	ND	81	82	1.2	94	85	10.1	30 - 130		

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Parameter	Blank	LC: %		LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2,4-Dinitrophenol	ND	39	,	39	0.0	44	49	10.8	30 - 130	30	
2,4-Dinitrotoluene	ND	10	1	101	0.0	109	112	2.7	30 - 130	30	
2,6-Dinitrotoluene	ND	100	0	97	3.0	95	101	6.1	30 - 130	30	
2-Chloronaphthalene	ND	94	ļ	87	7.7	79	80	1.3	30 - 130	30	
2-Chlorophenol	ND	89)	87	2.3	92	95	3.2	30 - 130	30	
2-Methylnaphthalene	ND	91	l	84	8.0	105	140	28.6	30 - 130	30	m
2-Methylphenol (o-cresol)	ND	92	2	90	2.2	91	85	6.8	30 - 130	30	
2-Nitroaniline	ND	105	5	117	10.8	94	92	2.2	30 - 130	30	
2-Nitrophenol	ND	97	7	93	4.2	139	160	14.0	30 - 130	30	m
3&4-Methylphenol (m&p-cresol)	ND	94	ļ	95	1.1	86	84	2.4	30 - 130	30	
3,3'-Dichlorobenzidine	ND	56	ì	65	14.9	57	62	8.4	30 - 130	30	
3-Nitroaniline	ND	63	3	69	9.1	65	73	11.6	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	55	5	58	5.3	82	79	3.7	30 - 130	30	
4-Bromophenyl phenyl ether	ND	96	6	89	7.6	96	103	7.0	30 - 130	30	
4-Chloro-3-methylphenol	ND	94	ļ	96	2.1	93	95	2.1	30 - 130	30	
4-Chloroaniline	ND	39)	46	16.5	49	52	5.9	30 - 130	30	
4-Chlorophenyl phenyl ether	ND	85	5	93	9.0	105	106	0.9	30 - 130	30	
4-Nitroaniline	ND	109	9	107	1.9	85	87	2.3	30 - 130	30	
4-Nitrophenol	ND	97	7	103	6.0	83	80	3.7	30 - 130	30	
Acenaphthene	ND	86	6	90	4.5	95	99	4.1	30 - 130	30	
Acenaphthylene	ND	89)	88	1.1	85	86	1.2	30 - 130	30	
Acetophenone	ND	95	5	93	2.1	123	133	7.8	30 - 130	30	m
Aniline	ND	47	,	51	8.2	34	39	13.7	30 - 130	30	
Anthracene	ND	95	5	94	1.1	93	96	3.2	30 - 130	30	
Benz(a)anthracene	ND	89)	93	4.4	86	91	5.6	30 - 130	30	
Benzidine	ND	30)	36	18.2	<10	<10	NC	30 - 130	30	m
Benzo(a)pyrene	ND	82	2	83	1.2	76	79	3.9	30 - 130	30	
Benzo(b)fluoranthene	ND	79)	79	0.0	74	80	7.8	30 - 130	30	
Benzo(ghi)perylene	ND	103	3	102	1.0	99	101	2.0	30 - 130	30	
Benzo(k)fluoranthene	ND	79)	83	4.9	78	74	5.3	30 - 130	30	
Benzoic Acid	ND	11		<10	NC	62	71	13.5	30 - 130	30	1
Benzyl butyl phthalate	ND	88	3	97	9.7	76	77	1.3	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	86	5	85	1.2	101	91	10.4	30 - 130	30	
Bis(2-chloroethyl)ether	ND	78	3	75	3.9	82	82	0.0	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	86	6	87	1.2	84	82	2.4	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	104	4	108	3.8	89	92	3.3	30 - 130	30	
Carbazole	ND	93	3	96	3.2	79	81	2.5	30 - 130	30	
Chrysene	ND	95	5	98	3.1	91	96	5.3	30 - 130	30	
Dibenz(a,h)anthracene	ND	10	1	99	2.0	94	96	2.1	30 - 130	30	
Dibenzofuran	ND	97	'	93	4.2	99	101	2.0	30 - 130	30	
Diethyl phthalate	ND	86	3	96	11.0	111	108	2.7	30 - 130	30	
Dimethylphthalate	ND	95	5	94	1.1	96	97	1.0	30 - 130	30	
Di-n-butylphthalate	ND	98	}	96	2.1	65	67	3.0	30 - 130	30	
Di-n-octylphthalate	ND	124	4	122	1.6	119	123	3.3	30 - 130	30	
Fluoranthene	ND	89)	87	2.3	51	55	7.5	30 - 130	30	
Fluorene	ND	83	3	92	10.3	112	114	1.8	30 - 130	30	
Hexachlorobenzene	ND	97		89	8.6	98	93	5.2	30 - 130	30	
Hexachlorobutadiene	ND	80)	77	3.8	87	88	1.1	30 - 130	30	
Hexachlorocyclopentadiene	ND	85	5	81	4.8	67	69	2.9	30 - 130	30	
Hexachloroethane	ND	80)	74	7.8	105	113	7.3	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	99)	97	2.0	92	94	2.2	30 - 130	30	
Isophorone	ND	83	3	83	0.0	103	89	14.6	30 - 130	30	
Naphthalene	ND	84	ļ	79	6.1	88	98	10.8	30 - 130	30	

QA/QC Data		SDG I.I	D.: GI	BH898	49
100	 	 MOD	140	%	%

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Rec Limits	RPD Limits	
Nitrobenzene	ND	90	90	0.0	87	83	4.7	30 - 130	30	
N-Nitrosodimethylamine	ND	72	70	2.8	83	66	22.8	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	96	96	0.0	92	90	2.2	30 - 130	30	
N-Nitrosodiphenylamine	ND	88	98	10.8	190	200	5.1	30 - 130	30	m
Pentachloronitrobenzene	ND	101	95	6.1	93	90	3.3	30 - 130	30	
Pentachlorophenol	ND	87	85	2.3	81	82	1.2	30 - 130	30	
Phenanthrene	ND	96	91	5.3	108	118	8.8	30 - 130	30	
Phenol	ND	92	91	1.1	90	91	1.1	30 - 130	30	
Pyrene	ND	90	86	4.5	54	58	7.1	30 - 130	30	
Pyridine	ND	55	52	5.6	65	49	28.1	30 - 130	30	
% 2,4,6-Tribromophenol	98	117	99	16.7	101	106	4.8	30 - 130	30	
% 2-Fluorobiphenyl	81	92	86	6.7	73	73	0.0	30 - 130	30	
% 2-Fluorophenol	77	80	79	1.3	85	86	1.2	30 - 130	30	
% Nitrobenzene-d5	91	88	88	0.0	92	92	0.0	30 - 130	30	
% Phenol-d5	86	90	89	1.1	87	90	3.4	30 - 130	30	
% Terphenyl-d14	98	90	81	10.5	47	48	2.1	30 - 130	30	
Comment:										

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 302951 (ug/kg), QC Sample No: BH89475 (BH89849, BH89850, BH89851, BH89853, BH89854)

Polynuclear Aromatic	HC - Soil								
2-Methylnaphthalene	ND	85	78	8.6	83	80	3.7	30 - 130	30
Acenaphthene	ND	87	85	2.3	85	87	2.3	30 - 130	30
Acenaphthylene	ND	85	84	1.2	80	78	2.5	30 - 130	30
Anthracene	ND	91	92	1.1	87	89	2.3	30 - 130	30
Benz(a)anthracene	ND	89	92	3.3	86	88	2.3	30 - 130	30
Benzo(a)pyrene	ND	89	90	1.1	71	77	8.1	30 - 130	30
Benzo(b)fluoranthene	ND	88	90	2.2	70	74	5.6	30 - 130	30
Benzo(ghi)perylene	ND	96	92	4.3	83	78	6.2	30 - 130	30
Benzo(k)fluoranthene	ND	87	87	0.0	75	80	6.5	30 - 130	30
Chrysene	ND	95	99	4.1	88	93	5.5	30 - 130	30
Dibenz(a,h)anthracene	ND	99	98	1.0	88	88	0.0	30 - 130	30
Fluoranthene	ND	83	90	8.1	55	61	10.3	30 - 130	30
Fluorene	ND	94	88	6.6	90	94	4.3	30 - 130	30
Indeno(1,2,3-cd)pyrene	ND	99	98	1.0	81	81	0.0	30 - 130	30
Naphthalene	ND	77	74	4.0	82	78	5.0	30 - 130	30
Phenanthrene	ND	90	92	2.2	96	113	16.3	30 - 130	30
Pyrene	ND	82	88	7.1	51	53	3.8	30 - 130	30
% 2-Fluorobiphenyl	66	79	79	0.0	76	74	2.7	30 - 130	30
% Nitrobenzene-d5	72	87	84	3.5	91	85	6.8	30 - 130	30
% Terphenyl-d14	80	79	84	6.1	44	45	2.2	30 - 130	30

Comment:

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

QA/QC Batch 303219 (ug/kg), QC Sample No: BH89727 (BH89854)

Volatiles - Soil									
1,2,3-Trichlorobenzene	ND	91	89	2.2	87	89	2.3	70 - 130	30
1,2,4-Trichlorobenzene	ND	90	86	4.5	88	90	2.2	70 - 130	30
1,2,4-Trimethylbenzene	ND	89	87	2.3	92	92	0.0	70 - 130	30
1,2-Dichlorobenzene	ND	92	91	1.1	94	96	2.1	70 - 130	30
1,3,5-Trimethylbenzene	ND	92	91	1.1	92	92	0.0	70 - 130	30
1,3-Dichlorobenzene	ND	90	90	0.0	94	96	2.1	70 - 130	30

SDG I.D.: GBH89849

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,4-Dichlorobenzene	ND	90	89	1.1	92	94	2.2	70 - 130	30
Benzene	ND	93	92	1.1	95	93	2.1	70 - 130	30
Chlorobenzene	ND	90	90	0.0	94	91	3.2	70 - 130	30
Ethylbenzene	ND	92	92	0.0	95	93	2.1	70 - 130	30
Isopropylbenzene	ND	93	91	2.2	94	92	2.2	70 - 130	30
m&p-Xylene	ND	89	90	1.1	94	92	2.2	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	102	100	2.0	100	97	3.0	70 - 130	30
Naphthalene	ND	93	93	0.0	92	94	2.2	70 - 130	30
n-Butylbenzene	ND	89	87	2.3	92	91	1.1	70 - 130	30
n-Propylbenzene	ND	87	87	0.0	94	94	0.0	70 - 130	30
o-Xylene	ND	92	92	0.0	98	95	3.1	70 - 130	30
p-lsopropyltoluene	ND	92	90	2.2	94	93	1.1	70 - 130	30
sec-Butylbenzene	ND	94	91	3.2	92	92	0.0	70 - 130	30
Styrene	ND	91	91	0.0	97	96	1.0	70 - 130	30
tert-Butylbenzene	ND	92	90	2.2	93	93	0.0	70 - 130	30
Toluene	ND	93	92	1.1	96	95	1.0	70 - 130	30
% 1,2-dichlorobenzene-d4	101	101	99	2.0	99	101	2.0	70 - 130	30
% Bromofluorobenzene	97	100	97	3.0	101	100	1.0	70 - 130	30
% Dibromofluoromethane	102	100	104	3.9	104	103	1.0	70 - 130	30
% Toluene-d8	100	102	100	2.0	99	99	0.0	70 - 130	30
Comment:									

QA/QC Batch 302972 (mg/Kg), QC Sample No: BH89849 (BH89849, BH89850, BH89851, BH89852, BH89853, BH89854, BH89855)

TPH by GC (Extractable Products) - Soil

Ext. Petroleum HC	ND	71	62	13.5				60 - 120	30
% n-Pentacosane	54	65	54	18.5				50 - 150	30
Comment:									
*The MS/MSD could not be	reported due to the presence of	ETPH in the original sample	. The L	CS was v	within Q/	VQC crit	teria.		
QA/QC Batch 303297 (ug	/L), QC Sample No: BH89852	(BH89852, BH89855)							
Formaldehyde	ND	89	80	10.7				30 - 130	20
QA/QC Batch 303172 (mg	g/kg), QC Sample No: BH898	52 (BH89852, BH89855))						
Glycols - Soil									
Ethylene glycol	ND	73	71	2.8	100	104	3.9	70 - 130	30
Propylene glycol	ND	113	102	10.2	99	104	4.9	70 - 130	30

91

83

9.2

94

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

% DPG

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis/Shiller, Laboratory Director

87

102

15.9

70 - 130

30

April 07, 2015

I = 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.

Page 1 of 1

Sample Criteria Exceedences Report

GBH89849 - GZA-AMER

Criteria

Phoenix Analyte

Acode

SampNo

*** No Data to Display ***

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

씸

Criteria

Result

RL Criteria

Analysis Units

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	pratory Name:	Prideriix	EUNIOU	mentai Labs	, inc.	Cilent:		GZA (eo⊏iivii	onmenta	i, iric.
Proje	ect Location:	AMERB	ELLE MI	LLS #45441		Project	Number:				
Labo	oratory Sample), BH89850, 5, BH89857	BH898	351, BH89	9852, BH89	9853, BI	H89854,	BH8985	5,
Sam	pling Date(s):	3/30/201	15								
RCP	Methods Used	i:									
V 13	311/1312 📝 601	10 🗆	7000	7196	7	470/7471	8081		EPH		TO15
<u> </u>	082	51 🗸	8260	✓ 8270	✓ E	TPH	9010/90	012	VPH		
1.	For each analytic specified QA/QC any criteria fallin- method-specific	performa g outside o	nce criter of accept	ria followed, ir able guideline	cludino s, as s	g the requi pecified in	rement to e	xplain	✓ Yes	□ No	
1a.	Were the method	d specified	d preserva	ation and hold	ling tim	e requiren	nents met?		✓ Yes	□ No	
1b.	EPH and VPH m significant modif							ut	☐ Yes	□ No	✓ NA
2.	Were all sample described on the						ent with that	t	✓ Yes	□No	
3,	Were samples re	eceived at	an appro	priate temper	ature (< 6 Degre	es C)?		✓ Yes	□No	□NA
4.	Were all QA/QC Protocol docume						Confidence		☐ Yes	✓ No	
5a.	Were reporting li	imits speci	ified or re	ferenced on t	he cha	in-of-custo	ody?		✓ Yes	□ No	
5b.	Were these repo	orting limits	s met?						✓ Yes	□No	□NA
6.	For each analytic results reported presented in the	for all cons	stituents i	identified in th	e meth	od-specifi			☐ Yes	✓ No	□NA
7,	Are project-spec	ific matrix	spikes ar	nd laboratory	duplica	tes includ	ed in the da	ta set?	✓ Yes	□ No	□NA
Note:	For all questions be provided in a the requirements	n attached	narrative.	. If the answer							
and	e undersigned belief and bas tained in this a	ed upon	my per	sonal inquir	y of th	nose res	ponsible f	or prov	iding the	-	_
	horized	910		See		Drint	Date:		y, April C	7, 2015	
Sigi	nature:	O	m.			FIIIII	Position:			-	



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RCP Certification Report

April 07, 2015

SDG I.D.: GBH89849

BH89849, BH89850, BH89851, BH89853, BH89854 - The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

BH89849, BH89850, BH89851, BH89852, BH89853, BH89854, BH89855, BH89856, BH89857 - The client requested a short list of analytes from the 8260 RCP Volatile list. Only the volatile aromatic constituents are reported as requested on the chain-of-custody.

BH89852, BH89854, BH89855 - The client requested a short list of analytes from the 6010 RCP Metals list. Only the RCRA 8 Metals are reported as requested on the chain of custody.

ETPH Narration

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

Instrument: Au-fid1 03/31/15-3 (BH89850)

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

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

Printed Name Jeff Bucko
Position: Chemist
Date: 3/31/2015

Instrument: Au-fid84 03/31/15-1 (BH89849, BH89851, BH89852)

Initial Calibration (FID84 - ETPH 13) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Jeff Bucko
Position: Chemist
Date: 3/31/2015

Instrument: Au-fid84 03/31/15-2 (BH89853, BH89854, BH89855)

Initial Calibration (FID84 - ETPH_13) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Jeff Bucko Position: Chemist Date: 3/31/2015



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RCP Certification Report

April 07, 2015

SDG I.D.: GBH89849

Instrument: Au-fid84 04/01/15-2 (BH89849)

Initial Calibration (FID84 - ETPH_13) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name Position:

Jeff Bucko

Position Date:

Chemist 4/1/2015

QC Comments:

QC Batch 302972 03/30/15 (BH89849, BH89850, BH89851, BH89852, BH89853,

BH89854, BH89855)

*The MS/MSD could not be reported due to the presence of ETPH in the original sample. The LCS was within QA/QC criteria.

QC (Site Specific)

----- Sample No: BH89849, QA/QC Batch: 302972 -----

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.

Formaldehyde

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

Instrument:

Hplc-frm1 04/02/15-1 (BH89852, BH89855)

The ICAL and CCAL meet criteria.

Printed Name Raman Makol

Position:

Chemist

Date:

4/2/2015

QC (Site Specific)

----- Sample No: BH89852, QA/QC Batch: 303297 ------

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.



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RCP Certification Report

April 07, 2015

SDG I.D.: GBH89849

GLYCOL

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

Instrument: Glycol 03/31/15-1 (BH89852, BH89855)

Printed Name Jeff Bucko
Position: Chemist
Date: 3/31/2015

QC (Site Specific)

----- Sample No: BH89852, QA/QC Batch: 303172 ------

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

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

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

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

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

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

Mercury Narration

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

Instrument: Merlin 03/31/15-1 (BH89852, BH89854, BH89855)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

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

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer

Position: Chemist **Date:** 3/31/2015



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RCP Certification Report

April 07, 2015

SDG I.D.: GBH89849

QC (Batch Specific)
Sample No: BH89495, QA/QC Batch: 303052
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.
Sample No: BH89914, QA/QC Batch: 303053
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.

ICP Narration

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

Instrument: Arcos 03/31/15-1 (BH89852, BH89854, BH89855)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin Position: Chemist Date: 3/31/2015

QC (Batch Specific)

----- Sample No: BH89871, QA/QC Batch: 302964 -----

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.





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RCP Certification Report

April 07, 2015

SDG I.D.: GBH89849

SVOA Narration

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

QC Batch 302832 (Samples: BH89852, BH89855): ---

The LCS and/or LCSD recoveries for one or more analytes is below the method criteria. A low bias for these analytes is possible. (Benzoic Acid)

Instrument:

Chem05 03/30/15-1 (BH89849, BH89850, BH89851, BH89852, BH89853, BH89854,

BH89855)

Initial Calibration Verification (CHEM05/SV 0323):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Benzidine (25%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM05/0330_04-SV_0323):

99% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: Benzidine (-42%)[30%]

The following compounds did not meet maximum % deviations: Benzidine (-42%)[40%]

The following compounds did not meet recommended response factors: 2-nitrophenol (.056)[0.1], Hexachlorobenzene (.084)[0.1]

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

Printed Name Damien Drobinski

Position:

Chemist

Date:

3/30/2015

QC (Batch Specific)

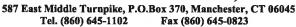
Sample No: BH89420, QA/QC Batch: 302832
All LCS recoveries were within 30 - 130 with the following exceptions: Benzoic Acid(11%)
All LCSD recoveries were within 30 - 130 with the following exceptions: Benzoic Acid(<10%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Sample No: BH89475, QA/QC Batch: 302951
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.

VOA Narration

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







RCP Certification Report

April 07, 2015

SDG I.D.: GBH89849

Instrument:

Chem14 03/30/15-1 (BH89849, BH89850, BH89851, BH89852, BH89853, BH89854,

BH89855, BH89856, BH89857)

Initial Calibration Verification (CHEM14/voa5g_0328):

96% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (22%), Chloroethane (46%), Trichlorofluoromethane (23%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM14/0330_02-voa5g 0328):

99% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: Chloroethane (45%)[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.

Printed Name Jane Li

Position:

Chemist

Date:

3/30/2015

Instrument:

Chem14 03/31/15-1 (BH89854)

Initial Calibration Verification (CHEM14/voa5g_0331):

95% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (22%), Chloroethane (36%), trans-1,3-Dichloropropene (31%), trans-1,4-Dichloro-2-butene (28%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM14/0331_13-voa5g 0331):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Jane Li

Position: Date:

Chemist 3/31/2015



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



RCP Certification Report

April 07, 2015

SDG I.D.: GBH89849

QC (Batch Specific)
Sample No: BH88838, QA/QC Batch: 303093
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.
Sample No: BH89727, QA/QC Batch: 303219
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

Temperature Narration

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

	2		Coolant: IPK IC	Yes No
	CHAIN OF CUSTODY RECORD	RECORD	Temp (, °C F	Pg / of
PHOEVIX ST Each SB7 Each En	587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040 Email: info@phoenixlabs.com Fax (860) 645-0823		Fax: FG Sets - 2102	
Environmental Laboratories, Inc.	9	41	Email:	2
Customer: G2A	Project: Amtrkelle	(1)c M.1]s(+ 45441)	Project P.O:	
Address: ast Winding Brook Down, Suit 402	Report to: Chris	FRY	This section MUST be	n MUST be
	Invoice to: Char	Fig,	completed with Bottle Quantities.	ted with
Client Sample - Information - Identification		11111111	+ +	+ +
Sampler's Cont. Signature Date: 3/34/15	Analysis			140007 2050
ode: king Water GW=Ground Water SW=Surface Water Water SE=Sediment SL=Sludge S=Soil SD=Soli B=Bulk L=Liquid				
PHOENIX USE ONLY SAMPLE # Identification Matrix Sampled Sampled		1		CE ELECES
ADC-1-2(5:0) 5 3/2/16	XXX			
5 ARC-1-1 (St.c. 5 1	K K X	× 8	1	
	У Х Х	<u>x</u> <u>x</u>		
J Acc. 2 2 (C.5.2)	8 8 8 8 8 8 8	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	*	
89853 1906-23 (6.5-2) 5 1300	× × ×	*		
54 Acc-3-1 Ce-3-2) C	×××	×		
5 ARC-3-2(4-0) S	××××	×	Y	
89886 TB 032015-H 5 1 0930	X	3		
2985718				
E.				
			2	
Relinquished by: Accepted by:	e: Time:	RI CT		ormat
Children of the Children	330K 1629		MCP Certification	8 4
))	-	GW SW Protection	GW-2 GIS/K	GIS/Key
		Other GA Mobility	☐ GW-3 ☐ EQuIS	ulS
Comments, Special Requirements of Regulations:	Turnaround:	GB Mobility	<u> </u>	Data Package
	1 Day*	Residential DEC		Tier II Checklist Full Data Package™
	3 Days* K Standard	Other	☐ Other ☐ Other	Phoenix Std Report Other
	Other surcharge APPLIES	State where samples were collected:	7	* SURCHARGE APPLIES



Friday, April 10, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS (#45441)

Sample ID#s: BH90379 - BH90383, BH90385 - BH90390

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

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

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

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

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

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301

CT Lab Registration #PH-0618

MA Lab Registration #MA-CT-007

ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301

PA Lab Registration #68-03530

RI Lab Registration #63

VT Lab Registration #VT11301



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information** <u>Date</u> <u>Time</u> Matrix: SOIL Collected by: ΑT 03/31/15 9:15 **GZA-AMER** Received by: **Location Code:** LB 03/31/15 15:18 Analyzed by: see "By" below

Rush Request: Standard

P.O.#:

Laboratory Data

RI/

SDG ID: GBH90379

Phoenix ID: BH90379

Project ID: AMERBELLE MILLS (#45441)

Client ID:

AOC-7-1 (0.5-2)

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	91		%		03/31/15	1	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/31/15	JJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/31/15	BC/V	SW3545A
TPH by GC (Extractab	le Products	1					
Ext. Petroleum HC	ND	54	mg/Kg	1	04/02/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/02/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	92		%	1	04/02/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
Benzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
Chlorobenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
Ethylbenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
Isopropylbenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
m&p-Xylene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
Naphthalene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
n-Butylbenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
n-Propylbenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
o-Xylene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C

Page 1 of 28 Ver 1 Project ID: AMERBELLE MILLS (#45441) Phoenix I.D.: BH90379

Client ID: AOC-7-1 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
p-Isopropyltoluene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
sec-Butylbenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
Styrene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
tert-Butylbenzene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
Toluene	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
Total Xylenes	ND	4.6	ug/Kg	1	04/01/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	04/01/15	JLI	70 - 130 %
% Bromofluorobenzene	96		%	1	04/01/15	JLI	70 - 130 %
% Dibromofluoromethane	97		%	1	04/01/15	JLI	70 - 130 %
% Toluene-d8	94		%	1	04/01/15	JLI	70 - 130 %
Polynuclear Aromatic Ho	С						
2-Methylnaphthalene	 ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Anthracene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Benz(a)anthracene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(a)pyrene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(b)fluoranthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(ghi)perylene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(k)fluoranthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Chrysene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Fluoranthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Fluorene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Naphthalene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Phenanthrene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Pyrene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	84		%	1	04/01/15	DD	30 - 130 %
% Nitrobenzene-d5	74		%	1	04/01/15	DD	30 - 130 %
% Terphenyl-d14	95		%	1	04/01/15	DD	30 - 130 %

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 2 of 28 Ver 1



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Time Custody Information Date AT** 03/31/15 9:30 Matrix: SOIL Collected by: Received by: **Location Code: GZA-AMER** LB 03/31/15 15:18

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH90379

Phoenix ID: BH90380

Project ID: AMERBELLE MILLS (#45441)

Client ID: AOC-7-2 (0.5-2)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	94		%		03/31/15	1	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/31/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/31/15	BC/V	SW3545A
TPH by GC (Extractal	ble Products	3)					
Ext. Petroleum HC	8000	1000	mg/Kg	20	04/02/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	20	04/02/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	Diluted Out		%	20	04/02/15	JRB	50 - 150 %
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
Benzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Isopropylbenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
m&p-Xylene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Naphthalene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
n-Butylbenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
n-Propylbenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C

Page 3 of 28 Ver 1

Client ID: AOC-7-2 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
p-Isopropyltoluene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
sec-Butylbenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
tert-Butylbenzene	ND	260	ug/Kg	50	04/02/15	JLI	SW8260C
Toluene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Total Xylenes	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	50	04/02/15	JLI	70 - 130 %
% Bromofluorobenzene	95		%	50	04/02/15	JL	70 - 130 %
% Dibromofluoromethane	116		%	1	04/01/15	JLI	70 - 130 %
% Toluene-d8	83		%	1	04/01/15	JLI	70 - 130 %
Polynuclear Aromatic	НС						
2-Methylnaphthalene	MD ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Acenaphthene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Acenaphthylene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Anthracene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Benz(a)anthracene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Benzo(a)pyrene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Benzo(b)fluoranthene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Benzo(ghi)perylene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Benzo(k)fluoranthene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Chrysene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Fluoranthene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Fluorene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Naphthalene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Phenanthrene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
Pyrene	ND	2500	ug/Kg	10	04/02/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	Diluted Out		%	10	04/02/15	DD	30 - 130 %
% Nitrobenzene-d5	Diluted Out		%	10	04/02/15	DD	30 - 130 %
% Terphenyl-d14	Diluted Out		%	10	04/02/15	DD	30 - 130 %

Page 4 of 28 Ver 1

Phoenix I.D.: BH90380

Client ID: AOC-7-2 (0.5-2)

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

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

Comments:

Volatile Comment:

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

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.

TPH Comment:

**Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C12 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.

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

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

Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 5 of 28 Ver 1

Phoenix I.D.: BH90380



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Time **Custody Information** Sample Information <u>Date</u> Matrix: SOIL Collected by: **AT** 03/31/15 11:00 Received by: **GZA-AMER** LB 03/31/15 15:18 **Location Code:**

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH90379

Phoenix ID: BH90381

Project ID:

AMERBELLE MILLS (#45441)

Client ID: AOC-20-1 (9-11)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	86		%		03/31/15	ı	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/31/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/31/15	BC/V	SW3545A
TPH by GC (Extractable	e Products	3)					
Ext. Petroleum HC	ND	57	mg/Kg	1	04/01/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/01/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	88		%	1	04/01/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloroethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloroethene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloropropene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dibromoethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichloroethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichloropropane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,3-Dichloropropane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
2,2-Dichloropropane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C

Client ID: AOC-20-1 (9-11)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bromobenzene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Bromodichloromethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Bromoform	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Bromomethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Carbon tetrachloride	ND	3,5	ug/Kg	1	04/01/15	JLI	SW8260C
Chlorobenzene	ND	3,5	ug/Kg	1	04/01/15	JLI	SW8260C
Chloroethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Chloroform	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Chloromethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
cis-1,2-Dichloroethene	4.2	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Dibromochloromethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Dibromomethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Dichlorodifluoromethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Methylene chloride	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Tetrachloroethene	19	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	7.0	ug/Kg	1	04/01/15	JLI	SW8260C
Trichloroethene	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Trichlorofluoromethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
Vinyl chloride	ND	3.5	ug/Kg	1	04/01/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	04/01/15	JLI	70 - 130 %
% Bromofluorobenzene	94		%	1	04/01/15	JLI	70 - 130 %
% Dibromofluoromethane	94		%	1	04/01/15	JLI	70 - 130 %
% Toluene-d8	95		%	1	04/01/15	JLI	70 - 130 %
Polynuclear Aromatic	HC						
2-Methylnaphthalene	ND	270	ug/Kg	1	04/01/15	DD	SW8270D
Acenaphthene	ND	270	ug/Kg ug/Kg	1	04/01/15	DD	SW8270D
Acenaphthylene	ND	270	ug/Kg	1	04/01/15	DD	SW8270D
Anthracene	520	270	ug/Kg	1	04/01/15	DD	SW8270D
Benz(a)anthracene	1000	270	ug/Kg ug/Kg	1	04/01/15	DD	SW8270D
Benzo(a)pyrene	580	270	ug/Kg ug/Kg	1	04/01/15	DD	SW8270D
Benzo(b)fluoranthene	830	270	ug/Kg ug/Kg	1	04/01/15	DD	SW8270D
• •	ND	270	ug/Kg ug/Kg	1	04/01/15	DD	SW8270D SW8270D
Benzo(ghi)perylene	280	270	ug/Kg ug/Kg	1			
Benzo(k)fluoranthene	920	270			04/01/15 04/01/15	DD	SW8270D
Chrysene			ug/Kg	1		DD	SW8270D
Dibenz(a,h)anthracene Fluoranthene	ND 1700	270	ug/Kg	1	04/01/15	DD	SW8270D
	1700 ND	270	ug/Kg	1	04/01/15	DD	SW8270D
Fluorene	ND	270 270	ug/Kg	1	04/01/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND ND		ug/Kg	1	04/01/15	DD	SW8270D
Naphthalene	ND 2700	270 270	ug/Kg	1	04/01/15	DD	SW8270D
Phenanthrene	2700	270	ug/Kg	1	04/01/15	DD	SW8270D
Pyrene	1200	270	ug/Kg	1	04/01/15	DD	SW8270D
QA/QC Surrogates	00			3	04/04/4=		00 400 01
% 2-Fluorobiphenyl	86		%	1	04/01/15	DD	30 - 130 %
% Nitrobenzene-d5	81		%	1	04/01/15	DD	30 - 130 %

Page 7 of 28

Phoenix I.D.: BH90381

Client ID: AOC-20-1 (9-11)

RI/

Phoenix I.D.: BH90381

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
% Terphenyl-d14	66		%	1	04/01/15	DD	30 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

(

Collected by: Received by:

AT LB 03/31/15 03/31/15

Date

<u>Time</u> 11:15 15:18

Location Code: Rush Request:

GZA-AMER Standard

Analyzed by:

see "By" below

SDG ID: GBH90379

P.O.#:

Laboratory Data

Custody Information

Phoenix ID: BH90382

Project ID:

AMERBELLE MILLS (#45441)

Client ID:

AOC-20-2 (0.5-2)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	93		%		03/31/15	ı	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/31/15	JJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/31/15	BC/V	SW3545A
MS/MSD Ext. for CT ETPH	Completed				03/31/15		
MS/MSD Ext. for Semi-Vol.	Completed				03/31/15		
TPH by GC (Extractable	e Products)					
Ext. Petroleum HC	ND	52	mg/Kg	1	04/02/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/02/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	79		%	1	04/02/15	JRB	50 - 150 %
QC for ETPH	Completed				04/02/15		
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	270	ug/Kg	56	04/01/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	270	ug/Kg	56	04/01/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	270	ug/Kg	56	04/01/15	JLI	SW8260C
1,2-Dichloroethane	24	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	270	ug/Kg	56	04/01/15	JLI	SW8260C

Client ID: AOC-20-2 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1,3-Dichloropropane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	270	ug/Kg	56	04/01/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Bromobenzene	ND	270	ug/Kg	56	04/01/15	JLI	SW8260C
Bromodichloromethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Bromoform	ND	270	ug/Kg	56	04/01/15	JLI	SW8260C
Bromomethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Carbon tetrachloride	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Chlorobenzene	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Chloroethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Chloroform	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Chloromethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
cis-1,2-Dichloroethene	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Dibromochloromethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Dibromomethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Dichlorodifluoromethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Methylene chloride	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Tetrachloroethene	22	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
trans-1,2-Dichloroethene	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
trans-1,3-Dichloropropene	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	530	ug/Kg	56	04/01/15	JLI	SW8260C
Trichloroethene	4.5	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Trichlorofluoromethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Trichlorotrifluoroethane	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
Vinyl chloride	ND	4.5	ug/Kg	1	04/01/15	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	56	04/01/15	JLI	70 - 130 %
% Bromofluorobenzene	98		%	56	04/01/15	JLI	70 - 130 %
% Dibromofluoromethane	99		%	1	04/01/15	JLI	70 - 130 %
% Toluene-d8	90		%	1	04/01/15	JLI	70 - 130 %
QC for Volatile				1	04/01/15	JLI	
QC for Volatile				1	04/01/15	JLI	
MS/MSD Volatiles				1	04/01/15	JLI	
Polynuclear Aromatic	HC						
2-Methylnaphthalene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Acenaphthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Acenaphthylene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Anthracene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Benz(a)anthracene	380	250	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(a)pyrene	380	250	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(b)fluoranthene	510	250	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(ghi)perylene	260	250	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(k)fluoranthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Chrysene	380	250	ug/Kg	1	04/01/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D
Fluoranthene	690	250	ug/Kg	1	04/01/15	DD	SW8270D
Fluorene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D

Client ID: AOC-20-2 (0.5-2)

RL/ **Parameter** Result **PQL** Units Dilution Date/Time By Reference 04/01/15 Indeno(1,2,3-cd)pyrene ND 250 ug/Kg 1 DD SW8270D Naphthalene ND 250 ug/Kg 1 04/01/15 DD SW8270D Phenanthrene 430 250 ug/Kg 1 04/01/15 DD SW8270D Pyrene 610 250 ug/Kg 1 04/01/15 DD SW8270D QA/QC Surrogates 78 % 2-Fluorobiphenyl % 1 04/01/15 DD 30 - 130 % % Nitrobenzene-d5 76 % 1 04/01/15 DD 30 - 130 % % Terphenyl-d14 83 % 1 04/01/15 DD 30 - 130 % QC for Semi-Volatile Completed 04/01/15

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

Comments:

Volatile Comment:

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

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

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

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

Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Phoenix I.D.: BH90382



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Location Code:

GZA-AMER

Rush Request:

Standard

Custody Information Collected by:

Laboratory Data

ΑT LB

11:25 03/31/15

Date

03/31/15 15:18

Time

Received by: Analyzed by:

see "By" below

SDG ID: GBH90379

Phoenix ID: BH90383

P.O.#:

AMERBELLE MILLS (#45441)

Project ID: Client ID:

AOC-20-3 (0.5-2)

PI/

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	91		%		03/31/15	1	SW846-%Solid
Soil Extraction SVOA PAH	Completed				03/31/15	BJ∕∕H	SW3545A
Extraction of CT ETPH	Completed				03/31/15	BC/V	SW3545A
TPH by GC (Extractable	e Products)					
Ext. Petroleum HC	ND	55	mg/Kg	1	04/01/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/01/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	94		%	1	04/01/15	JRB	50 - 150 %
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloroethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloroethene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloropropene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dibromoethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichloroethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichloropropane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,3-Dichloropropane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C
2,2-Dichloropropane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C

Phoenix I.D.: BH90383

Project ID: AMERBELLE MILLS (#45441)

Client ID: AOC-20-3 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Bromobenzene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Bromodichloromethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Bromoform	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Bromomethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Carbon tetrachloride	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Chlorobenzene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Chloroethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Chloroform	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Chloromethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
cis-1,2-Dichloroethene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
cis-1,3-Dichloropropene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Dibromochloromethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Dibromomethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Dichlorodifluoromethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Methylene chloride	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Tetrachloroethene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
trans-1,2-Dichloroethene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
trans-1,3-Dichloropropene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
trans-1,4-dichloro-2-butene	ND	9.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Trichloroethene	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Trichlorofluoromethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
Trichlorotrifluoroethane	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C -	
Vinyl chloride	ND	4.9	ug/Kg	1	04/01/15	JLI	SW8260C	
QA/QC Surrogates			0 0					
% 1,2-dichlorobenzene-d4	101		%	1	04/01/15	JLI	70 - 130 %	
% Bromofluorobenzene	97		%	1	04/01/15	JLI	70 - 130 %	
% Dibromofluoromethane	97		%	1	04/01/15	JLi	70 - 130 %	
% Toluene-d8	94		%	1	04/01/15	JLI	70 - 130 %	
Polynuclear Aromatic	HC							
2-Methylnaphthalene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Acenaphthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Acenaphthylene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Anthracene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Benz(a)anthracene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Benzo(a)pyrene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Benzo(b)fluoranthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Benzo(ghi)perylene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Benzo(k)fluoranthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Chrysene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Fluoranthene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Fluorene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Naphthalene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Phenanthrene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
Pyrene	ND	250	ug/Kg	1	04/01/15	DD	SW8270D	
QA/QC Surrogates								
% 2-Fluorobiphenyl	83		%	1	04/01/15	DD	30 - 130 %	
% Nitrobenzene-d5	80		%	1	04/01/15	DD	30 - 130 %	

Page 13 of 28 Ver 1

Client ID: AOC-20-3 (0.5-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
% Terphenyl-d14	95		%	1	04/01/15	DD	30 - 130 %

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

Comments:

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

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

Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Phoenix I.D.: BH90383



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information** <u>Time</u> <u>Date</u> Matrix: SOIL Collected by: 13:20 AT 03/31/15 Received by: **Location Code: GZA-AMER** LB 03/31/15 15:18

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH90379

Phoenix ID: BH90385

Project ID: AMERBELLE MILLS (#45441)

Client ID: AOC-16-1 (9-11)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.45	0.45	mg/Kg	1	04/02/15	LK	SW6010C
Arsenic	2.5	0.9	mg/Kg	1	04/02/15	LK	SW6010C
Barium	129	0.45	mg/Kg	1	04/02/15	LK	SW6010C
Cadmium	< 0.45	0.45	mg/Kg	1	04/02/15	LK	SW6010C
Chromium	22.6	0.45	mg/Kg	1	04/02/15	LK	SW6010C
Mercury	0.21	0.03	mg/Kg	1	04/01/15	RS	SW7471B
Lead	33.2	0.45	mg/Kg	1	04/02/15	LK	SW6010C
Selenium	< 1.8	1.8	mg/Kg	1	04/02/15	LK	SW6010C
Percent Solid	80		%		03/31/15	ŀ	SW846-%Solid
Ammonia as Nitrogen	< 30	30	mg/Kg	1	04/01/15	WHM	E350.1
Extraction of CT ETPH	Completed				03/31/15	BC/V	SW3545A
Mercury Digestion	Completed				04/01/15	1/1	SW7471B
Total Metals Digest	Completed				03/31/15	CB/AG	SW3050B
TPH by GC (Extract	able Products)					
Ext. Petroleum HC	ND	62	mg/Kg	1	04/02/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/02/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	78		%	1	04/02/15	JRB	50 - 150 %

Client ID: AOC-16-1 (9-11)

RL/

Parameter Result PQL

Units

Dilution

Date/Time

By

Reference

Phoenix I.D.: BH90385

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

Comments:

Ammonia:

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.

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

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

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

Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SOIL

Collected by: Received by:

RL/

AT

<u>Date</u> 03/31/15

03/31/15

<u>Time</u> 14:00

Location Code: Rush Request:

GZA-AMER Standard

Analyzed by:

LB see "By" below

15:18

P.O.#:

Laboratory Data

Custody Information

SDG ID: GBH90379

Phoenix ID: BH90386

Project ID:

AMERBELLE MILLS (#45441)

Client ID:

AOC-15-1 (0.25-2)

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	78		%		03/31/15	ı	SW846-%Solid
Soil Extraction for PCB	Completed				03/31/15	BC/H	SW3545A
Soil Extraction SVOA PAH	Completed				03/31/15	BJ∕VH	SW3545A
Extraction of CT ETPH	Completed				03/31/15	BC/V	SW3545A
TPH by GC (Extractab	le Products	3					
Ext. Petroleum HC	ND	62	mg/Kg	1	04/02/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/02/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	89		%	1	04/02/15	JRB	50 - 150 %
Polychlorinated Biphe	enyls						
PCB-1016	ND	420	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1221	ND	420	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1232	ND	420	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1242	ND	420	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1248	ND	420	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1254	ND	420	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1260	ND	420	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1262	ND	420	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1268	ND	420	ug/Kg	10	04/01/15	AW	SW8082A
QA/QC Surrogates							
% DCBP	86		%	10	04/01/15	AW	30 - 150 %
% TCMX	85		%	10	04/01/15	AW	30 - 150 %
Polynuclear Aromatic	HC						
2-Methylnaphthalene	ND	300	ug/Kg	1	04/01/15	DD	SW8270D
Acenaphthene	ND	300	ug/Kg	1	04/01/15	DD	SW8270D

Phoenix I.D.: BH90386

Project ID: AMERBELLE MILLS (#45441)

Client ID: AOC-15-1 (0.25-2)

ND ND ND ND ND ND 360 ND	90L 300 300 300 300 300 300 300	ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	04/01/15 04/01/15 04/01/15 04/01/15 04/01/15	DD DD DD DD DD	Reference SW8270D SW8270D SW8270D SW8270D
ND ND ND 360 ND	300 300 300 300	ug/Kg ug/Kg ug/Kg ug/Kg	_	04/01/15 04/01/15 04/01/15	DD DD DD	SW8270D SW8270D SW8270D
ND ND 360 ND	300 300 300	ug/Kg ug/Kg ug/Kg	_	04/01/15 04/01/15	DD DD	SW8270D SW8270D
ND 360 ND	300 300	ug/Kg ug/Kg	_	04/01/15	DD	SW8270D
360 ND	300	ug/Kg	_			
ND			1	04/01/15	חח	
	300			04/01/10	טט	SW8270D
ND		ug/Kg	1	04/01/15	DD	SW8270D
ND	300	ug/Kg	1	04/01/15	DD	SW8270D
ND	300	ug/Kg	1	04/01/15	DD	SW8270D
ND	300	ug/Kg	1	04/01/15	DD	SW8270D
480	300	ug/Kg	1	04/01/15	DD	SW8270D
ND	300	ug/Kg	1	04/01/15	DD	SW8270D
ND	300	ug/Kg	1	04/01/15	DD	SW8270D
ND	300	ug/Kg	1	04/01/15	DD	SW8270D
ND	300	ug/Kg	1	04/01/15	DD	SW8270D
470	300	ug/Kg	1	04/01/15	DD	SW8270D
71		%	1	04/01/15	DD	30 - 130 %
75		%	1	04/01/15	DD	30 - 130 %
92		%	1	04/01/15	DD	30 - 130 %
	ND 480 ND ND ND ND 470 71 75	ND 300 ND 300 480 300 ND 300 ND 300 ND 300 ND 300 ND 300 ND 300 71 75	ND 300 ug/Kg ND 300 ug/Kg ND 300 ug/Kg ND 300 ug/Kg 480 300 ug/Kg ND 300 ug/Kg ND 300 ug/Kg ND 300 ug/Kg ND 300 ug/Kg 470 300 ug/Kg 71 % 75 %	ND 300 ug/Kg 1 ND 300 ug/Kg 1 ND 300 ug/Kg 1 ND 300 ug/Kg 1 480 300 ug/Kg 1 ND 300 ug/Kg 1 ND 300 ug/Kg 1 ND 300 ug/Kg 1 ND 300 ug/Kg 1 470 300 ug/Kg 1 71 % 1 75 % 1	ND 300 ug/Kg 1 04/01/15	ND 300 ug/Kg 1 04/01/15 DD T1 % 1 04/01/15 DD T1 % 1 04/01/15 DD T5 % 1 04/01/15 DD

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

Comments:

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

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

Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information** Time Date Matrix: SOIL Collected by: AT 03/31/15 14:10 Received by: **Location Code: GZA-AMER** LB 03/31/15 15:18

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data

SDG ID: GBH90379

Phoenix ID: BH90387

Project ID: AMERBELLE MILLS (#45441)

Client ID: AOC-15-2 (0.25-2)

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	82		%		03/31/15	ı	SW846-%Solid
Soil Extraction for PCB	Completed				03/31/15	вс/н	SW3545A
Soil Extraction SVOA PAH	Completed				03/31/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/31/15	BC/V	SW3545A
TPH by GC (Extractab	le Products	3)					
Ext. Petroleum HC	3300	300	mg/Kg	5	04/02/15	JRB	CTETPH 8015D
Identification	**		mg/Kg	5	04/02/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	109		%	5	04/02/15	JRB	50 - 150 %
Polychlorinated Biphe	enyls						
PCB-1016	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1221	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1232	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1242	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1248	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1254	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1260	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1262	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1268	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
QA/QC Surrogates							
% DCBP	112		%	10	04/01/15	AW	30 - 150 %
% TCMX	92		%	10	04/01/15	AW	30 - 150 %
Polynuclear Aromatic	HC						
2-Methylnaphthalene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Acenaphthene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D

Project ID: AMERBELLE MILLS (#45441) Phoenix I.D.: BH90387

Client ID: AOC-15-2 (0.25-2)

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Acenaphthylene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Anthracene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Benz(a)anthracene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Benzo(a)pyrene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Benzo(b)fluoranthene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Benzo(ghi)perylene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Benzo(k)fluoranthene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Chrysene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Fluoranthene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Fluorene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Naphthalene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Phenanthrene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
Pyrene	ND	1400	ug/Kg	5	04/01/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	73		%	5	04/01/15	DD	30 - 130 %
% Nitrobenzene-d5	69		%	5	04/01/15	DD	30 - 130 %
% Terphenyl-d14	53		%	5	04/01/15	DD	30 - 130 %

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

Comments:

TPH Comment:

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.

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

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

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Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager

^{**}Petroleum hydrocarbon chromatogram contains a multicomponent hydrocarbon distribution in the range of C12 to C36. The sample was quantitated against a C9-C36 alkane hydrocarbon standard.



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

Custody Information

Laboratory Data

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

SO

SOIL

Collected by:

RL/

AT

<u>Date</u> 03/31/15 <u>Time</u> 14:20

Location Code:

GZA-AMER

Received by:

LB

03/31/15

15:18

Rush Request:

Standard

Analyzed by: see "By" below

SDG ID: GBH90379

Phoenix ID: BH90388

P.O.#:

Matrix:

AMEDDELLE MI

Project ID:

AMERBELLE MILLS (#45441)

Client ID: AOC-15-3 (0.5-2.5)

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Percent Solid	84		%		03/31/15	1	SW846-%Solid
Soil Extraction for PCB	Completed				03/31/15	BC/H	SW3545A
Soil Extraction SVOA PAH	Completed				03/31/15	BJ/VH	SW3545A
Extraction of CT ETPH	Completed				03/31/15	BC/V	SW3545A
TPH by GC (Extractab	le Products)					
Ext. Petroleum HC	ND	 59	mg/Kg	1	04/02/15	JRB	CTETPH 8015D
Identification	ND		mg/Kg	1	04/02/15	JRB	CTETPH 8015D
QA/QC Surrogates							
% n-Pentacosane	91		%	1	04/02/15	JRB	50 - 150 %
Polychlorinated Biphe	nyls						
PCB-1016	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1221	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1232	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1242	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1248	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1254	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1260	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1262	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
PCB-1268	ND	400	ug/Kg	10	04/01/15	AW	SW8082A
QA/QC Surrogates							
% DCBP	103		%	10	04/01/15	AW	30 - 150 %
% TCMX	91		%	10	04/01/15	AW	30 - 150 %
Polynuclear Aromatic	HC_						
2-Methylnaphthalene	 ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Acenaphthene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D

Phoenix I.D.: BH90388

Project ID: AMERBELLE MILLS (#45441)

Client ID: AOC-15-3 (0.5-2.5)

		RL/			- -	_	n. /
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Acenaphthylene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Anthracene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Benz(a)anthracene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(a)pyrene	280	280	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(b)fluoranthene	440	280	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(ghi)perylene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Benzo(k)fluoranthene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Chrysene	330	280	ug/Kg	1	04/01/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Fluoranthene	600	280	ug/Kg	1	04/01/15	DD	SW8270D
Fluorene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Naphthalene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Phenanthrene	ND	280	ug/Kg	1	04/01/15	DD	SW8270D
Pyrene	540	280	ug/Kg	1	04/01/15	DD	SW8270D
QA/QC Surrogates							
% 2-Fluorobiphenyl	73		%	1	04/01/15	DD	30 - 130 %
% Nitrobenzene-d5	74		%	1	04/01/15	DD	30 - 130 %
% Terphenyl-d14	94		%	1	04/01/15	DD	30 - 130 %

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

Comments:

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

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

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Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information** <u>Date</u> <u>Time</u> Matrix: SOIL Collected by: AT 03/31/15 9:00 **Location Code:** Received by: **GZA-AMER** LB 03/31/15 15:18

Rush Request: Standard Analyzed by: see "By" below

P.O.#:

Laboratory Data SDG ID: GBH90379

Phoenix ID: BH90389

Project ID: AMERBELLE MILLS (#45441)

Client ID: TB033115 LOW

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloroethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloroethene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,1-Dichloropropene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/Kg	1	04/01/15	JLi	SW8260C
1,2-Dibromoethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichloroethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,2-Dichloropropane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,3-Dichloropropane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
2,2-Dichloropropane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Bromobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Bromodichloromethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Bromoform	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Bromomethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Carbon tetrachloride	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Chloroethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Chloroform	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Chloromethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C

Page 23 of 28 Ver 1

Phoenix I.D.: BH90389

Project ID: AMERBELLE MILLS (#45441)

Client ID: TB033115 LOW

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
cis-1,2-Dichloroethene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Dibromochloromethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Dibromomethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Methylene chloride	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Tetrachloroethene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
rans-1,2-Dichloroethene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
rans-1,3-Dichloropropene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
rans-1,4-dichloro-2-butene	ND	10	ug/Kg	1	04/01/15	JLI	SW8260C
richloroethene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
richlorofluoromethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
richlorotrifluoroethane	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
/inyl chloride	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
QA/QC Surrogates			-				
% 1,2-dichlorobenzene-d4	99		%	1	04/01/15	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	04/01/15	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	04/01/15	JLI	70 - 130 %
% Toluene-d8	96		%	1	04/01/15	JLI	70 - 130 %
Aromatic Volatiles							
,2,3-Trichlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
,2,4-Trichlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
,2,4-Trimethylbenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
,2-Dichlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
,3,5-Trimethylbenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
,,4-Dichlorobenzene	ND	5.0 :	ug/Kg	1	04/01/15	JLI	SW8260C
	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Benzene Sklasskappen	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Chlorobenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Ethylbenzene	ND	5.0	ug/Kg ug/Kg	1	04/01/15	JLI	SW8260C
sopropylbenzene				1	04/01/15	JLI	SW8260C
n&p-Xylene	ND	5.0 5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND		ug/Kg	1	04/01/15	JLI	SW8260C
Naphthalene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
n-Butylbenzene	ND	5.0	ug/Kg			JLI	SW8260C
n-Propylbenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
o-Xylene	ND	5.0	ug/Kg	1	04/01/15		
o-Isopropyltoluene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
sec-Butylbenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Styrene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
ert-Butylbenzene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Foluene	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
Total Xylenes	ND	5.0	ug/Kg	1	04/01/15	JLI	SW8260C
QA/QC Surrogates				a:			TO (00.0)
% 1,2-dichlorobenzene-d4	99		%	1	04/01/15	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	04/01/15	JLI	70 - 130 %
% Dibromofluoromethane	95		%	1	04/01/15	JLI	70 - 130 %
% Toluene-d8	96		%	1	04/01/15	JLI	70 - 130 %

Page 24 of 28 Ver 1

Project ID: AMERBELLE MILLS (#45441)

Client ID: TB033115 LOW

RL/

Parameter Result PQL

Units Dilution

Date/Time

By Reference

Phoenix I.D.: BH90389

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

Comments:

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

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

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

Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

Analysis Report

April 10, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Custody Information Time Sample Information Date 03/31/15 0:00 Matrix: SOIL Collected by: AT Received by: LB 03/31/15 15:18 **GZA-AMER Location Code:** Analyzed by: see "By" below

Rush Request: Standard

P.O.#:

Laboratory Data

SDG ID: GBH90379

Ver 1

Phoenix ID: BH90390

Project ID:

AMERBELLE MILLS (#45441)

Client ID:

TB-HIGH

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Farameter	Nesuit	r QL	Office	Dildtion	Date/Time		TCICIOIOC
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,1,1-Trichloroethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,1,2-Trichloroethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,1-Dichloroethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,1-Dichloroethene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,1-Dichloropropene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,2,3-Trichloropropane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,2-Dibromoethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,2-Dichlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,2-Dichloroethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,2-Dichloropropane	ND ·	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,3-Dichlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,3-Dichloropropane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
1,4-Dichlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
2,2-Dichloropropane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
Bromobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
Bromodichloromethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
Bromoform	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
Bromomethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
Carbon tetrachloride	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
Chlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
Chloroethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
Chloroform	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C
Chloromethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C

Phoenix I.D.: BH90390

Project ID: AMERBELLE MILLS (#45441)

Client ID: TB-HIGH

Client ID: TB-HIGH										
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference			
cis-1,2-Dichloroethene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
cis-1,3-Dichloropropene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Dibromochloromethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Dibromomethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Dichlorodifluoromethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Methylene chloride	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Tetrachloroethene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
trans-1,2-Dichloroethene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
trans-1,3-Dichloropropene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
trans-1,4-dichloro-2-butene	ND	1300	ug/Kg	50	04/01/15	JLI	SW8260C			
Trichloroethene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Trichlorofluoromethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Trichlorotrifluoroethane	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Vinyl chloride	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
QA/QC Surrogates										
% 1,2-dichlorobenzene-d4	100		%	50	04/01/15	JLI	70 - 130 %			
% Bromofluorobenzene	99		%	50	04/01/15	JLI	70 - 130 %			
% Dibromofluoromethane	91		%	50	04/01/15	JLI	70 - 130 %			
% Toluene-d8	95		%	50	04/01/15	JLI	70 - 130 %			
Aromatic Volatiles										
1,2,3-Trichlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
1,2,4-Trichlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
1,2,4-Trimethylbenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
1,2-Dichlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
1,3,5-Trimethylbenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
1,3-Dichlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
1,4-Dichlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Benzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Chlorobenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Ethylbenzene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Isopropylbenzene	ND	250	ug/Kg ug/Kg	50	04/01/15	JLI	SW8260C			
m&p-Xylene	ND	250 250	ug/Kg	50	04/01/15	JLI	SW8260C			
Methyl t-butyl ether (MTBE)	ND	250 250	ug/Kg ug/Kg	50	04/01/15	JLI	SW8260C			
Naphthalene	ND	250 250	ug/Kg ug/Kg	50	04/01/15	JLI	SW8260C			
n-Butylbenzene	ND	250 250	ug/Kg ug/Kg	50	04/01/15	JLI	SW8260C			
n-Propylbenzene			ug/Kg ug/Kg	50	04/01/15	JLI	SW8260C			
o-Xylene	ND	250	ug/Kg ug/Kg	50	04/01/15	JLI	SW8260C			
p-Isopropyltoluene	ND	250		50	04/01/15	JLI	SW8260C			
sec-Butylbenzene	ND	250	ug/Kg		04/01/15	JLI	SW8260C			
Styrene	ND	250	ug/Kg	50 50			SW8260C			
tert-Butylbenzene	ND	250	ug/Kg	50	04/01/15	JLI				
Toluene	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
Total Xylenes	ND	250	ug/Kg	50	04/01/15	JLI	SW8260C			
QA/QC Surrogates					04/04/4=		70 420 %			
	100		%	50	04/01/15	JLI	70 - 130 %			
% 1,2-dichlorobenzene-d4							70 400 07			
% 1,2-dichlorobenzene-d4 % Bromofluorobenzene	99		%	50	04/01/15	JLI	70 - 130 %			
% 1,2-dichlorobenzene-d4			% % %	50 50 50	04/01/15 04/01/15 04/01/15	JLI JLI JLI	70 - 130 % 70 - 130 % 70 - 130 %			

Page 27 of 28 Ver 1

Project ID: AMERBELLE MILLS (#45441)

Client ID: TB-HIGH

R

RL/

Result PQL

Units

Dilution

Date/Time

Ву

Reference

Phoenix I.D.: BH90390

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

Comments:

Parameter

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

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

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

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Phyllis Shiller, Laboratory Director

April 10, 2015

Reviewed and Released by: Ethan Lee, Project Manager



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

QA/QC Report

April 10, 2015

QA/QC Data

SDG I.D.: GBH90379

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 303146 (m	ng/kg), QC Sample	No: BH9023	6 (BH90	385)								
ICP Metals - Soil												
Arsenic	BRL	<0.9	<0.87	NC	97.8	104	6.1	102	95.8	6.3	75 - 125	30
Barium	BRL	17.7	21.5	19.4	101	105	3.9	116	110	5.3	75 - 125	30
Cadmium	BRL	<0.44	<0.43	NC	104	105	1.0	101	96.0	5.1	75 - 125	30
Chromium	BRL	6.75	7.83	14.8	99.5	104	4.4	107	100	6.8	75 - 125	30
Lead	BRL	6.98	7.33	4.90	101	101	0.0	102	96.3	5.7	75 - 125	30
Selenium	BRL	<1.8	<1.7	NC	96.8	101	4.2	88.8	84.3	5.2	75 - 125	30
Silver	BRL	<0.44	<0.43	NC	99.3	103	3.7	105	97.8	7.1	75 - 125	30
QA/QC Batch 303185 (m	ng/kg), QC Sample	No: BH9037	1 (BH90	385)								
Mercury - Soil Comment:	BRL	0.16	0.19	17.1	104	100	3.9	102	93.2	9.0	70 - 130	30
Additional Mercury criteria	: LCS acceptance ran	ge for waters	is 80-120	% and fo	or soils i	s 70-1309	% .					



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QA/QC Report

April 10, 2015

QA/QC Data

SDG I.D.: GBH90379

Parameter	Blank	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 303156 (mg/l	QA/QC Batch 303156 (mg/L), QC Sample No: BH90440 (BH90385)											
Ammonia as Nitrogen	BRL	0.52	0.47	10.1	105			101			85 - 115	20



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

QA/QC Report

April 10, 2015

2,2-Dichloropropane

ND

QA/QC Data

SDG I.D.: GBH90379 % LCS LCSD LCS RPD MS MSD MS Rec Blank **Parameter RPD** % % % % **RPD** Limits Limits QA/QC Batch 303130 (ug/Kg), QC Sample No: BH90343 (BH90386, BH90387, BH90388) Polychlorinated Biphenyls - Soil PCB-1016 92 88 4.4 87 89 2.3 40 - 140 30 PCB-1221 ND 40 - 140 30 PCB-1232 ND 40 - 140 30 PCB-1242 ND 40 - 140 30 PCB-1248 ND 40 - 140 30 PCB-1254 ND 40 - 140 30 PCB-1260 ND 87 84 3.5 82 85 3.6 40 - 140 30 PCB-1262 ND 40 - 140 30 PCB-1268 ND 40 - 140 30 % DCBP (Surrogate Rec) 91 126 122 3.2 114 117 2.6 30 - 150 30 % TCMX (Surrogate Rec) 76 102 100 2.0 94 96 2.1 30 - 15030 QA/QC Batch 303147 (mg/Kg), QC Sample No: BH90382 (BH90379, BH90380, BH90381, BH90382, BH90383, BH90385, BH90386, BH90387, BH90388) TPH by GC (Extractable Products) - Soil Ext. Petroleum HC 66 72 8.7 77 76 1.3 60 - 120 30 % n-Pentacosane 86 81 87 7.1 90 85 50 - 150 5.7 30 QA/QC Batch 303220 (ug/kg), QC Sample No: BH90382 (BH90379, BH90380, BH90381, BH90382 (1X, 56X), BH90383, BH90389, BH90390 (50X)) Volatiles - Soil 1,1,1,2-Tetrachloroethane ND 105 102 2.9 95 98 3.1 70 - 130 30 1,1,1-Trichloroethane ND 102 101 1.0 93 99 6.3 70 - 130 30 1,1,2,2-Tetrachloroethane ND 98 97 1.0 96 98 2.1 70 - 130 30 1,1,2-Trichloroethane ND 96 92 4.3 95 97 2.1 30 70 - 1301,1-Dichloroethane ND 101 99 2.0 97 99 2.0 70 - 130 30 1,1-Dichloroethene ND 110 108 1.8 88 92 4.4 70 - 13030 1,1-Dichloropropene ND 102 99 3.0 99 101 2.0 70 - 130 30 1,2,3-Trichlorobenzene ND 92 90 2.2 91 93 2.2 70 - 130 30 1,2,3-Trichloropropane ND 93 93 0.0 95 96 1.0 70 - 130 30 1,2,4-Trichlorobenzene ND 89 86 3.4 92 93 11 70 - 130 30 1,2,4-Trimethylbenzene ND 94 90 4.3 98 99 1.0 70 - 130 30 1,2-Dibromo-3-chloropropane ND 100 100 0.0 93 94 1.1 70 - 130 30 1.2-Dibromoethane ND 98 96 2.1 95 97 2.1 70 - 130 30 1,2-Dichlorobenzene ND 96 93 3.2 96 98 2.1 70 - 130 30 1.2-Dichloroethane ND 98 95 3.1 97 97 0.0 70 - 130 30 1,2-Dichloropropane ND 99 96 3.1 98 100 2.0 70 - 130 30 1,3,5-Trimethylbenzene ND 99 95 4.1 98 100 2.0 70 - 130 30 1,3-Dichlorobenzene ND 95 93 2.1 97 97 0.0 70 - 130 30 1,3-Dichloropropane ND 95 95 0.0 98 97 1.0 70 - 130 30 1,4-Dichlorobenzene ND 95 91 4.3 96 98 2.1 70 - 130 30

103

100

3.0

92

96

4.3

70 - 130

30

QA/QC Data

SDG I.D.: GBH90379

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Rec Limits	RPD Limits	
Benzene	ND	102	98	4.0	98	101	3.0	70 - 130	30	- 13
Bromobenzene	ND	98	96	2.1	97	99	2.0	70 - 130	30	
Bromodichloromethane	ND	106	101	4.8	91	93	2.2	70 - 130	30	
Bromoform	ND	104	102	1.9	80	84	4.9	70 - 130	30	
Bromomethane	ND	96	94	2.1	78	86	9.8	70 - 130	30	
Carbon tetrachloride	ND	110	106	3.7	84	93	10.2	70 - 130	30	
Chlorobenzene	ND	98	95	3.1	99	100	1.0	70 - 130	30	
Chloroethane	ND	95	92	3.2	34	34	0.0	70 - 130	30	m
Chloroform	ND	98	95	3.1	88	89	1.1	70 - 130	30	
Chloromethane	ND	102	99	3.0	110	113	2.7	70 - 130	30	
cis-1,2-Dichloroethene	ND	101	99	2.0	96	99	3.1	70 - 130	30	
cis-1,3-Dichloropropene	ND	103	100	3.0	95	97	2.1	70 - 130	30	
Dibromochloromethane	ND	106	106	0.0	89	92	3.3	70 - 130	30	
Dibromomethane	ND	98	96	2.1	95	98	3.1	70 - 130	30	
Dichlorodifluoromethane	ND	121	120	8.0	133	136	2.2	70 - 130	30	m
Ethylbenzene	ND	100	96	4.1	99	101	2.0	70 - 130	30	
Isopropylbenzene	ND	99	96	3.1	98	100	2.0	70 - 130	30	
m&p-Xylene	ND	98	95	3.1	97	98	1.0	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	100	97	3.0	97	99	2.0	70 - 130	30	
Methylene chloride	ND	95	95	0.0	91	95	4.3	70 - 130	30	
Naphthalene	ND	95	96	1.0	93	95	2.1	70 - 130	30	
n-Butylbenzene	ND	97	93	4.2	100	102	2.0	70 - 130	30	
n-Propylbenzene	ND	97	92	5.3	99	102	3.0	70 - 130	30	
o-Xylene	ND	99	95	4.1	98	99	1.0	70 - 130	30	
p-Isopropyltoluene	ND	99	95	4.1	100	102	2.0	70 - 130	30	
sec-Butylbenzene	ND	102	98	4.0	99	101	2.0	70 - 130	30	
Styrene	ND	97	94	3.1	99	100	1.0	70 - 130	30	
tert-Butylbenzene	ND	101	97	4.0	99	102	3.0	70 - 130	30	
Tetrachloroethene	ND	101	96	5.1	98	97	1.0	70 - 130	30	
Toluene	ND	101	96	5.1	97	99	2.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	108	106	1.9	97	99	2.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	106	103	2.9	96	99	3.1	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	107	108	0.9	102	104	1.9	70 - 130	30	
Trichloroethene	ND	104	98	5.9	98	101	3.0	70 - 130	30	
Trichlorofluoromethane	ND	104	103	1.0	29	30	3.4	70 - 130	30	m
Trichlorotrifluoroethane	ND	110	107	2.8	99	101	2.0	70 - 130	30	
Vinyl chloride	ND	115	114	0.9	116	118	1.7	70 - 130	30	
% 1,2-dichlorobenzene-d4	99	100	100	0.0	100	101	1.0	70 - 130	30	
% Bromofluorobenzene	97	99	99	0.0	101	100	1.0	70 - 130	30	
% Dibromofluoromethane	97	100	99	1.0	96	96	0.0	70 - 130	30	
% Toluene-d8	95	101	100	1.0	99	100	1.0	70 - 130	30	

Comment:

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

QA/QC Batch 303152 (ug/kg), QC Sample No: BH90382 (BH90379, BH90380, BH90381, BH90382, BH90383, BH90386, BH90387, BH90388)

Di 130000)										
Polynuclear Aromatic	HC - Soil									
2-Methylnaphthalene	ND	90	93	3.3	103	102	1.0	30 - 130	30	
Acenaphthene	ND	84	86	2.4	88	91	3.4	30 - 130	30	
Acenaphthylene	ND	87	91	4.5	91	93	2.2	30 - 130	30	
Anthracene	ND	92	97	5.3	95	96	1.0	30 - 130	30	
Benz(a)anthracene	ND	92	97	5.3	90	91	1.1	30 - 130	30	
Benzo(a)pyrene	ND	93	94	1.1	89	89	0.0	30 - 130	30	

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzo(b)fluoranthene	ND	95	92	3.2	86	96	11.0	30 - 130	30	
Benzo(ghi)perylene	ND	95	89	6.5	89	91	2.2	30 - 130	30	
Benzo(k)fluoranthene	ND	96	94	2.1	94	87	7.7	30 - 130	30	
Chrysene	ND	90	92	2.2	80	83	3.7	30 - 130	30	
Dibenz(a,h)anthracene	ND	90	90	0.0	92	93	1.1	30 - 130	30	
Fluoranthene	ND	102	112	9.3	86	93	7.8	30 - 130	30	
Fluorene	ND	86	90	4.5	90	90	0.0	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	92	90	2.2	88	90	2.2	30 - 130	30	
Naphthalene	ND	89	90	1.1	98	99	1.0	30 - 130	30	
Phenanthrene	ND	91	94	3.2	86	87	1.2	30 - 130	30	
Pyrene	ND	104	115	10.0	90	96	6.5	30 - 130	30	
% 2-Fluorobiphenyl	76	83	87	4.7	91	90	1.1	30 - 130	30	
% Nitrobenzene-d5	69	83	78	6.2	88	90	2.2	30 - 130	30	
% Terphenyl-d14	87	104	113	8.3	100	108	7.7	30 - 130	30	

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 303384 (ug/kg), QC Sample No: BH91171 (BH90380 (50X))

V	<u>/c</u>	la	atil	es	_	S	<u>oil</u>
4	_	•	T -1	- 6-1 -			

Comment:

1,2,3-Trichlorobenzene	ND	91	93	2.2	58	57	1.7	70 - 130	30	m
1,2,4-Trichlorobenzene	ND	88	89	1.1	64	61	4.8	70 - 130	30	m
1,2,4-Trimethylbenzene	ND	90	91	1.1	104	95	9.0	70 - 130	30	
1,2-Dichlorobenzene	ND	94	94	0.0	94	92	2.2	70 - 130	30	
1,3,5-Trimethylbenzene	ND	96	96	0.0	116	110	5.3	70 - 130	30	
1,3-Dichlorobenzene	ND	94	94	0.0	98	95	3.1	70 - 130	30	
1,4-Dichlorobenzene	ND	92	93	1.1	96	94	2.1	70 - 130	30	
Isopropylbenzene	ND	96	97	1.0	128	120	6.5	70 - 130	30	
Naphthalene	ND	92	96	4.3	66	66	0.0	70 - 130	30	m
n-Butylbenzene	ND /	94	95	1.1	105	98	6.9	70 - 130	30	
n-Propylbenzene	ND	93	92	1.1	121	113	6.8	70 - 130	30	
p-lsopropyltoluene	ND	96	96	0.0	117	109	7.1	70 - 130	30	
sec-Butylbenzene	ND	99	99	0.0	117	109	7.1	70 - 130	30	
tert-Butylbenzene	ND	97	97	0.0	124	117	5.8	70 - 130	30	
% 1,2-dichlorobenzene-d4	100	100	100	0.0	98	98	0.0	70 - 130	30	
% Bromofluorobenzene	98	98	100	2.0	91	92	1.1	70 - 130	30	
Comment:										

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

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

SDG I.D.: GBH90379

April 10, 2015

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

Sample Criteria Exceedences Report Criteria: CT: GAM, RC

Friday, April 10, 2015

State: CT

GBH90379 - GZA-AMER

State: CT	CT						귐	Analysis
SampNo	Acode	Phoenix Analyte	Criteria	Result	R	Criteria	Criteria	Units
BH90380	\$8100SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (ND	2500	1000	1000	ug/Kg
BH90380	\$8100SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (Q	2500	1000	1000	ug/Kg
BH90380	\$8100SMR	Benzo(k)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (Q	2500	1000	1000	ug/Kg
BH90380	\$8100SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (QN	2500	1000	1000	ug/Kg
BH90380	\$8100SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	N	2500	1000	1000	ug/Kg
BH90380	\$8100SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	QN	2500	1000	1000	ug/Kg
BH90380	\$8100SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	QN	2500	1000	1000	ug/Kg
BH90380	\$ETPH SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	8000	1000	200	200	mg/Kg
BH90380	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	8000	1000	200	200	mg/Kg
BH90382	\$8010-MAR	Bromoform	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	Q	270	80	80	ug/Kg
BH90382	\$8010-MAR	1,2-Dichloroethane	CT / VOLATILE ORGANIC COMPOUND / GA/GAA PMC	24	4.5	20	20	ug/Kg
BH90387	\$8100SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (QN	1400	1000	1000	ug/Kg
BH90387	\$8100SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (QN	1400	1000	1000	ug/Kg
BH90387	\$8100SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (QN	1400	1000	1000	ug/Kg
BH90387	\$8100SMR	Benzo(k)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / GA/GAA PMC (Q	1400	1000	1000	ug/Kg
BH90387	\$8100SMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	Q	1400	1000	1000	ug/Kg
BH90387	\$8100SMR	Benzo(a)pyrene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	ND	1400	1000	1000	ug/Kg
BH90387	\$8100SMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / RES DEC (mg/k	Q	1400	1000	1000	ug/Kg
BH90387	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / GA/GAA PMC (mg/kg	3300	300	200	200	тд/Кд
BH90387	\$ETPH_SMR	Ext. Petroleum HC	CT / PESTICIDES, PCB's, TPH, a / RES DEC (mg/kg)	3300	300	200	200	mg/Kg

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	ratory Name: Phoenix Environmental Labs, Inc. Client: GZA GeoEnvironmental, Inc.												
Proje	ect Location: AMERBELLE MILLS (#45441) Project Number:												
Labo	pratory Sample ID(s): BH90379, BH90380, BH90381, BH90382, BH90383, BH90386, BH90387, BH90388, BH90389, BH90390	3H90384, BH90385,											
Sam	pling Date(s): 3/31/2015												
RCP	Methods Used:												
<u> </u>	311/1312 🗹 6010 🗌 7000 🔲 7196 📝 7470/7471 🔲 8081	☐ EPH ☐ TO15											
✓ 80	82	☐ VPH											
1.	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?	✓ Yes □ No											
1a.	▼ Yes □ No												
1b.	D. EPH and VPH methods only: Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods) ☐ Yes ☐ No ✔ NA												
2.	Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)? ✓ Yes □ No												
3.	Were samples received at an appropriate temperature (< 6 Degrees C)?	✓ Yes □ No □ NA											
4.	Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Section: VOA Narration.	☐ Yes ☑ No											
5a.	Were reporting limits specified or referenced on the chain-of-custody?	✓ Yes □ No											
5b.	Were these reporting limits met?	☐ Yes ☑ No ☐ NA											
6.	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	☐ Yes ☑ No ☐ NA											
7	Are project-specific matrix spikes and laboratory duplicates included in the data set?	✓ Yes □ No □ NA											
Note:	For all questions to which the response was "No" (with the exception of question #5a, #7 be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the the requirements for "Reasonable Confidence".												
and	e undersigned, attest under the pains and penalties of perjury that, to the belief and based upon my personal inquiry of those responsible for prov tained in this analytical report, such information is accurate and complet	viding the information											
	Date: Fridav	, April 10, 2015											
	norized Sthan Lee Printed Name: Ethan	•											
	Position: Project	t Manager											



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RCP Certification Report
April 10, 2015

SDG I.D.: GBH90379

BH90379, BH90380, BH90381, BH90382, BH90383, BH90386, BH90387, BH90388 - The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

BH90379, BH90380 - The client requested a short list of analytes from the 8260 RCP Volatile list. Only the volatile aromatic constituents are reported as requested on the chain-of-custody.

BH90381, BH90382, BH90383 - The client requested a short list of analytes from the 8260 RCP Volatile list. Only the halogenated volatile organic constituents are reported as requested on the chain-of-custody.

BH90385 - The client requested a short list of analytes from the 6010 RCP Metals list. Only the RCRA 8 Metals are reported as requested on the chain of custody.

BH90389, BH90390 - The client requested a short list of analytes from the 8260 RCP Volatile list. Only the aromatic and halogenated volatile organic constituents are reported as requested on the chain-of-custody.

BH90380, BH90387 - Sample(s) required a dilution for Semivolatiles due to a matrix interference and/or the presence of a large amount of non-target material in the sample. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

BH90382 - Due to a suppression of the last internal standard in the low level Volatiles analysis, affected compounds are reported from the high level analysis. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

ETPH Narration

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

Instrument:

Au-fid1 04/02/15-2 (BH90380)

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

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

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/2/2015

Instrument:

Au-fid84 04/01/15-2 (BH90381, BH90383, BH90387)

Initial Calibration (FID84 - ETPH 13) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/1/2015



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RCP Certification Report

April 10, 2015

SDG I.D.: GBH90379

Instrument:

Aufid-d1 04/01/15-2 (BH90379, BH90385, BH90386, BH90388)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/1/2015

Instrument:

Au-xl2 04/01/15-2 (BH90382)

Initial Calibration (FID1 - ETPH 1) - The initial calibration curve was within method criteria and had a %RSD less than 30%.

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

Printed Name

Jeff Bucko

Position:

Chemist

Date:

4/1/2015

QC (Site Specific)

----- Sample No: BH90382, QA/QC Batch: 303147 -----

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.

Mercury Narration

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

Instrument:

Merlin 04/01/15-1 (BH90385)

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.





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RCP Certification Report

April 10, 2015

SDG I.D.: GBH90379

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer

Position: Chemist **Date:** 4/1/2015

QC (Batch Specific)

----- Sample No: BH90371, QA/QC Batch: 303185 -----

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.

ICP Narration

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

Instrument: Arcos 04/02/15-1 (BH90385)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin Chemist Date: 4/2/2015

QC (Batch Specific)

----- Sample No: BH90236, QA/QC Batch: 303146 -----

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

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

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

PAH Narration

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

Instrument: Chem05 03/31/15-2 (BH90379, BH90382, BH90383, BH90386, BH90388)

Initial Calibration Verification (CHEM05/BN_0323):



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RCP Certification Report

April 10, 2015

SDG I.D.: GBH90379

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM05/0331_28-BN_0323):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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

Printed Name

Damien Drobinski

Position:

Chemist

Date:

3/31/2015

QC (Site Specific)

----- Sample No: BH90382, QA/QC Batch: 303152 -----

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

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

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

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

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

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

PCB Narration

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

Instrument:

Au-ecd6 04/01/15-1 (BH90386, BH90387, BH90388)

8082 Narration:

The initial calibration RSD for the compound list was less than 15% except for the following compounds: none

The continuing calibration standards were within acceptance criteria except for the following compounds: noneThe initial calibration (PC223AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC223BI) 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.



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RCP Certification Report

April 10, 2015

SDG I.D.: GBH90379

Printed Name Adam Werner

Position:

Chemist

Date:

4/1/2015

QC (Batch Specific)

----- Sample No: BH90343, QA/QC Batch: 303130 -----

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

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

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

SVOA Narration

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

Instrument: Chem19 04/01/15-1 (BH90380, BH90381, BH90387)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM19/SV_0326):

95% of target compounds met criteria.

The following compounds had %RSDs >20%: 2,4-Dinitrophenol (29%), 4,6-Dinitro-2-methylphenol (27%), 4-Nitrophenol (22%), Benzidine (21%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM19/0401 02-SV 0326):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.060)[0.1], Hexachlorobenzene (.073)[0.1] The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position:

Chemist

Date:

4/1/2015

Instrument: Chem19 04/02/15-1 (BH90380)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM19/SV_0326):

95% of target compounds met criteria.

The following compounds had %RSDs >20%: 2,4-Dinitrophenol (29%), 4,6-Dinitro-2-methylphenol (27%), 4-Nitrophenol (22%), Benzidine (21%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM19/0402 02-SV 0326):



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RCP Certification Report

April 10, 2015

SDG I.D.: GBH90379

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.064)[0.1], Hexachlorobenzene (.074)[0.1]

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

Printed Name

Damien Drobinski

Position:

Chemist

Date:

4/2/2015

QC (Site Specific)

----- Sample No: BH90382, QA/QC Batch: 303152 -----

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

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

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

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

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

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

VOA Narration

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

OC Batch 303220 (Samples: BH90379, BH90380, BH90381, BH90382, BH90383, BH90389, BH90390): —

The LCS/LCSD recovery is acceptable. One or more analytes in the site specific matrix spike recovery is below the method criteria, therefore a low bias is possible. (Chloroethane, Trichlorofluoromethane)

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. (Dichlorodifluoromethane)

Instrument:

Chem15 03/31/15-1 (BH90379, BH90380, BH90381, BH90382, BH90383, BH90389,

BH90390)

Initial Calibration Verification (CHEM15/voa5g 0331):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (28%), Chloroethane (21%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0331B15-voa5g_0331):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.





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RCP Certification Report

April 10, 2015

SDG I.D.: GBH90379

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

Printed Name

Jane Li

Position:

Chemist

Date:

3/31/2015

Instrument:

Chem15 04/01/15-2 (BH90380, BH90381)

Initial Calibration Verification (CHEM15/voa5g 0331):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (28%), Chloroethane (21%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0401B32-voa5g_0331):

99% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: Dichlorodifluoromethane (-32%)[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.

Printed Name

Jane Li

Position:

Chemist

Date:

4/1/2015



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RCP Certification Report

April 10, 2015

SDG I.D.: GBH90379

QC (Site Specific)

----- Sample No: BH90382, QA/QC Batch: 303220 -----

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: Chloroethane(34%), Dichlorodifluoromethane(133%), Trichlorofluoromethane(29%)

All MSD recoveries were within 70 - 130 with the following exceptions: Chloroethane(34%), Dichlorodifluoromethane(136%), Trichlorofluoromethane(30%)

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.

QC (Batch Specific)

----- Sample No: BH91171, QA/QC Batch: 303384 -----

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.

VOA TCL Narration

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

Instrument:

Chem15 03/31/15-1 (BH90382)

Initial Calibration Verification (CHEM15/TCLSNJD 0331):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: Acetone (30%), Chloroethane (21%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM15/0331B15-TCLSNJD_0331):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

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

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



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



RCP Certification Report

April 10, 2015

SDG I.D.: GBH90379

Printed Name

Jane Li

Position:

Chemist

Date:

3/31/2015

Temperature Narration

The samples were received at 1C with cooling initiated. (Note acceptance criteria is above freezing up to 6°C)

ant IPK ICE No	Temp °C Pg / of	Contact Options:	860-858-3103	1	This section MIST he	completed with	Bottle Quantities.		1000/2001	1400 (1400) (1406.2 1406.2 1406.2	10 8 10 10 10 10 10 10 10 10 10 10 10 10 10				SOUME FOR MEMO									Data Format		R PDF	EQUIS D. EQUIS	Other Data Package	Tier II Checklist		* SURCHARGE APPLIES
Coolant	_	OI Fav.	Phone: Email:	Proj				1			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	\$ 100 TO				FXTRA									MA	MCP Certification	GW-1	GW-2 □ GW-3	S-1	S-2 □ S-2	☐ MWRA eSMART☐ Other	ted:
)T 06040	823 823	(IANAH)				11117						S	38.1	2 6	<u>e</u>								CT	RCP Cert	GW Protection	GA Mobility	GB Mobility	Residential DEC	U I/C DEC	State where samples were collected:
	CHAIN OF CUSTODY RECORD	587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040	Fax (860) 645-0823 645-8726	Americallo Inilli	Fire	Files	1	111			13	Service of the servic							×	×	×	*			22	Direct Exposure (Residential)	œ 	Other				State where
	CUSTOD	e, P.O. Box 37(info@phoenixlabs.com Fax (860) 64 Client Services (860) 645-8726				C		/		600	13			×	×	8	7	×				×		Time:	8151					E:	E APPLIES
	HAIN OF	fiddle Tumpik	Email: info@phoenixlabs.com Client Services (8)	Project:	Report to:	_ Invoice to:		L	Analysis	200	180	201	X X X	X	×	×	X		×	X X	X	8	\ <u>\</u>		Date: ,	3/31/15			Turnaround:	1 Day*	3 Days*	Other SURCHARGE APPLIES
	O	587 East N	Email		* 40°				3/31/12	Scho Water	ed	Time	-	બેક્લ	1100	SIII	Sell	1300	Bro	1400	1410	1000	99CD								,	
					1.ve 50	33 /		ation	Date: 3	ther WW=W/a	olid W=Wipe	Date	3/31/15						-	_		>	7		-:	37						
	â		Inc.		Brook 1	7 06033		on - Identific		-Surface Wa	S=Soil SD=Solid	Sample	5	5	4	4	4	4	4	4	4	4	h		. X	adri			ons:			
	3		ratories,		Winding	,	3	Client Sample - Information - Identification	À	nd Water SW:	SI=Sludge S	Customer Sample Identification	1 (0.52)	J(0.5-2)	(1-6)	(2.7.7)	$\mathbf{\mathcal{I}}$	\neg	\exists	(2-170)	(2-3(-0)	(0,5-5,5)	r-Low	Hgr	Accepted by:	Spa			ts or Regulatic			
	1		ıtal Labo	发出		Glatonbur		Client Samp	Sister 1	er GW =Grou	v Water SE=Sediment B=Bulk L=Liquid		AOC-7-	ACC-7-2	C)C-30-j	P165-16-2	A6C-20~3	BCC-16-	Acc-16-	Acc-15-	7-51-500	AQC-15-3	TR 033115	10-4		۱		C	Кедигетел			
	- Trace		Environmental Laboratories,	Customer:	Address:				Sampler's Signature	Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water Www=waste water	RW=Raw Water SE=Sediment SL=Sludge OIL=Oil B=Bulk L=Liquid	PHOENIX USE ONLY SAMPLE #	90379	90380			40383	40384	70385	403860	40387	90388	-038A	40340	Relinquished by:	Carte			Comments, Special Requirements or Regulations:			

APPENDIX E GROUNDWATER SAMPLING FIELD DATA SHEETS AND LABORATORY ANALYTICAL REPORTS

				VATER	LEVE	L MEA	MENT LO	3						
655 Wind	Environmental, l ding Brook Dr, Su ury, CT 06033		Project Name			OJECT Amerbelle M	ills		Date: 4/30/2015 File No.	Page 1 of 1 45441				
	860) 286-8900		Location: Ro	ockville, Con	necticicut				GZA Staff/Sampler AJT/RJS					
	erature (°F):	~65				G EQUIPME	ENT		Abbreviations: PVC = Top of PVC well riser.					
Weather C	onditions:	sunny	Measuring		Keck				Stl = Top of steel well casing/protector.					
	Υ	lls a.	FiberglassTap		Electric Tape		Interface	Meter Other	Grnd = Relative to ground surface.					
Time	Well/Stream Gauge I.D.	Depth to Water (ft)	Total Depth of Well (ft)	Measmnt. Datum PVC/Stl/Grnd	DNAPL Thickness (ft)	LNAPL Thickness (ft)	Correct. Factor (ft)	С	omments/Well Condition					
	GZ-1	8.59	18.08	PVC		NM		Good						
	GZ-2	6.48	24.33	PVC		NM		Good						
	GZ-3	11.89	20.2	PVC		NM		Good						
	GZ-4	9.14	10.54	PVC		0		Good						
	GZ-5	>16.2	16.2	PVC		NM		Good						
	AM-1	10.72	12,5	PVC		NM		Well was set in floor	with no protective casing					
	AM-7	8.62	9.5	PVC		0		No well cover						
	ME-1	4.51	14	PVC		NM		Needs well cover						
	ME-2	5,38	14.9	PVC		NM		Needs well cover						
	ME-6	18.33	25.5	PVC		0		Needs well cover						
	MW-01	7.43	49,4	PVC		NM		Good						
	MW-02	18.53	32.6	PVC	NM			Good						
	MW-03	10,32	36.7	PVC		NM	-	Good						
					NM = Not Me	easured								

GROUNDWATER SAMPLING DATA SHEET

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

Well ID:	GZ-05
Sample Date:	4/30/2015

PROJECT INFORMATION			Amerhelle		Location	Rock	ville CT	File No.	45441	
			Amerbelle				vine, e i			
WATER LEVEL OBSER Reference Point of Measure: Well Completion: Difference Between PVC an Well Screened Interval (fbg) HACH Kit Type	ment: PVC I Stand Pipe ad Casing Top (1	Road Bo		Ground [Reference E Ground Elev Difference in	n Elevation (fo	set):	Collector Initial	s:	RJS
			om Ref. Point			(Reference Po	int Measurement -	Difference in Elev	ration)	
Total Length of Well (feet): Depth to Water (feet):			16.2 >16.2		6.7	Total Purged	Sample Volume	·	gallons or	liters 🗌
Standing Water in Well (fee	t):		vic :		*		s by 0.2642 to g		• _	
Well Condition: Protective Well head vapors: VOCs (F		good; Lock	- <u>Yes / No;</u> Exp. _ppmv	ansion Cap - <u>Y</u> Methane (FII		D - <u>Yes / No;</u>			- poor / good	ppmv
Sample Method: Bail — Pump Type: Electri	Grab □ ic Submersible	_	Low Flow Peristaltic] Pump ☑ mp □	Flow-Thru C	ell Vol: (460mL	.) I Other:	
CALIBRATION DATA:						Tem	p/time (#1)		Temp/time	
Specific Conductance: pH (s.u.):	Instrument Mo Instrument Mo		YSI 556 YSI 556	Standard Solu Reading: pl			Reading (#1)	1376 7.11/7.0	Reading (#2) nH 10: (1/2)	9,94/9,99
DO (mg/L):	Instrument Mo	del:	YSI 556	Standard Solu	ution:	100%	Reading (#1)	91.00%		97.80%
Turbidity (NTU): ORP (mvolts:)	Instrument Mo Instrument Mo		Micro TPI YSI 556	Standard Solu Standard Solu			Reading (#1) Reading (#1)	Calibrated 218.9	(#2)	237.5
INSTRUMENT MEASUR	EMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:										
Depth to Water (ft) below Ref. point (drawdown <0.3)	w	ell is dry at 1	16.2'							
Volume Purged (L)	1 2									
Purge Rate (ml/min)										
Temperature (3%) °C										
Spec. Cond. (3%) (µS)										
Salinity (3%) (ppt)										
DO (10%) (mg/L)										
pH (+/- 0.1) (s.u.)										
ORP** (+/- 10) (mvolts)										
Turbidity (<5) (10%) (ntu)										
*Static measurement is b **If ORP is negative and				er than 10 mg/.	L; recalibrate	and/or clean i	nstrument. If pe	rsistent call PM.		
SAMPLING INFORMAT	<u>ION</u> Sar	nple Depth: (below	grade or re		ample Time:			Sample ID:	GZ-05	
Analysis	Method		No. Bottles	Bottle	Туре	Vol.	Preservation		Handling	
NOTES/OBSERVATIONS	<u>8:</u>									
Color: Clear	Odor:		Product Thicks	occ.			Well Condition		Good	

(Call PM if present)

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

GROUNDWATER SAMPLING DATA SHEET

Well ID:	AM-1
Sample Date:	4/30/2015

PROJECT INFORMATI			Amerbelle		Location	:Ro	ockville, CT	_ File No.	45441	
WATER LEVEL OBSER Reference Point of Measure Well Completion: Difference Between PVC as Well Screened Interval (fbg HACH Kit Type	ement: PVC Stand Pipe nd Casing Top (1	Road Bo		Ground	A/30/2015 // Reference E Ground Ele Difference i (Reference Ele Other Field Me	Elevation (feet) vation (feet) n Elevation vation - Ground	(feet):	Collector Initia	is:	RJS
Total Length of Well (feet): Depth to Water (feet): Standing Water in Well (feet) Well Condition: Protective Well head vapors: VOCs (feet)	et): Casing - poor/	zood; Lock	om Ref. Point 12.51 10.72 1.79 - Yes / No; Expa	12 10 1.	.77 .98 79 ' <u>es/No</u> ; Well I	Total Purg Multiply li		e get gallons - <u>Yes / No;</u> Well	gallons or [
CALIBRATION DATA:	ric Submersible		Peristaltic 🗸		Bladder Pu	mp 🗆 Te	emp/time (#1)		Temp/time	(#2)
Specific Conductance; pH (s.u.); DO (mg/L); Turbidity (NTU); ORP (mvolts;)	Instrument Mo Instrument Mo Instrument Mo Instrument Mo Instrument Mo	del: del: del:	YSI 556 YSI 556 YSI 556 Micro TPI YSI 556	Standard Solu Reading: pl Standard Solu Standard Solu Standard Solu	H 4: (1/2) ution: ution:	3.98/4. 100 1000/10/0.	00 pH 7: (1/2)	91.00% Calibrated	pH 10: (1/2) (#2)	9.94/9.99 97.80% 237.5
INSTRUMENT MEASUF	REMENTS:			,						
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time: Depth to Water (ft) below Ref. point (drawdown <0.3)	1222	1227^								1227^ _
Volume Purged (L)										•
Purge Rate (ml/min)		+								22
Γemperature (3%) °C		7.40								7.40
Spec. Cond. (3%) (µS)		201								201
Salinity (3%) (ppt)		0.10								0.10
OO (10%) (mg/L)		10.53								10.53
oH (+/- 0.1) (s.u.)		6.87								6.87
ORP** (+/- 10) (mvolts)		235.6								235.6
Turbidity (<5) (10%) (ntu)										
*Static measurement is b **If ORP is negative and	efore installation DO is greater th	of equipments of an 2 mg/L o	nt. r if DO is greate	er than 10 mg/l	L; recalibrate	and/or clean	instrument. If pe	rsistent call PM.		1 *)
SAMPLING INFORMAT	<u>TION</u> San	nple Depth: (below g	11.5' grade or ref.	ptX)	ample Time:	124	45	Sample ID:	AM-1	
Analysis	Method		No. Bottles	Bottle		Vol.	Preservation		Handling	
CCRA 8 Metals PAHs	8270		1 I	Plas Gla		250-mL 1 L	HNO3 As Is		Ice/Cooler Ice/Cooler	
Ammonia			i	Plas		250-mL	H2SO4		Ice/Cooler	
Phenol			3	Gla	iss	1 L	H2SO4		Ice/Cooler	
Well ran dry, grab sample	was collected wit	th only one re	ound of field me	easurements co	llected					
		omy one n	cana or noru ilic							
NOTES/OBSERVATIONS	-T-									
Color: Brown-silty	Odor:	No	Product Thickne	ess.	2.5		Well Conditions		Poor no metal	can

NOTES/OBSERVATIONS:

Brown

Odor: No

Color:

GZA GeoEnvironmental, In 655 Winding Brook Drive, S Glastonbury, CT 06033			GROUNDV	VATER SAI	MPLING I	OATA SHE	ET	Well ID: Sample Date:		AM-7 4/30/2015
PROJECT INFORMATION	ON Project Name:		Amerbelle		Location:	Rock	ville, CT	File No.	45441	
WATER LEVEL OBSER' Reference Point of Measure Well Completion: Difference Between PVC ar Well Screened Interval (fbg) HACH Kit Type	ment: PVC F Stand Pipe and Casing Top (for	Riser 🔽 Stee Road Box	Measurement E El Casing ☐ (☑ 0 4,5-9,5	Ground [Ground Elev Difference in	levation (feet) vation (feet) n Elevation (fe vation - Ground E	eet):	Collector Initials	3;	RJS
Total Length of Well (feet): Depth to Water (feet): Standing Water in Well (fee Well Condition: Protective Well head vapors: VOCs (F	Casing - poor / 1	9		Depth Below 9. 8.6 (ansion Cap - Y Methane (FID	12 62) (<u>es/No</u> ; Well I	Total Purged Multiply liter	Sample Volumes by 0.2642 to g	get gallons	gallons or	liters □
Pump Type: Electric CALIBRATION DATA:	ic Submersible		Peristaltic 🗸		Bladder Pu	mp Tem	Other: p/time (#1)	Cell Vol: (460mL	Temp/time	(#2)
Specific Conductance: pH (s.u.): DO (mg/L): Turbidity (NTU): ORP (mvolts:)	Instrument Mod Instrument Mod Instrument Mod Instrument Mod Instrument Mod	del: del: del:	YSI 556 YSI 556 YSI 556 Micro TPI YSI 556	Standard Solu Reading: pl Standard Solu Standard Solu Standard Solu	H 4: (1/2) ution:	3.98/4.00 100% 1000/10/0.02	Reading (#1) pH 7: (1/2) Reading (#1) Reading (#1) Reading (#1)		Reading (#2) pH 10: (1/2) (#2)	9.94/9.99 97.80% 237.5
INSTRUMENT MEASUR									2	
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time: Depth to Water (ft) below Ref. point (drawdown <0.3)	1324*	0920 [#]								
Volume Purged (L)		355								
Purge Rate (ml/min)										
Temperature (3%) °C		- 2								
Spec. Cond. (3%) (µS)		-								
Salinity (3%) (ppt)										
DO (10%) (mg/L)		- 20							=	
pH (+/- 0,1) (s.u.)										
ORP** (+/- 10) (mvolts)		==								
Turbidity (<5) (10%) (ntu)		-								
*Static measurement is b **If ORP is negative and	before installation I DO is greater the	of equipmer nan 2 mg/L or	nt if DO is greate	er than 10 mg/l	L; recalibrate	and/or clean i	nstrument. If pe	ersistent call PM.		
SAMPLING INFORMAT	<u>'ION</u> San	nple Depth: (below g	9.12 rade or ref	S. ptX)	ample Time:	1324		Sample ID:	AM-7	
Analysis RCRA 8 Metals	Method		No. Bottles	Pla	e Type stic	Vol. 250-mL	Preservation HNO3		Handling Ice/Cooler Ice/Cooler	
PAHs VOC	8270 8260		3		ass DA	40-mL	As Is HCL		Ice/Cooler	
*Due to poor recharge and t Return on 5/1 to fill PAH t	he lack of water			was collected.	2002		- 50			

Product Thickness: (Call PM if present)

Well Condition: Poor - well was set in floor with no protective casing.

GROUNDWATER SAMPLING DATA SHEET

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

Color:

Clear

Odor: No

Well ID:	GZ-0				
Sample Date:	4/30/2014				

PROJECT INFORMATI							1 111 000			
	Project Name:	-	Amerbelle		Location	: Ro	ckville, CT	File No.	45441	
WATER LEVEL OBSER Reference Point of Measur Well Completion: Difference Between PVC a Well Screened Interval (fbg HACH Kit Type	ement: PVC: Stand Pipe and Casing Top (1)	Riser 🗾 Stee Road Box	Measurement Date/Time: teel Casing Ground Ground Ground Elevation (fee O.28 Difference in Elevation (Reference Elevation - Ground Elevation - Gro				feet):	s:	RJS	
Total Length of Well (feet) Depth to Water (feet): Standing Water in Well (fe Well Condition: Protective Well head vapors: VOCs (1 8 9 good ; Lock -	m Ref. Point 8.08 3.59 0.49 Yes / No; Expa ppmy	18. 8.i 9. snsion Cap - Y Methane (FID	36 87 49 es/No; Well	Total Purge Multiply lit	ed Sample Volumers by 0.2642 to g 2; Concrete Collar ppmv	e 1.47 et gallons - <u>Yes / No;</u> Well	gallons or 🗸	liters □	
•	Grab Grab Instrument Mo Instrument Mo Instrument Mo Instrument Mo Instrument Mo Instrument Mo	odel: odel: odel: odel:	Low Flow Peristaltic YSI 556 YSI 556 YSI 556 Micro TPI YSI 556		Bladder Puntion: H 4: (1/2) atton: htton:	Te 14 3.98/4.0 1000/10/0.0	Other: mp/time (#1) 13 Reading (#1) 10 pH 7: (1/2) 6 Reading (#1) 12 Reading (#1) 13 Reading (#1)	1376	Temp/time Reading (#2) pH 10: (1/2) (#2)	(#2) 141
INSTRUMENT MEASU	REMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time: 0829 Depth to Water (ft) below Ref. point (drawdown <0.3) Volume Purged (L) Purge Rate (ml/min) Temperature (3%) °C Spec. Cond. (3%) (µS)	8.59	8.66 3.48 232 7.38	8.66 4.176 232 7.35	8.66 4.872 232 7.40	8.66 5.568 232 7.44					8.66 5.568 232 7.44
		2597	2593	2590	2596	-				2596
Salinity (3%) (ppt)		1.34	1.34	1.34	1.34	ļ				1.34
DO (10%) (mg/L) pH (+/- 0.1) (s.u.)		3.98 6.91	3.71 6.88	3.77 6.88	3.50					3.50 6.89
ORP** (+/- 10) (mvolts)		290.0	294.1	296.8	298.5					298.5
Turbidity (<5) (10%) (ntu) *Static measurement is **If ORP is negative an				2.73 or than 10 mg/l	4.41 L; recalibrate	and/or clean	instrument. If pe	ersistent call PM.		4.41
SAMPLING INFORMAT	<u> FION</u> Sai	mple Depth: (below g	13.1 rade or ref.		ample Time	: 090	00	Sample ID:	GZ-01	
Analysis RCRA 8 Metals SVOCs, Aniline Ammonia Phenol	Method 8270		No. Bottles 3 3 3 3	Bottle Pla: Gla Pla: Gla	stic ass stic	Vol. 250-mL 1 L 250-mL	Preservation HNO3 As In H2SO4 H2SO4		Handling Ice/Cooler Ice/Cooler Ice/Cooler	
MS/MSD taken on GZ-1	iS:									

Well Condition:

Good

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402

GROUNDWATER SAMPLING DATA SHEET

Well ID:	GZ-1
Sample Date:	5/18/2015

Glastonbury, CT 06033								Sample Date:		3/18/2013
PROJECT INFORMATIO										
	Project Name:		Amerbelle		Location:	Rock	ville, CT	File No.	45441	
WATER LEVEL OBSERY Reference Point of Measurer Well Completion: Difference Between PVC an Well Screened Interval (fbg) HACH Kit Type	ment: PVC F Stand Pipe d Casing Top (for	Riser 🗾 Stee	Measurement Del Casing	Ground 🗌	Ground Elev Difference in	levation (feet) vation (feet) n Elevation (feet) vation - Ground El	et):	Collector Initial	s:	AJT
Total Length of Well (feet): Depth to Water (feet): Standing Water in Well (fee Well Condition: Protective Well head vapors: VOCs (F	Casing - poor/g	1		18. 9.1 9.1	36 18 18 <u>es/No;</u> Well I	Total Purged Multiply liter	Sample Volume s by 0.2642 to g Concrete Collar	et gallons - <u>Yes / No;</u> Well	gallons or	liters ✓
Sample Method: Bail Pump Type: Electri	Grab ☐	_	Low Flow Peristaltic		od: Bail [Bladder Pu		Flow-Thru C	ell Vol: (460mI	L)	
CALIBRATION DATA: Specific Conductance: pH (s.u.): DO (mg/L): Turbidity (NTU): ORP (mvolts:)	Instrument Mod Instrument Mod Instrument Mod Instrument Mod Instrument Mod	del: del: del:	YSI 556 YSI 556 YSI 556 Micro TPI YSI 556	Standard Solu Reading: pl Standard Solu Standard Solu Standard Solu	I 4: (1/2) ation: ation:	3.81/3.99 100%	p/time (#1) Reading (#1) pH 7: (1/2) Reading (#1) Reading (#1) Reading (#1)		Reading (#2) pH 10: (1/2) (#2)	(#2)
INSTRUMENT MEASUR	EMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time: Depth to Water (ft) below Ref. point (drawdown <0.3)	8.9	8.97	1145 8.97	1150 8.97	8.97					8.97
Volume Purged (L)		1.6	2.4	3.2	4					4
Purge Rate (ml/min)		160	160	160	160					160
Temperature (3%) °C		10.3	10.5	10.44	10.41					10.41
Spec. Cond. (3%) (µS)		2071	2050	2049	2050					2050
Salinity (3%) (ppt)		1.06	1.05	1.05	1.05					1.05
DO (10%) (mg/L)		1.44	1.36	1.37	1.37					1.37
pH (+/- 0.1) (s.u.)		6.98	6.84	6.80	6.78					6.78
ORP** (+/- 10) (mvolts)		122.8	129.1	132.7	136.4					136.4
Turbidity (<5) (10%) (ntu)		6.03	2.84	2.37	2.25					2.25
*Static measurement is b **If ORP is negative and	etore installation I DO is greater the	n of equipme han 2 mg/L o	nt. or if DO is great	er than 10 mg/	L; recalibrate	and/or clean i	nstrument. If pe	ersistent call PM.		
SAMPLING INFORMAT	ION Sar	mple Depth: (below g		S. ptX)	ample Time	: 1155	;	Sample ID:	GZ-2	
Analysis	Method		No. Bottles	Bottle	Туре	Vol.	Preservation		Handling	
voc	8020		3	VC	OA .	40-mL	HCL		Ice/Cooler	
NOTES/OBSEDVATION	s.									

Well Condition:

Good

Odor: None

Color: Clear

GROUNDWATER SAMPLING DATA SHEET

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

NOTES/OBSERVATIONS:

Color: Cloudy brown

Well ID:	GZ-0			
Sample Date:	4/30/2015			

PROJECT INFORMATI			Amerbelle		Location	n: Roc	kville, CT	File No.	45441	
WATER LEVEL OBSER Reference Point of Measure Well Completion: Difference Between PVC a Well Screened Interval (fbg HACH Kit Type	ement: PVC Stand Pipe nd Casing Top (1)	Road Bo	Measurement I cel Casing \(\square\) x \(\square\) \(\	Ground	Ground Ele Difference	Elevation (feet) evation (feet) in Elevation (evation - Ground	feet):	Collector Initia	ls:	RJS - -
Total Length of Well (feet): Depth to Water (feet): Standing Water in Well (feet): Well Condition: Protective Well head vapors: VOCs (et): Casing - poor /	2	om Ref. Point 24.33 6.48 17.85 - Yes / No; Exp.	6.	.66 81 .85 .es/No; Well	Total Purge Multiply lite	d Sample Volum ers by 0.2642 to g	get gallons r - <u>Yes / No;</u> Wel	gallons or 🗸	
Sample Method: Bail Pump Type: Electron CALIBRATION DATA: Specific Conductance: pH (s.u.): DO (mg/L): Turbidity (NTU): ORP (mvolts:)	_	Low Flow Peristaltic YSI 556 YSI 556 YSI 556 Micro TPI YSI 556	_	Bladder P ation: H 4: (1/2) ation: ation:			7.11/7.0 pH 10: (1/2 91.00% (#2) Calibrated		(#2)	
INSTRUMENT MEASU	REMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time: 0930 Depth to Water (ft) below Ref. point (drawdown <0.3)	0945	8.19	1005 8.60	1010 8.97	9.41	9.83				9.83
Volume Purged (L)		1.03	1.375	1.72	2.065	2.41				2.41
Purge Rate (ml/min) Temperature (3%) °C		9.89	69 9.93	69 10.06	69	10.30				69 10.30
Spec. Cond. (3%) (µS)		6519	6519	6517	6516	6520				6520
Salinity (3%) (ppt)		3.58	3.58	3.58	3.57	3.58				3.58
DO (10%) (mg/L)		5.93	5.86	5.87	5.86	5.65				5.65
pH (+/- 0.1) (s.u.)		7.53	7.59	7.63	7.67	7.70				7.70
ORP** (+/- 10) (mvolts)		286.8	291.5	294.6	297.1	298.6				298.6
Turbidity (<5) (10%) (ntu) *Static measurement is b	pefore installation	114.8	1086	121.4	115.0	122.2				122.2
**If ORP is negative and	d DO is greater th	han 2 mg/L o	r if DO is great	er than 10 mg/l	L; recalibrate	e and/or clean	instrument. If po	ersistent call PM.		
SAMPLING INFORMAT	CION Sar	nple Depth: (below g	22 grade or ref	. ptX)	ample Time	: 102	3	Sample ID:	GZ-02	
Analysis RCRA 8 Metals	Method		No. Bottles	Bottle Pla	stic	Vol. 250-mL	Preservation HNO3		Handling Ice/Cooler	
SVOCs, Aniline Ammonia	8270		I	Gla Plas		1 L 250-mL	As In H2SO4		Ice/Cooler Ice/Cooler	
Phenol			1	Gla		1 L	H2SO4		Ice/Cooler	
6 H 1 D 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1										
Called PM about high turbid	dity and low flov	rate. Could	not maintain w	ater level. PM	instructed t	o collect samp	les.			

Odor: No

Well Condition:

Good

GROUNDWATER SAMPLING DATA SHEET

 $GZA\ GeoEnvironmental,\ Inc.$

Well ID:	GZ-2
Sample Date:	5/18/2015

655 Winding Brook Drive, Glastonbury, CT 06033	Suite 402							Sample Date:		5/18/2015
PROJECT INFORMATI							tu. am			
	Project Name:	-	Amerbelle		Location	:Rock	cville, CT	File No.	45441	
WATER LEVEL OBSER Reference Point of Measure Well Completion: Difference Between PVC a Well Screened Interval (fbg HACH Kit Type	ement: PVC I Stand Pipe and Casing Top (1	Riser 🗸 Stee	_	Ground [Ground Ele Difference i	Elevation (feet) vation (feet) in Elevation (forwation - Ground E	eet):	Collector Initials	s:	AJT
		Depth fro	m Ref. Point	Depth Below	Ground	(Reference Po	oint Measurement	Difference in Elev	ation)	
Total Length of Well (feet): Depth to Water (feet): Standing Water in Well (feet):			7.78 5.75 2.03	17. 5.9 12.	95 Total Purged S			Sample Volume 3.5 gallons s by 0.2642 to get gallons		liters 🗸
Well Condition: Protective Well head vapors: VOCs (Yes / No; Expa ppmv	ansion Cap - <u>Ye</u> Methane (FID		ID - <u>Yes / No;</u>				ppmv
-	☐ Grab ☐ ric Submersible	_	Low Flow 🖸 Peristaltic 💆		d: Bail [Bladder Pu		✓ Flow-Thru C Other: □	Cell Vol: (460mL) 🗸 Other:	
CALIBRATION DATA: Specific Conductance: pH (s.u.): DO (mg/L): Turbidity (NTU): ORP (mvolts:)	Instrument Mo Instrument Mo Instrument Mo Instrument Mo Instrument Mo	del: del: del:	YSI 556 YSI 556 YSI 556 Micro TPI YSI 556	Standard Solu Reading: pH Standard Solu Standard Solu Standard Solu	I 4: (1/2) tion: tion:	3.81/3.99 100%	np/time (#1) 3 Reading (#1) 9 pH 7: (1/2) 6 Reading (#1) Reading (#1) 5 Reading (#1)	1410 7.11/7.00 118.90% calibrated 248.1	Reading (#2) pH 10: (1/2)	(#2)
INSTRUMENT MEASU	REMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time: Depth to Water (ft) below Ref. point (drawdown <0.3)	5.75	7.11	8.22	8.75	9.37	9.82	10.21			10.21
Volume Purged (L)		1	1.5	2	2.5	3	3.5			3.5
Purge Rate (ml/min)		100	100	100	100	100	100			100
Temperature (3%) °C		12.68	12.59	12.61	12.59	12.69	12.69			12.69
Spec. Cond. (3%) (µS)		5844	5847	5846	5845	5846	5847			5847
Salinity (3%) (ppt)		3,19	3.19	3.19	3.19	3.19	3.19			3.19
DO (10%) (mg/L)		3.75	3.74	3.71	3.72	3.79	3.81		,	3.81
pH (+/- 0.1) (s.u.)		7.41	7.63	7.69	7.74	7.76	7.79			7.79
ORP** (+/- 10) (mvolts)		36.4	45.3	52.5	60	65	68.6			68.6
Turbidity (<5) (10%) (ntu)		29.61	28	27.58	19.09	22.11	18.84			18.84
*Static measurement is **If ORP is negative an				MIII	், recalibrate	e and/or clean	instrument. If pe	ersistent call PM.		
SAMPLING INFORMAT	ΓΙΟΝ Sai	mple Depth: (below g	11.58 rade or re		ımple Time	: 111:	5	Sample ID:	GZ-2	
Analysis VOC	Method 8020		No. Bottles	Bottle VC		Vol. 40-mL	Preservation HCL		Handling Ice/Cooler	7.

Product Thickness: (Call PM if present)

Odor: None

NOTES/OBSERVATIONS:

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402

GROUNDWATER SAMPLING DATA SHEET

Well ID:	GZ-03
Sample Date:	4/20/2015

Glastonbury, CT 06033								Sample Date:		4/30/2015
PROJECT INFORMAT	ION									
	Project Name:		Amerbelle		Location	:Ro	ckville, CT	File No.	45441	
WATER LEVEL OBSE Reference Point of Measur Well Completion: Difference Between PVC : Well Screened Interval (fb HACH Kit Type	rement: PVC Stand Pipe and Casing Top (ag)	Riser 🗾 Ste Road Bo		Ground [Reference E Ground Ele Difference i	vation (feet) in Elevation vation - Ground	(feet):	Collector Initia	ls:	RJS
Total Length of Well (feet) Depth to Water (feet): Standing Water in Well (feet) Well Condition: Protective Well head vapors: VOCs	eet): e Casing - <u>poor /</u>	1 8	m Ref. Point 20.2 1.89 3.71 Yes / No; Exp.	20 12 8.	2.2 31 (es/No; Well)	Total Purg Multiply li	Point Measurement ed Sample Volum ters by 0.2642 to g g; Concrete Collarppmv	e 1.36 get gallons - <u>Yes / No;</u> Well	gallons or 🗸	
Pump Type: Elect	☐ Grab ☐ tric Submersible		Low Flow Peristaltic		o d: Bail [Bladder Pu	ımp 🗆	✓ Flow-Thru (Other:	-		
CALIBRATION DATA: Specific Conductance: pH (s.u.): DO (mg/L): Turbidity (NTU): ORP (mvolts:)	Instrument Mo Instrument Mo Instrument Mo Instrument Mo Instrument Mo	del: del: del:	YSI 556 YSI 556 YSI 556 Micro TPI YSI 556	Standard Solu Reading: pl Standard Solu Standard Solu Standard Solu	H 4: (1/2) ution: ution:	3.98/4. 100 1000/10/0.	emp/time (#1) 13 Reading (#1) 00 pH 7: (1/2) 6 Reading (#1) 12 Reading (#1) 13 Reading (#1)	1376 7.11/7.0 91.00% Calibrated 218.9	pH 10: (1/2) (#2)	1413
INSTRUMENT MEASU	REMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time: 1125	1135	1150	1153	1156	1159					1159
Depth to Water (ft) below Ref. point (drawdown <0.3)	11.69	12.02	12.02	12,02	12.02					12.02
Volume Purged (L)		2.58	3.44	4.3	5.16					5.16
Purge Rate (ml/min)		172	172	172	172					172
Temperature (3%) °C		6.53	6.36	6.23	6.27					6.27
Spec. Cond. (3%) (µS)		400	390	382	379					379
Salinity (3%) (ppt)		0.19	0.19	0.19	0.19					
DO (10%) (mg/L)		7.20	7.04	6.8	7.00					0.19
pH (+/- 0.1) (s.u.)										7.00
ORP** (+/- 10) (mvolts)		7.78	7.72	7.68	7.66					7.66
Furbidity (<5) (10%) (ntu)	10 7 7	309.5	310.3	310.0	309.7					309.7
*Static measurement is **If ORP is negative an				3.86 er than 10 mg/l	3.59 L; recalibrate	and/or clean	instrument. If pe	rsistent call PM.		3.59
SAMPLING INFORMA	<u>FION</u> San	nple Depth: (below g	16' rade or ref		ample Time:	120	00	Sample ID:	GZ-03	
Analysis	Method	1	No. Bottles	Bottle	Туре	Vol.	Preservation		Handling	
RCRA 8 Metals	0.000			Plas		250-mL	HNO3		Ice/Cooler	
PAHs VOC	8270 8020		3	Gla VC		1 L 40-mL	As In HCL		Ice/Cooler Ice/Cooler	
						.0 1111	TICL		TOO/ COUNT	
NOTES/OBSERVATION	is:									

Product Thickness: (Call PM if present) Well Condition:

Good

Clear

Odor: No

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402

NOTES/OBSERVATIONS:

Clear

Odor: No

Color:

GROUNDWATER SAMPLING DATA SHEET

Well ID:	GZ-04
Sample Date:	4/30/2015

Glastonbury, CT 06033								Sample Date:		4/30/2015
PROJECT INFORMAT	TION									
	Project Name:		Amerbelle		Location	:Roo	ckville, CT	File No.	45441	
WATER LEVEL OBSE	RVATIONS		Measurement	Date/Time:	4/30/20	15 / 1125		Collector Initial	s:	RJS
Reference Point of Measu			eel Casing	Ground [Reference E	Elevation (fee	t)			
Well Completion:					Ground Ele	vation (feet)				
Difference Between PVC	and Casing Top (f	eet):	0.55			n Elevation (-
Well Screened Interval (fb HACH Kit Type	og) NA		2.54-10.54	<u>.</u>		vation - Ground				
HACH Kit Type	NA			-	Other Field Me	ethod	NA			-
		Depth fro	om Ref. Point	Depth Below	Ground	(Reference I	oint Measurement	- Difference in Elev	vation)	
Total Length of Well (feet	t):		10.54		1.09]`				
Depth to Water (feet):			9.14		.69			e	gallons or 🗸	liters 🗌
Standing Water in Well (f	eet):		1.40	1	.40	Multiply lit	ers by 0.2642 to g	get gallons		
Well Condition: Protectiv		good; Lock	- <u>Yes / No;</u> Exp			ID - <u>Yes / No</u>	; Concrete Collar			
Well head vapors: VOCs	(PID/FID)		_ppmv	Methane (FI	D/Other)		ppmv	Other		ppmv
Sample Method: Bail		_						Cell Vol: (460mL	c) 🗹 Other:	
Pump Type: Elec	tric Submersible		Peristaltic 🔽		Bladder Pu	ımp 🗆	Other:			ē
CALIBRATION DATA:						Та	mp/time (#1)		Temp/time	(#3)
Specific Conductance:	Instrument Mod	dal	YSI 556	Standard Sol	ution		3 Reading (#1)		_	
pH (s.u.):	Instrument Mod		YSI 556	Reading: p					nH 10: (1/2)	9.94/9.99
DO (mg/L):	Instrument Mod		YSI 556	Standard Sol		100	% Reading (#1)	7.11/7.0 91.00%	(#2)	97.80%
Turbidity (NTU):	Instrument Mod	del:	Micro TPI	Standard Sol	ution:	1000/10/0.0	Reading (#1)	Calibrated	(·-)	
ORP (mvolts:)	Instrument Mod	del:	YSI 556	_Standard Sol	ution:	237	.5 Reading (#1)	218.9	(#2)	237.5
INSTRUMENT MEASU	IREMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Гіте: 1339	1400	1415	1420	1425						1425
Depth to Water (ft)									30	
pelow Ref. point (drawdown <0.3)	9.14	9.64	9.67	6.71			1			(71
Volume Purged (L)	7.11				1					6.71
Purge Rate (ml/min)		1.42	1.895	8:52			-			8:52
		95	95	95			-			95
Γemperature (3%) °C		6.65	6.63	6.62						6.62
Spec. Cond. (3%) (µS)		2391	2391	2392						2392
Salinity (3%) (ppt)		1.23	1.23	1.23						1.23
OO (10%) (mg/L)		7.67	7.31	7.11						7.11
oH (+/- 0.1) (s.u.)		6.24	6.22	6.22						6.22
ORP** (+/- 10) (mvolts)		306.5	305.1	304.2						304.2
Furbidity (<5) (10%) (ntu)		7.84	6.17	4.37						4.37
*Static measurement is						10		Mil.		
**If ORP is negative an	nd DO is greater th	an 2 mg/L o	r if DO is greate	er than 10 mg/	L; recalibrate	and/or clean	instrument. If pe	ersistent call PM.		
SAMPLING INFORMA	TION Sam	ple Depth:	10,3'		ample Time:	142	7	Comple IDe	67.04	
ZIMI EMO INI ORMA	TION GAIL	(below g		. ptX_)	ample Tune.	142	,	Sample ID:	GZ-04	
Analysis	Method		No. Bottles	Rottle	е Туре	Vol.	Preservation		Handling	
RCRA 8 Metals	withing		1		stic	250-mL	HNO3		Ice/Cooler	
PAHs	8270		Í		ass	1 L	As In		Ice/Cooler	
/OC	8020		3		OA.	40-mL	HCL		Ice/Cooler	

Well Condition:

Good

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

NOTES/OBSERVATIONS:

Color: Clear

Well ID:	MW-03
Sample Date:	4/30/2015

PROJECT INFORMATI	<u>ON</u>									
	Project Name:		Amerbelle		Location	Roc	kville, CT	File No.	45441	
WATER LEVEL OBSER	VATIONS		Measurement I	Date/Time:	4/30/2015	5		Collector Initials	s: ,	AJT
Reference Point of Measure	ement: PVC I	Riser 🗾 Ste	el Casing 🔲	Ground [Reference E	levation (feet)				
Well Completion:	Stand Pipe	Road Box	x 🗸		Ground Ele	vation (feet)				2
Difference Between PVC as		eet):	0.8	_		n Elevation (f				
Well Screened Interval (fbg		-	27.5-37.5	-		vation - Ground I				
HACH Kit Type	NA				Other Field Me	einoa	NA			
			m Ref. Point	_		(Reference Po	oint Measurement	Difference in Elev	ation)	
Total Length of Well (feet):			6.01	36		Tracel D	1 C1- W-1	. 1.2		liters 🗀
Depth to Water (feet): Standing Water in Well (fee	et):		0.32 5.68		.68		d Sample Volumers by 0.2642 to g		gallons or 🗸	nters
						0				
Well Condition: Protective Well head vapors: VOCs (2000, LOCK -		Methane (FID		- <u>1 es / Nu,</u>				ppmv
C. I. Markette Dell	1 C1 []	Diverse 🗆	Law Flav.	Dunga Matha	de Doil [Dumn [Z Flour Than C	Cell Vol: (460mL) [] Othoru	
•	☐ Grab ☐ ric Submersible	-	Peristaltic		Bladder Pu		Other:	en voi. (400mb) 🖸 Omer.	Ш
i ump rype.				ļ.	Diaddor 1 c	•		·		5
CALIBRATION DATA:							mp/time (#1)			(#2)
Specific Conductance:	Instrument Mo		YSI 556	Standard Solu			0 Reading (#1)	1555		
pH (s.u.): DO (mg/L):	Instrument Mo		YSI 556 YSI 556	Reading: pl Standard Solu	, ,		4 pH 7: (1/2) 6 Reading (#1)	98.70%	pH 10: (1/2) (#2)	9.87/9.98
Turbidity (NTU):	Instrument Mo		Micro TPI	Standard Solu			2 Reading (#1)	0.02/0.02	(#2)	1000/1009
ORP (mvolts:)	Instrument Mo	del:	YSI 556	Standard Solu	ition:		4 Reading (#1)	241.9	(#2)	244
INSTRUMENT MEASUI	REMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1500	1510	0:00	1525	1530	1535				1535
Depth to Water (ft)										
below Ref. point (drawdown <0.3)	10.32	10.36	10.36	10.36	10.36	10.36				10.36
Volume Purged (L)	10.32									
Purge Rate (ml/min)		1.3	2.62	3.265	4.275	4.935				4.935
		130	132	129	130	130				130
Temperature (3%) °C		12.63	12.62	12.65	12.60	12.47	-			12.47
Spec. Cond. (3%) (µS)		3140	3607	3640	3652	3686				3686
Salinity (3%) (ppt)		1.65	1.91	2.04	2.09	2.12				2.12
DO (10%) (mg/L)		4.57	4.27	4.36	4.39	4.42				4.42
pH (+/- 0.1) (s.u.)		6.47	6.42	6.39	6.38	6.35				6.35
ORP** (+/- 10) (mvolts)		178	183.9	187.5	188.3	191.8				191.8
Turbidity (<5) (10%) (ntu)		458.7	84.38	51.41	51.63	50.53				50.53
*Static measurement is l **If ORP is negative and				er than 10 mg/	L; recalibrate	and/or clean	instrument. If pe	ersistent call PM.		
							_			
SAMPLING INFORMAT	<u>rion</u> Sar	nple Depth: (below g	31 grade or ref	S ptX)	ample Time	: 153	5	Sample ID:	MW-03	
Analysis	Method		No. Bottles	Bottle	Туре	Vol.	Preservation		Handling	
RCRA 8 Metals			1		stic	250-mL	HNO3		Ice/Cooler	
SVOCs, Aniline	8270		1		ass	1 L	As In		Ice/Cooler	
Ammonia			1	Pla	stic	250-mL	H2SO4		Ice/Cooler	
Phenol			1	Gl	ass	8-oz	H2SO4		Ice/Cooler	
VOC	8020		3	V	DA	40-mL	HCL		Ice/Cooler	

Odor: None

Well Condition:

Good

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

Well ID:	ME-
Sample Date:	4/30/2019

PROJECT INFORMATION	ON Project Name:		Amerbelle		Location	: Rock	ville, CT	File No.	45441	
WATER LEVEL OBSER Reference Point of Measure Well Completion: Difference Between PVC at Well Screened Interval (fbg HACH Kit Type	ement: PVC I Stand Pipe and Casing Top (f	Road Bo	Measurement cel Casing ox	Ground	Ground Elec Difference i	levation (feet) vation (feet) n Elevation (found E	eet):	Collector Initial	ls:	AJT
Total Length of Well (feet): Depth to Water (feet): Standing Water in Well (feet) Well Condition: Protective Well head vapors: VOCs (feet)	et); Casing - poor / p		om Ref. Point 14.48 4.51 9.97 - Yes / No; Exp	4.	.68 71 97 <u>es/No;</u> Well l	Total Purged Multiply lite	l Sample Volumers by 0.2642 to g	et gallons - <u>Yes / No;</u> Well	gallons or ✓ - poor / good	liters 🗌
	Grab CISUMERSIBLE Instrument Mo Instrument Mo Instrument Mo Instrument Mo Instrument Mo Instrument Mo	del: del: del: del:	Low Flow Peristaltic YSI 556 YSI 556 YSI 556 Micro TPI YSI 556		Bladder Put ution: H 4: (1/2) ution: ution:	Ten 1410 3.98/4 1000/10/0.02	Other: Ot	1555 6.98/7 98.70% 0.02/0.02 241.9	Temp/time Reading (#2) pH 10: (1/2) (#2)	(#2)
INSTRUMENT MEASU	REMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time: Depth to Water (ft) below Ref. point (drawdown <0.3) Volume Purged (L)	4.51	1030 4.52	1035 4.53 1.58	4.53 2.21	4.53 2.66	1050 4.53 3.19	4.53 3.71			4.53 3.71
Purge Rate (ml/min) Temperature (3%) °C		106 10.34	104	108	108 10.44	106 10.52	104			104 10.53
Spec. Cond. (3%) (µS) Salinity (3%) (ppt)		4303	4284 2.29	4275 2.28	2.28	4267 2.28	4265 2.28			4265 2.28
DO (10%) (mg/L) pH (+/- 0.1) (s.u.)		4.25 6.83	4.13 6.65	4.06 6.58	3.83	3.79 6.50	3.66 6.47			3.66
ORP** (+/- 10) (mvolts) Turbidity (<5) (10%) (ntu)		23.16	174.0	179.5 14.6	182.5	186.4 5.89	189.8 3.39			189.8 3.39
*Static measurement is b **If ORP is negative and SAMPLING INFORMAT	d DO is greater the	han 2 mg/L c mple Depth:	or if DO is great		L; recalibrate			ersistent call PM. Sample ID:	ME-1	
Analysis RCRA 8 Metals SVOCs, Aniline Ammonia	Method 8270		No. Bottles 1 1	Pla Gl:	e Type stic ass stic	Vol. 250-mL 1 L 250-mL	Preservation HNO3 As Is H2SO4		Handling Ice/Cooler Ice/Cooler Ice/Cooler	
Phenol Methanol			0		ass	8-oz 40-mL	H2SO4 As Is		Ice/Cooler Ice/Cooler	

NOTES/OBSERVATIONS:

Extra volume for methanol MS/MSD.

Color: Clear Odor: None Product Thickness: - Well Condition: Needs well cover

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

NOTES/OBSERVATIONS:

Color: Black/Blue

Well ID:	ME-2
Sample Date:	4/30/2019

PROJECT INFORMATI										
	Project Name:		Amerbelle		Location	: Roc	kville, CT	File No.	45441	
WATER LEVEL OBSEF Reference Point of Measur Well Completion: Difference Between PVC a Well Screened Interval (fbg HACH Kit Type	ement: PVC I Stand Pipe and Casing Top (1)	Road Bo	Measurement cel Casing \(\square\) (x \(\square\) (0 8-1)	Ground	Ground Ele Difference	Elevation (feet vation (feet) in Elevation (fevation - Ground I	eet):	Collector Initia	ls:	AJT
Total Length of Well (feet)	•		om Ref. Point	Depth Below	Ground .98	(Reference Pe	oint Measurement	- Difference in Ele	vation)	
Depth to Water (feet): Standing Water in Well (fe	et):		5.38 12.40		58 .40		1 Sample Volumers by 0.2642 to g		gallons or 🗸	liters 🗌
Well Condition: Protective Well head vapors: VOCs (Casing - poor /				es/No; Well	_	•	- <u>Yes / No;</u> Well		_ppmv
•	☐ Grab ☐ ric Submersible		Low Flow Peristaltic		od: Bail [Bladder Pi		☑ Flow-Thru C Other: □	Cell Vol: (460ml	L) I Other:	
CALIBRATION DATA: Specific Conductance: pH (s.u.): DO (mg/L): Turbidity (NTU): ORP (mvolts:)	Instrument Mo Instrument Mo Instrument Mo Instrument Mo Instrument Mo	del: del: del:	YSI 556 YSI 556 YSI 556 Micro TPI YSI 556	Standard Solu Reading: pl Standard Solu Standard Solu Standard Solu	H 4: (1/2) ution: ution:	3.98/- 1009/ 1000/10/0.00	np/time (#1)	1555 6.98/7 98.70% 0.02/0.02 241.9		1413
INSTRUMENT MEASUL	REMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	0830	0840	0845	0850	0855	0900				0900
Depth to Water (ft) below Ref. point (drawdown <0.3)	5.38	7.76	8,44	8.47	8.83	9.08				9.08
Volume Purged (L)		1.25	1.885	2.43	2.98	3.51				3.51
Purge Rate (ml/min)		126	125	109	110	106				106
Temperature (3%) °C		8.17	8.04	8.06	8.12	8.13				8.13
Spec. Cond. (3%) (µS)		5499	5522	5524	5523	5532				5532
Salinity (3%) (ppt)		2.8	2.99	2.99	2.99	3.0				3.0
DO (10%) (mg/L)		0.35	0.31	0.18	0.20	0.19				0.19
pH (+/- 0.1) (s.u.)		7.30	7.09	7.12	7.11	7.1				7.1
ORP** (+/- 10) (mvolts)		-22.3	-24.0	2.5	-24.6	-24.3				-24.3
Turbidity (<5) (10%) (ntu)		17.08	9.76	8.10	7.38	4.63				4.63
*Static measurement is l **If ORP is negative and				er than 10 mg/l	L; recalibrate	and/or clean:	instrument. If pe	rsistent call PM.		
SAMPLING INFORMAT	TION San	nple Depth: (below g	11.58 grade or ref		ample Time	: 0900)	Sample 1D:	ME-2	
Analysis RCRA 8 Metals	Method		No. Bottles	Bottle Pla	• •	Vol. 250-mL	Preservation HNO3		Handling Ice/Cooler	
SVOCs, Aniline	8270		1	Gla	70	1 L	As In		Ice/Cooler	
Ammonia			1	Pla		250-mL	H2SO4		Ice/Cooler	
Phenol			1	Gla		8-oz	H2SO4		Ice/Cooler	
Formaldehyde	.d. C. 1400400		3	Gla	ass	8-oz	As Is		Ice/Cooler	

Needs well cover

Well Condition:

 $GZA\ GeoEnvironmental,\ Inc.$ 655 Winding Brook Drive, Suite 402 Glastonbury, CT 06033

NOTES/OBSERVATIONS:

Clear

Color:

Well ID:	ME-6
Sample Date:	4/30/2015

PROJECT INFORMATI	ION Project Name:		Amerbelle		Location	: Roc	kville, CT	File No.	45441	
WATER LEVEL OBSER	RVATIONS		Measurement I	Date/Time:	4/30/201	5		Collector Initial	s:	AJT
Reference Point of Measure	ement: PVC F	Riser 🗾 Ste	eel Casing 🔲	Ground [Reference I	Elevation (feet)			
Well Completion:	Stand Pipe	Road Bo				vation (feet)				
Difference Between PVC a Well Screened Interval (fbg		eet):	15.5-25.5			in Elevation (I evation - Ground I				-
HACH Kit Type	NA		13.3 23.3	-	Other Field M		NA			8
		Donth fr	om Ref. Point	Depth Below	Ground	(Pafaranaa D	oint Monaurament	- Difference in Elev	untion)	
Total Length of Well (feet)	*		25.3		5.6	1 (Reference P	onit Measurement	- Difference in Elev	ation)	
Depth to Water (feet):			18.33		.66		d Sample Volum		gallons or 🗸	liters 🗌
Standing Water in Well (fe			6.47		97		ers by 0.2642 to g	•	101 102	
Well Condition: Protective Well head vapors: VOCs (Transfer of the second	good; Lock		ansion Cap - <u>Y</u> Methane (FIL		ID - Yes / No				ppmv
•	☐ Grab ☐ ric Submersible		Low Flow 🖸 Peristaltic 🖸		od: Bail [Bladder Po		☑ Flow-Thru (Other: □	Cell Vol: (460mI	.)	
CALIBRATION DATA:						Ter	np/time (#1)		Temp/time	` /
Specific Conductance:	Instrument Mod		YSI 556 YSI 556	Standard Solu			0 Reading (#1)	1555	Reading (#2)	9,87/9,98
pH (s.u.): DO (mg/L):	Instrument Mod Instrument Mod		YSI 556	Reading: pl Standard Solu	, ,		4 pH 7: (1/2) 6 Reading (#1)	98.70%	pH 10: (1/2) (#2)	100.00%
Turbidity (NTU):	Instrument Mod		Micro TPI	Standard Solu		1000/10/0.0	2 Reading (#1)	0.02/0.02		1000/1009
ORP (mvolts:)	Instrument Mod	del:	YSI 556	Standard Solu	ition:	24	4 Reading (#1)	241.9	(#2)	244
INSTRUMENT MEASU	REMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1320	1335	1345	1355	1405	1415	1402	1425		1425
Depth to Water (ft) below Ref. point (drawdown <0.3)	18.33	18.04	18.69	18.73	18.8	18.85	18.86	18.86		18.86
Volume Purged (L)		1.68	2.78	3.91	5.01	5.57	6.125	6.69		6.69
Purge Rate (ml/min)		112	110	113	110	112	111	113		113
Temperature (3%) °C		11.68	11.15	10.88	11.15	10.77	10.86	10.91		10.91
Spec. Cond. (3%) (µS)		1352	1385	1418	1422	1439	1445	1449		1449
Salinity (3%) (ppt)		0.62	0.7	0.72	0.72	0.73	0.73	0.73		0.73
DO (10%) (mg/L)		0.84	0.67	0.58	0.57	0.54	0.51	0.56		0.56
pH (+/- 0.1) (s.u.)		6.74	6.6	6.47	6.38	6.35	6.34	6.33		6.33
ORP** (+/- 10) (mvolts)		79.7	89.9	82.6	81.1	79.5	78.6	77.0		77.0
Turbidity (<5) (10%) (ntu)		137.9	87.17	75.55	45.47	37.25	31.45	30.6		30.6
*Static measurement is **If ORP is negative an				er than 10 mg/	L; recalibrate	e and/or clean	instrument. If pe	ersistent call PM.		
SAMPLING INFORMA	TION San	nple Depth: (below	22 grade or ref		ample Time	: 142	5	Sample ID:	ME-6	
Analysis	Method		No. Bottles	Bottle	: Туре	Vol.	Preservation		Handling	
RCRA 8 Metals			1		stic	250-mL	HNO3		Ice/Cooler	
PAHs	8270		Î		ass	1 L	As In		Ice/Cooler	
VOC	8260		3	V)A	40-mL	HCL		Ice/Cooler	

Well Condition:

Needs well cover

Odor: None

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

Well ID:	MW-01
Sample Date:	4/30/2015

PROJECT INFORMATIO	<u>N</u> Project Name:		Amerbelle		Location	:Roc	kville, CT	File No.	45441	
Difference Between PVC and Well Screened Interval (fbg)	ment: PVC F Stand Pipe d Casing Top (for	Road Bo	Measurement I el Casing ☐ x ☑ 0.6 40-50	Ground [Reference E Ground Elev Difference i	n Elevation (f	eet):	Collector Initial	is:	RJS
Total Length of Well (feet): Depth to Water (feet): Standing Water in Well (feet Well Condition: Protective of Well head vapors: VOCs (P	Casing - poor/g	4	9.25 7.43 11.82 Yes / No ; Expa	49. 8.0 41.	85 03 82 <u>es/No;</u> Well I	Total Purged Multiply lite		e 1.19 et gallons - <u>Yes / No;</u> Well	gallons or 🗸	liters ppmv
•	Grab □ c Submersible	_	Low Flow Peristaltic		d: Bail [Bladder Pu	_	☑ Flow-Thru C Other: □	ell Vol: (460mI	L) 🖸 Other:	
CALIBRATION DATA: Specific Conductance: pH (s.u.): DO (mg/L): Turbidity (NTU): ORP (mvolts:)	Instrument Mod Instrument Mod Instrument Mod Instrument Mod Instrument Mod	del: del: del:	YSI 556 YSI 556 YSI 556 Micro TPI YSI 556	Standard Solu Reading: pł Standard Solu Standard Solu Standard Solu	I 4: (1/2) tion: tion:	3.98/4.00 1000/10/0.00	np/time (#1)	1376 7.11/7.0 91.00% Calibrated 218.9	pH 10: (1/2)	1413
INSTRUMENT MEASUR										
Parameters Time: 1450 Depth to Water (ft)	1452	1507	1512	1517	1522	5	6	7	8	Stabilized 1522
below Ref. point (drawdown <0.3)	7.43	11.1	12.02	12.43	12.71					12.71
Volume Purged (L) Purge Rate (ml/min)		2.25	3	3.75	4,5					4.5
Temperature (3%) °C		150	150	150	150					150
Spec. Cond. (3%) (µS)		8.69 348	330	8.93 319	8.95 317					8.95 317
Salinity (3%) (ppt)		0.17	0.15	0.15	0.15					0.15
DO (10%) (mg/L)		0.45	0.46	0.43	0.42					0.42
pH (+/- 0.1) (s.u.)		6.94	6.96	6.96	6,95					6.95
ORP** (+/- 10) (mvolts)		194.9	196.4	210.0	210.7					210.7
Turbidity (<5) (10%) (ntu)		8.32	8.82	4.71	4.66					4.66
*Static measurement is be **If ORP is negative and				er than 10 mg/l	.; recalibrate	and/or clean	instrument. If pe	rsistent call PM.		
SAMPLING INFORMATI	ION San	nple Depth: (below g	45 grade or ref		ample Time:	1524	4	Sample ID:	MW-01	
Analysis RCRA 8 Metals	Method		No. Bottles	Bottle Plas		Vol. 250-mL	Preservation HNO3		Handling Ice/Cooler	
PAHs VOC	8270 8260		9	Gla VC		1 L 40-mL	As In HCL		Ice/Cooler	
, , , , ,	5200		,	***		.v IIIL	100		TOO COOLET	
Extra volume collected for V	OC MS/MSD.	Unable to m	aintain water le	vel.						
NOTES/OBSERVATIONS										
	- 0.1	None	Duradicas Thii 1				W-11 C 1'2'		Cont	

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

GROUNDWATER SAMPLING DATA SHEET

Well ID:	MW-02
Sample Date:	4/30/2015

DDOTECT	INFORMATION
ROJECI	INTURMATION

NOTES/OBSERVATIONS:

Color: Clear

PROJECT INFORMATION	ON Project Name:		Amerbelle		Location	:Rock	cville, CT	File No.	45441	
WATER LEVEL OBSER Reference Point of Measure Well Completion: Difference Between PVC at Well Screened Interval (fbg HACH Kit Type	ement: PVC I Stand Pipe and Casing Top (f	Riser 🗸 Stee Road Box		Ground	Ground Elev Difference i	levation (feet) vation (feet) n Elevation (fi vation - Ground E	eet):	Collector Initia	ls:	AJT -
		Depth fro	m Ref. Point	Depth Below	Ground	_(Reference Po	int Measurement	Difference in Ele	vation)	
Total Length of Well (feet):			2.48	32.			10 1 11 1	0.05	,, ,	10.
Depth to Water (feet): Standing Water in Well (fee	et):		8.53 3.95	18.			l Sample Volumers by 0.2642 to g		gallons or 🗸	liters
Well Condition: Protective Well head vapors: VOCs (I		good; Lock -		ansion Cap - <u>Y</u> Methane (FID		(D - <u>Yes / No;</u>			- poor / good	ppmv
Sample Method: Bail December Pump Type: Electr	☐ Grab ☐ ic Submersible		Low Flow Peristaltic		od: Bail [Bladder Pu		Flow-Thru C	Cell Vol: (460ml	L) Other:	
CALIBRATION DATA:						Ten	np/time (#1)	_	Temp/time	(#2)
Specific Conductance:	Instrument Mo		YSI 556	Standard Solu				1555	Reading (#2)	1413
pH (s.u.): DO (mg/L):	Instrument Mo Instrument Mo		YSI 556 YSI 556	Reading: pl Standard Solu			pH 7: (1/2) Reading (#1)	6.98/7 98.70%	pH 10: (1/2) (#2)	9.87/9.98
Turbidity (NTU):	Instrument Mo	del:	Micro TPI	Standard Solu		1000/10/0.02	Reading (#1)	0.02/0.02		1000/1009
ORP (mvolts:)	Instrument Mo	del:	YSI 556	Standard Solu	ition:	244	Reading (#1)	241.9	(#2)	244
INSTRUMENT MEASUE	REMENTS:									
Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1135	1145	1150	1155	1200	1205				1205
Depth to Water (ft) below Ref. point (drawdown <0.3)	18.53	19.52	19.97	20.43	20.83	21.15				21.15
Volume Purged (L)		1.2	1.72	2.22	2.725	3.225				3.225
Purge Rate (ml/min)		120	104	100	101	100				100
Temperature (3%) °C		11.41	11.39	11.4	11.37	11.39				11.39
Spec. Cond. (3%) (µS)		983	972	956	945	943				943
Salinity (3%) (ppt)		0.49	0.48	0.47	0.47	0.47				0.47
DO (10%) (mg/L)		4.02	3.83	3.9	3.84	3.86				3.86
pH (+/- 0.1) (s.u.)		6.84	6.76	6.72	6.7	6.69				6,69
ORP** (+/- 10) (mvolts)		178.2	179.0	180.8	181.5	180.8				180.8
Turbidity (<5) (10%) (ntu)		21.8	12.73	9.71	6.54	4.20				4.20
*Static measurement is be **If ORP is negative and				er than 10 mg/	L; recalibrate	and/or clean	instrument. If pe	ersistent call PM.		
SAMPLING INFORMAT	TION Sai	nple Depth: (below)	27.5 grade or re	5 S ef. ptX_)	ample Time	: 1203	5	Sample ID:	MW-02	
Analysis RCRA 8 Metals	Method		No. Bottles		Type stic	Vol. 250-mL	Preservation HNO3		Handling Ice/Cooler	
SVOCs, Aniline	8270		1	Gl		1 L	As In		Ice/Cooler	
Ammonia			1		stic	250-mL	H2SO4		Ice/Cooler	
Phenol			1	Gl	ass	8-oz	H2SO4		Ice/Cooler	

Odor: None

Well Condition:

Good



Friday, May 08, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS

Sample ID#s: BJ10555

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

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

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

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

Sincerely yours,

Phyllis/Shiller

Laboratory Director

NELAC - #NY11301

CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007

ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530

RI Lab Registration #63

VT Lab Registration #VT11301



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

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

 $\label{eq:GZA} \textbf{GeoEnvironmental, Inc.}$

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

GROUND WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Matrix:

Custody Information

Collected by: AT

04/30/15

Date

<u>Time</u> 13:24

LK

05/01/15

10:25

Analyzed by:

Received by:

see "By" below

Laboratory Data

SDG ID: GBJ10555

Phoenix ID: BJ10555

Project ID:

AMERBELLE MILLS

Client ID:

AM-7

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Semi-Volatile Extraction	Completed				05/04/15	E/D	SW3520C
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Acenaphthene	0.13	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Acenaphthylene	0.66	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Anthracene	1.2	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benz(a)anthracene	5.9	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(a)pyrene	5.4	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(b)fluoranthene	8.0	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(ghi)perylene	4.1	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(k)fluoranthene	2.8	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Chrysene	6.3	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/05/15	DD	SW8270D (SIM)
Fluoranthene	13	0.10	ug/L	1	05/07/15	DD	SW8270D (SIM)
Fluorene	0.27	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	3.5	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Naphthalene	0.15	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Phenanthrene	5.1	0.07	ug/L	1	05/05/15	DD	SW8270D (SIM)
Pyrene	9.8	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	1	05/05/15	DD	30 - 130 %
% Nitrobenzene-d5	75		%	1	05/05/15	DD	30 - 130 %
% Terphenyl-d14	79		%	1	05/05/15	DD	30 - 130 %

Page 1 of 2 Ver 1

Project ID: AMERBELLE MILLS

Client ID: AM-7

Phoenix I.D.: BJ10555

RL/

PQL Parameter Result Units **Dilution** Date/Time Ву Reference

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

Comments:

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

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Maryam Taylor, Project Manager



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

QA/QC Report

May 08, 2015

QA/QC Data

SDG I.D.: GBJ10555

Parameter	Blank	Bik RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 306769 (ug/L	.), QC Samp	le No: BJ11550 (BJ10555)								
Polynuclear Aromatic	HC - Grou	and Water								
2-Methylnaphthalene	ND	0.05	60	59	1.7	60	60	0.0	30 - 130	20
Acenaphthene	ND	0.05	79	80	1.3	82	83	1.2	30 - 130	20
Acenaphthylene	ND	0.04	84	85	1.2	86	89	3.4	30 - 130	20
Anthracene	ND	0.05	90	92	2.2	92	95	3.2	30 - 130	20
Benz(a)anthracene	ND	0.02	83	83	0.0	84	84	0.0	30 - 130	20
Benzo(a)pyrene	ND	0.02	85	84	1.2	85	85	0.0	30 - 130	20
Benzo(b)fluoranthene	ND	0.02	96	94	2.1	97	95	2.1	30 - 130	20
Benzo(ghi)perylene	ND	0.05	72	78	8.0	77	80	3.8	30 - 130	20
Benzo(k)fluoranthene	ND	0.02	98	97	1.0	102	102	0.0	30 - 130	20
Chrysene	ND	0.02	89	88	1.1	92	90	2.2	30 - 130	20
Dibenz(a,h)anthracene	ND	0.01	75	82	8.9	79	84	6.1	30 - 130	20
Fluoranthene	ND	0.05	91	87	4.5	94	98	4.2	30 - 130	20
Fluorene	ND	0.05	81	84	3.6	82	84	2.4	30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	0.02	73	80	9.2	78	81	3.8	30 - 130	20
Naphthalene	ND	0.05	71	70	1.4	69	69	0.0	30 - 130	20
Phenanthrene	ND	0.05	81	82	1.2	81	84	3.6	30 - 130	20
Pyrene	ND	0.05	97	91	6.4	103	106	2.9	30 - 130	20
% 2-Fluorobiphenyl	78	%	74	73	1.4	77	78	1.3	30 - 130	20
% Nitrobenzene-d5	85	%	66	67	1.5	67	68	1.5	30 - 130	20
% Terphenyl-d14	88	%	112	100	11.3	116	120	3.4	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%)

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

May 08, 2015

Sample Criteria Exceedences Report

GBJ10555 - GZA-AMER

Criteria: CT: GWP, SWP

State: CT

Friday, May 08, 2015

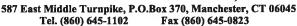
State: CT	دا						RL /	Analysis
SampNo	Acode	Phoenix Analyte	Criteria	Result	R	Criteria	Criteria	Units
BJ10555	\$8100SIMR	Indeno(1,2,3-cd)pyrene	CT / SEMIVOLATILE ORGANIC COMP / GWPC (µg/L)	3.5	0.02	0.2	0.2	ug/L
BJ10555	\$8100SIMR		CT / SEMIVOLATILE ORGANIC COMP / GWPC (µg/L)	6.3	0.02	4.8	4.8	ng/L
BJ10555	\$8100SIMR		CT / SEMIVOLATILE ORGANIC COMP / GWPC (µg/L)	2.8	0.02	0.5	0.5	ng/L
BJ10555	\$8100SIMR		CT / SEMIVOLATILE ORGANIC COMP / GWPC (µg/L)	8.0	0.02	90.0	90.0	ng/L
BJ10555	\$8100SIMR		CT / SEMIVOLATILE ORGANIC COMP / GWPC (µg/L)	5.4	0.02	0.2	0.2	ng/L
BJ10555	\$8100SIMR	ле	CT / SEMIVOLATILE ORGANIC COMP / GWPC (µg/L)	5.9	0.02	90.0	90.0	ng/L
BJ10555	\$8100SIMR		CT / SEMIVOLATILE ORGANIC COMP / SWPC (µg/L)	5.1	0.07	0.077	0.077	ng/L
BJ10555	\$8100SIMR	Benzo(k)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / SWPC (µg/L)	2.8	0.02	0.3	0.3	ng/L
BJ10555	\$8100SIMR	Benzo(b)fluoranthene	CT / SEMIVOLATILE ORGANIC COMP / SWPC (µg/L)	8.0	0.02	0.3	0.3	ng/L
BJ10555	\$8100SIMR		CT / SEMIVOLATILE ORGANIC COMP / SWPC (µg/L)	5.4	0.02	0.3	0.3	ng/L
BJ10555	\$8100SIMR	Benz(a)anthracene	CT / SEMIVOLATILE ORGANIC COMP / SWPC (µg/L)	5.9	0.02	0.3	0.3	ng/L
BJ10555	\$8100SIMR	Acenaphthylene	CT / SEMIVOLATILE ORGANIC COMP / SWPC (µg/L)	99.0	0.10	0.3	0.3	ng/L

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

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	ratory Name:	Prideriix Enviro	illientai Lab	s, inc. Client:	GZ	4 Geochvir	onnenta	ii, irio.
Proje	ect Location:	AMERBELLE M	IILLS	Project	Number:			
Labo	ratory Sample	ID(s): BJ1055	5					
Sam	pling Date(s):	4/30/2015						
RCP	Methods Used	d:						
☐ 13	311/1312	10 7000	7196	7470/7471	8081	☐ EPH		TO15
80	D82	51 🗌 8260	✓ 8270	ETPH	9010/9012	☐ VPH		
1.	specified QA/QC any criteria fallin	cal method referer C performance crite g outside of accep Reasonable Conf	eria followed, otable guidelin	including the requies, as specified in	irement to explain	✓ Yes	□ No	
1a.	Were the metho	d specified preser	vation and ho	Iding time require	ments met?	✓ Yes	□ No	
1b.		nethods only: Was ications (see secti				☐ Yes	□ No	✓ NA
2.		s received by the associated Chair			ent with that	✓ Yes	□No	
3.	Were samples re	eceived at an appi	opriate tempe	erature (< 6 Degre	es C)?	✓ Yes	□ No	\square NA
4.	Were all QA/QC Protocol docume	performance crite ents achieved?	ria specified i	n the Reasonable	Confidence	✓ Yes	□ No	
5a.	Were reporting I	imits specified or I	eferenced on	the chain-of-cust	ody?	✓ Yes	□ No	
5b.	Were these repo	orting limits met?				✓ Yes	□ No	\square NA
6.	results reported	cal method referer for all constituents Reasonable Cont	identified in t	the method-specif		☐ Yes	✓ No	□NA
7.	Are project-spec	cific matrix spikes	and laboratory	duplicates includ	ed in the data set?	?	✓ No	□NA
l, the	be provided in a requirements for e undersigned	s to which the responsite to the confidence of t	e. If the answerdence". The pains and	er to question #1, #	1A or 1B is "No", the	ne data packa	nge does i	viedge
		nalytical report					miorm	auon
			-1-		Date: Frida	y, May 08,	2015	
	horized nature:	Malan	lov	Prin	ted Name: Mary	•		
	-	,1 v = v 1 sse			Position: Proje	ct Manager	r	







RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10555

8270 Semi-volatile Organics:

Only the PAH constituents are reported as requested on the chain-of-custody. In order to achieve the requested reporting levels for the target compounds, the sample was extracted and analyzed via 8270 selective ion monitoring (SIM).

SVOA Narration

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

Instrument: Chem12 05/06/15-1 (BJ10555)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM12/sv 0506):

95% of target compounds met criteria.

The following compounds had %RSDs >20%: 2,4-Dinitrophenol (28%), 4,6-Dinitro-2-methylphenol (22%), Benzidine (40%), Pentachlorophenol (23%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM12/0506_11-sv_0506):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.054)[0.1], Hexachlorobenzene (.092)[0.1] The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position: Chemist Date: 5/6/2015

QC (Batch Specific)

----- Sample No: BJ11550, QA/QC Batch: 306769 ------

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.

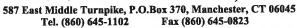
SVOASIM Narration

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

Instrument: Chem04 05/05/15-1 (BJ10555)

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







RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10555

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

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list, so some of the compounds in the narrative may be non-applicable.Initial Calibration Verification (CHEM04/SIM_0428):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM04/0505 02-SIM 0428):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.068)[0.1], Bis(2-chloroethyl)ether (.642)[0.7]

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

Printed Name

Damien Drobinski

Position:

Chemist

Date:

5/5/2015

QC (Batch Specific)

----- Sample No: BJ11550, QA/QC Batch: 306769 -----

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.

Temperature Narration

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

IPK CE No		-7/03 fr. p 920.co-		This section MUST be	Bottle Quantities.	1,000 1,000	Mada Mage Se	A ELIPSIP TO SOLITO	H				Data Format	Excel FOF	☐ GIS/Key ☐ Eouls ☐ Other	Data Package Tier II Checklist Tier II Data Package*	• SURCHARGE APPLIES
Coolant: IPI	21 O L	860-858-710	Project P.O:	This	Bo	Ser.	\$ \$ \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	89.83 10 1803 10 10 10 00	_						GW-2 GW-3	S-1 S-2 S-3 MWRA eSMART	Other : <i>C7</i>
		Fax: Phone:		1.1	ī			\$ 18 8 \$ 18 8					¥				lected:
100								13/195					51	RCP Cert GW Protection	SW Protection GA Mobility	GB Mobility Residential DEC 1/C DEC	nples were co
CARD		Middle Turnpike, P.O. Box 370, Manchester, CT 06040 ail: info@phoenixlabs.com Fax (860) 645-0823 Client Services (860) 645-8726	LUE MILLS	~										t Exposure idential)	GW Other		State where samples were collected:
CHSTODY RECORD		x 370, Mar Fax (6 60) 645 -	AMERBELLE	CHRIS	>								≅] 52;0			-
TSIIS		s, P.O. Bo xlabs.com vices (8			 		Je.				\parallel		Time:	Ó			d GE APPLIE
HAIN		East Middle Tumpike, P.O. Box 370, Mancheste Email: info@phoenixlabs.com Fax (860) 64 Client Services (860) 645-8726	Project:	000		Analysis	ACTO)	de la	×				Date:	SIIIS			Standard Other SURCHARGE APPLIES
ا	5	587 East Mi Email:		WITE 400		/ار	Water	Time Sampled	1334	5							
		ũ		DRAVE S		tion Date: 5/1	er ww =Waste ild W =Wipe	Date Sampled	sı/os/h					1			
		Inc.		BKOOK 1		- Identifica	urface Wat	Sample Matrix	ĞΨ							 Se	
		FTOLINA 🐲 Environmental Laboratories, Iv	G2A	MENTEN		Client Sample - Information - Identification	Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water www=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Soild W=Wipe OIL=Oil B=Bulk L=Liquid	Customer Sample Identification	Am-7				A Accepted by			Comments, Special Requirements or Regulations:	
		FTTO Environmente	Customer:	Address:	I	Sampler's Co	Matrix Code: DW=Drinking Water GW= RW=Raw Water SE=Sedin OIL=Oil B=Bulk L=Liquid	PHOENIX USE ONLY SAMPLE #	10555				Relinquished by:	Onto C		Comments, Special	



Friday, May 08, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BJ10453 - BJ10465

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

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

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

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

Sincerely yours,

Phyllis/Shiller

Laboratory Director

NELAC - #NY11301

CT Lab Registration #PH-0618

MA Lab Registration #MA-CT-007

ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301

PA Lab Registration #68-03530

RI Lab Registration #63

VT Lab Registration #VT11301



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



SDG Comments

May 08, 2015

SDG I.D.: GBJ10453

Volatile 8260 analysis:

The reporting level for Acrylonitrile is above the GWP criteria.

1,2-Dibromoethane does not meet GWP criteria, this compound is analyzed by GC/ECD to achieve this criteria.



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

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

AT

SW

Glastonbury, CT 06033

see "By" below

Sample Information

GROUND WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Matrix:

45441

Laboratory Data

Custody Information

Collected by:

Received by:

Analyzed by:

SDG ID: GBJ10453

<u>Time</u>

12:45

16:55

Phoenix ID: BJ10453

Date

04/30/15

04/30/15

Project ID:

AMERBELLE MILLS

Client ID:

AM-1

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Arsenic	0.010	0.004	mg/L	1	05/01/15	EK	SW6010C
Barium	0.076	0.002	mg/L	1	05/01/15	EK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Chromium	0.004	0.001	mg/L	1	05/01/15	EK	SW6010C
Copper	0.016	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	05/01/15	RS	SW7470A
Lead	0.031	0.002	mg/L	1	05/01/15	EK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	EK	SW6010C
Zinc	0.062	0.002	mg/L	1	05/01/15	LK	SW6010C
Ammonia as Nitrogen	0.21	0.05	mg/L	1	05/05/15	WHM	E350.1
Mercury Digestion	Completed				05/01/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	T	SW3520C
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.10	ug/L	1	05/02/15	DD	SW8270D (SIM)
Acenaphthene	ND	0.10	ug/L	1	05/02/15	DD	SW8270D (SIM)
Acenaphthylene	ND	0.10	ug/L	1	05/02/15	DD	SW8270D (SIM)
Anthracene	ND	0.10	ug/L	1	05/02/15	DD	SW8270D (SIM)
Benz(a)anthracene	0.06	0.02	ug/L	1	05/02/15	DD	SW8270D (SIM)
Benzo(a)pyrene	0.06	0.02	ug/L	1	05/02/15	DD	SW8270D (SIM)
Benzo(b)fluoranthene	0.09	0.02	ug/L	1	05/02/15	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.10	ug/L	1	05/02/15	DD	SW8270D (SIM)
Benzo(k)fluoranthene	0.03	0.02	ug/L	1	05/02/15	DD	SW8270D (SIM)
Chrysene	0.06	0.02	ug/L	1	05/02/15	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/02/15	DD	SW8270D (SIM)
Fluoranthene	0.11	0.10	ug/L	1	05/02/15	DD	SW8270D (SIM)

Page 1 of 43 Ver 1

Project ID: AMERBELLE MILLS

Client ID: AM-1

Phoenix I.D.: BJ10453

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Fluorene	ND	0.10	ug/L	1	05/02/15	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	0.04	0.02	ug/L	1	05/02/15	DD	SW8270D (SIM)
Naphthalene	ND	0.10	ug/L	1	05/02/15	DD	SW8270D (SIM)
Phenanthrene	ND	0.07	ug/L	1	05/02/15	DD	SW8270D (SIM)
Pyrene	0.11	0.10	ug/L	1	05/02/15	DD	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	1	05/02/15	DD	30 - 130 %
% Nitrobenzene-d5	82		%	1	05/02/15	DD	30 - 130 %
% Terphenyl-d14	96		%	1	05/02/15	DD	30 - 130 %

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

Comments:

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

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

GROUND WATER

Custody Information

<u>Time</u>

Location Code:

GZA-AMER

AT SW 04/30/15 04/30/15

Date

13:24 16:55

Rush Request:

Standard

Received by: Analyzed by:

RL/

Collected by:

see "By" below

P.O.#:

Matrix:

45441

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10454

Project ID:

AMERBELLE MILLS

Client ID:

AM-7

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	0.005	0.001	mg/L	1	05/01/15	EK	SW6010C
Arsenic	0.009	0.004	mg/L	1	05/01/15	EK	SW6010C
Barium	1.13	0.002	mg/L	1	05/01/15	EK	SW6010C
Cadmium	0.005	0.001	mg/L	1	05/01/15	EK	SW6010C
Chromium	0.035	0.001	mg/L	1	05/01/15	EK	SW6010C
Copper	1.10	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury	0.0016	0.0002	mg/L	1	05/01/15	RS	SW7470A
Lead	0.835	0.002	mg/L	1	05/01/15	EK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	EK	SW6010C
Zinc	2.98	0.020	mg/L	10	05/07/15	LK	SW6010C
Mercury Digestion	Completed				05/01/15	1/1	SW7470A
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	05/02/15	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C

Client ID: AM-7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	05/02/15	МН	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	05/02/15	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	05/02/15	MH	SW8260C
Acetone	ND	25	ug/L	1	05/02/15	MH	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	05/02/15	MH	SW8260C
3 Benzene	ND	0.70	ug/L	1	05/02/15	МН	SW8260C
Bromobenzene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	05/02/15	мн	SW8260C
Bromoform	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Bromomethane	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	05/02/15	МН	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Chloroethane	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Chloroform	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Chloromethane	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	05/02/15	мн	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	05/02/15	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	05/02/15	мн	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
•	000200			4			
lexachlorobutadiene	ND ND	0.40 1.0	ug/L	1	05/02/15 05/02/15	MH MH	SW8260C SW8260C
sopropylbenzene	ND	1.0	ug/L		05/02/15	МН	SW8260C
n&p-Xylene			ug/L	1			
Methyl ethyl ketone	ND	5.0	ug/L	1	05/02/15	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
-Isopropyltoluene	ND	1.0	ug/L	4	05/02/15	MH	SW8260C
ec-Butylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Styrene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
ert-Butylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Tetrachloroethene	1.8	1.0	ug/L	4	05/02/15	МН	SW8260C
Fetrahydrofuran (THF)	ND	2.5	ug/L	1	05/02/15	MH	SW8260C
Toluene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C

Page 4 of 43 Ver 1

Phoenix I.D.: BJ10454

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ10454

Client ID: AM-7

Parameter	Result	RL∕ PQL	Units	Dilution	Date/Time	Ву	Reference
	TCGGIL		Office	Dilation	Date/Time		
Total Xylenes	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	05/02/15	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	05/02/15	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	05/02/15	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	05/02/15	MH	70 - 130 %
% Dibromofluoromethane	94		%	1	05/02/15	MH	70 - 130 %
% Toluene-d8	99		%	1	05/02/15	МН	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: **GROUND WATER**

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

Collected by:

AT

04/30/15

Time 10:55

Received by:

SW

04/30/15

Date

16:55

Analyzed by:

see "By" below

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10455

Project ID:

AMERBELLE MILLS

Client ID:

ME-1

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	05/01/15	EK	SW6010C
Barium	0.307	0.002	mg/L	1	05/01/15	EK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Chromium	0.002	0.001	mg/L	1	05/01/15	EK	SW6010C
Copper	0.009	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	05/01/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	05/01/15	EK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	EK	SW6010C
Zinc	0.097	0.002	mg/L	1	05/01/15	LK	SW6010C
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	05/05/15	WHM	E350.1
Phenolics	< 0.015	0.015	mg/L	1	05/07/15	BS	E420.4
Mercury Digestion	Completed				05/01/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
Methanol	ND	1.0	mg/L	1	05/05/15	JRB	SW8015D MOD
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D

Ver 1 Page 6 of 43

Phoenix I.D.: BJ10455

Project ID: AMERBELLE MILLS

Client ID: ME-1

		RL/				_	
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
2,4-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chloronaphthalene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Nitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	05/05/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
3-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
Acetophenone	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Aniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Benzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Benzoic acid	ND	50	ug/L	1	05/05/15	DD	SW8270D
Benzyl butyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Carbazole	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Dibenzofuran	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Diethyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Dimethylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Di-n-butylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Di-n-octylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Isophorone	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodimethylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Phenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
QA/QC Surrogates			ŭ				
% 2,4,6-Tribromophenol	105		%	1	05/05/15	DD	15 - 110 %
% 2-Fluorobiphenyl	75		%	1	05/05/15	DD	30 - 130 %
% 2-Fluorophenol	63		%	1	05/05/15	DD	15 - 110 %
% Nitrobenzene-d5	72		%	1	05/05/15	DD	30 - 130 %
% Phenol-d5	68		%	1	05/05/15	DD	15 - 110 %
% Terphenyl-d14	128		%	1	05/05/15	DD	30 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	1.0	ug/L	1	05/04/15	DD	SW8270D (SIM)
Acenaphthene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)
Acenaphthylene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)

Page 7 of 43

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ10455

Client ID: ME-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Anthracene	0.04	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benz(a)anthracene	0.08	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(a)pyrene	0.07	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	0.13	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	0.04	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	В
Chrysene	0.07	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluoranthene	0.20	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	0.06	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Phenanthrene	0.06	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyrene	0.17	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	105		%	1	05/04/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	75		%	1	05/04/15	DD	30 - 130 %	
% 2-Fluorophenol	63		%	1	05/04/15	DD	15 - 110 %	
% Nitrobenzene-d5	72		%	1	05/04/15	DD	30 - 130 %	
% Phenol-d5	68		%	1	05/04/15	DD	15 - 110 %	
% Terphenyl-d14	128		%	1	05/04/15	DD	30 - 130 %	
Aniline	ND	10.0	ug/L	1	05/06/15	DD	SW8270D/E625	

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 8 of 43 Ver 1



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

GROUND WATER

Custody Information
Collected by: AT

Received by:

<u>Date</u> <u>Time</u>

Location Code:

Matrix:

GZA-AMER

AT 04/30/15 9:00 SW 04/30/15 16:55

Rush Request:

Standard

Analyzed by: see "By" below

P.O.#:

45441

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10456

Project ID:

AMERBELLE MILLS

Client ID:

ME-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	05/01/15	EK	SW6010C
Barium	0.027	0.002	mg/L	1	05/01/15	EK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Chromium	0.046	0.001	mg/L	1	05/01/15	EK	SW6010C
Copper	0.016	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury	< 0.0004	0.0004	mg/L	1	05/01/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	05/01/15	EK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	EK	SW6010C
Zinc	0.071	0.002	mg/L	1	05/01/15	LK	SW6010C
Ammonia as Nitrogen	4.80	0.10	mg/L	2	05/05/15	WHM	E350.1
Phenolics	0.027	0.015	mg/L	1	05/07/15	BS	E420.4
Formaldehyde Prep for HPLC	Completed				04/30/15	MB/D	
Mercury Digestion	Completed				05/01/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
Formaldehyde	ND	50	lug/L	1	05/01/15	RM	SW8315A
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	lug/L	1	05/05/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	lug/L	1	05/05/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D

Phoenix I.D.: BJ10456

Project ID: AMERBELLE MILLS

Client ID: ME-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2,4-Dinitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chloronaphthalene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Methylphenol (o-cresol)	2.0	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Nitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	05/05/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
3-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitrophenol	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Acetophenone				25			
Aniline	47	5.0	ug/L	1	05/05/15	DD	SW8270D
Benzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Benzoic acid	ND	50	ug/L	1	05/05/15	DD	SW8270D
Benzyl butyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Carbazole	ND	5.0	ug/L	1	05/05/15	DD	\$W8270D
Dibenzofuran	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Diethyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Dimethylphthalate	9.9	5.0	ug/L	1	05/05/15	DD	SW8270D
Di-n-butylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Di-n-octylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Isophorone	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodimethylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Phenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	103		%	1	05/05/15	DD	15 - 110 %
% 2-Fluorobiphenyl	78		%	1	05/05/15	DD	30 - 130 %
% 2-Fluorophenol	74		%	1	05/05/15	DD	15 - 110 %
% Nitrobenzene-d5	95		%	1	05/05/15	DD	30 - 130 %
% Phenol-d5	84		%	1	05/05/15	DD	15 - 110 %
% Terphenyl-d14	58		%	1	05/05/15	DD	30 - 130 %
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	1.0	ug/L	1	05/04/15	DD	SW8270D (SIM)
			. 5				` '

Page 10 of 43 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ10456

Client ID: ME-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Acenaphthylene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Anthracene	0.08	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benz(a)anthracene	0.06	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	В
Chrysene	0.03	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluoranthene	0.05	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Naphthalene	0.21	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyrene	0.04	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	103		%	1	05/04/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	78		%	1	05/04/15	DD	30 - 130 %	
% 2-Fluorophenol	74		%	1	05/04/15	DD	15 - 110 %	
% Nitrobenzene-d5	95		%	1	05/04/15	DD	30 - 130 %	
% Phenol-d5	84		%	1	05/04/15	DD	15 - 110 %	
% Terphenyl-d14	58		%	1	05/04/15	DD	30 - 130 %	
Aniline	47	10.0	ug/L	1	05/06/15	DĐ	SW8270D/E625	

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 11 of 43 Ver 1



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Fax (860) 645-0823 Tel. (860) 645-1102

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

GROUND WATER

Location Code:

GZA-AMER

Rush Request:

Standard

45441

Custody Information

AT

Date 04/30/15 **Time** 14:25

Received by: Analyzed by:

Collected by:

SW see "By" below 04/30/15 16:55

P.O.#:

Matrix:

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10457

Project ID:

AMERBELLE MILLS

Client ID:

ME-6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	05/01/15	EK	SW6010C
Barium	0.246	0.002	mg/L	1	05/01/15	EK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Chromium	0.002	0.001	mg/L	1	05/01/15	EK	SW6010C
Copper	0.005	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	05/01/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	05/01/15	EK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	EK	SW6010C
Zinc	0.004	0.002	mg/L	1	05/01/15	LK	SW6010C
Mercury Digestion	Completed				05/01/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	Т	SW3520C
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	05/02/15	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2,3-Trichlorobenzene	1.6	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
1,2,4-Trichlorobenzene	19	1.0	ug/L	1	05/02/15	МН	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C

Client ID: ME-6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	05/02/15	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,3-Dichlorobenzene	3.6	1.0	ug/L	1	05/02/15	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
2-Hexanone	ND	5.0	ug/L	1	05/02/15	МН	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	05/02/15	МН	SW8260C
Acetone	ND	25	ug/L	1	05/02/15	МН	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	05/02/15	МН	SW8260C
Benzene	ND	0.70	ug/L	1	05/02/15	МН	SW8260C
Bromobenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	05/02/15	мн	SW8260C
Bromoform	ND	1.0	ug/L	1	05/02/15	мн	SW8260C
Bromomethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	i	05/02/15	MH	SW8260C
	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Chlorosthana	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Chloroform			_	1			
Chloromethane	ND 460	1.0	ug/L		05/02/15	MH	SW8260C
cis-1,2-Dichloroethene	160	10	ug/L	10	05/03/15	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	05/02/15	МН	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	05/02/15	МН	SW8260C
Dibromomethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	05/02/15	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	05/02/15	МН	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Styrene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Tetrachloroethene	29	1.0	ug/L	1	05/02/15	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	05/02/15	МН	SW8260C

Page 13 of 43

Ver 1

Project ID: AMERBELLE MILLS

Client ID: ME-6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Toluene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Total Xylenes	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
trans-1,2-Dichloroethene	1.9	1.0	ug/L	1	05/02/15	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	05/02/15	МН	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	05/02/15	MH	SW8260C
Trichloroethene	15	1.0	ug/L	1	05/02/15	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Vinyl chloride	41	2.0	ug/L	2	05/03/15	MH	SW8260C
QA/QC Surrogates			-				
% 1,2-dichlorobenzene-d4	100		%	1	05/02/15	MH	70 - 130 %
% Bromofluorobenzene	103		%	1	05/02/15	MH	70 - 130 %
% Dibromofluoromethane	97		%	1	05/02/15	MH	70 - 130 %
% Toluene-d8	100		%	1	05/02/15	МН	70 - 130 %
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Acenaphthene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Acenaphthylene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Anthracene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benz(a)anthracene	0.02	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Chrysene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/05/15	DD	SW8270D (SIM)
Fluoranthene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Fluorene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Naphthalene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Phenanthrene	ND	0.07	ug/L	1	05/05/15	DD	SW8270D (SIM)
Pyrene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
QA/QC Surrogates			-				
% 2-Fluorobiphenyl	73		%	1	05/05/15	DD	30 - 130 %
% Nitrobenzene-d5	58		%	1	05/05/15	DD	30 - 130 %
% Terphenyl-d14	119		%	1	05/05/15	DD	30 - 130 %

Page 14 of 43 Ver 1

Phoenix I.D.: BJ10457

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ10457

Client ID: ME-6

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 15 of 43 Ver 1



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

ΑT

Glastonbury, CT 06033

Sample Information

GROUND WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Matrix:

45441

Custody Information

<u>Date</u> 04/30/15

04/30/15

<u>Time</u> 15:00

Received by:

SW

15:00 16:55

Analyzed by:

Collected by:

see "By" below

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10458

Project ID:

AMERBELLE MILLS

Client ID:

MW-01

Deservator	Desult	RL/	Llaita	Dilution	Date/Time	D.	Deference
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	05/01/15	EK	SW6010C
Barium	0.012	0.002	mg/L	1	05/01/15	EK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Chromium	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Copper	< 0.005	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	05/01/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	05/01/15	EK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	EK	SW6010C
Zinc	0.005	0.002	mg/L	1	05/01/15	LK	SW6010C
Mercury Digestion	Completed				05/01/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	Т	SW3520C
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	05/05/15	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	05/05/15	MH	SW8260C

Page 16 of 43 Ver 1

Chefit ID. WW-01							
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	05/05/15	МН	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	3	05/05/15	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	05/05/15	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	05/05/15	МН	SW8260C
Acetone	ND	25	ug/L	1	05/05/15	МН	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	05/05/15	МН	SW8260C
Benzene	ND	0.70	ug/L	1	05/05/15	МН	SW8260C
Bromobenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	05/05/15	МН	SW8260C
Bromoform	ND	1.0	ug/L	1	05/05/15	мн	SW8260C
Bromomethane	ND	1.0	ug/L	1	05/05/15	мн	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	05/05/15	мн	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	05/05/15	мн	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Chloroethane	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Chloroform	ND	1.0	ug/L	1	05/05/15	мн	SW8260C
Chloromethane	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	05/05/15	МН	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	05/05/15	МН	SW8260C
Dibromomethane	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	05/05/15	МН	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	05/05/15	МН	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Methylene chloride	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Naphthalene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
o-Xylene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
Styrene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	i	05/05/15	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	05/05/15	MH	SW8260C
renanyuronuran (TTIF)	HD	2.0	ug/L		JUIGUI IU	*****	21102000

Page 17 of 43

Ver 1

Phoenix I.D.: BJ10458

Client ID: MW-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Toluene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
Total Xylenes	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	05/05/15	МН	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	05/05/15	МН	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	05/05/15	МН	SW8260C
Trichloroethene	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	05/05/15	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	05/05/15	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	05/05/15	MH	70 - 130 %
% Dibromofluoromethane	92		%	1	05/05/15	MH	70 - 130 %
% Toluene-d8	99		%	1	05/05/15	МН	70 - 130 %
QC for Volatile	Completed				05/02/15	МН	
QC for Volatile	Completed				05/02/15	MH	
MS/MSD Volatiles	Completed				05/02/15	MH	
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Acenaphthene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Acenaphthylene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Anthracene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benz(a)anthracene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Chrysene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	NĎ	0.01	ug/L	1	05/05/15	DD	SW8270D (SIM)
Fluoranthene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Fluorene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Naphthalene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Phenanthrene	ND	0.07	ug/L	1	05/05/15	DD	SW8270D (SIM)
Pyrene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	1	05/05/15	DD	30 - 130 %
% Nitrobenzene-d5	57		%	1	05/05/15	DD	30 - 130 %
% Terphenyl-d14	117		%	1	05/05/15	DD	30 - 130 %

Page 18 of 43 Ver 1

Phoenix I.D.: BJ10458

Client ID: MW-01

Phoenix I.D.: BJ10458

RL/

PQL Units **Dilution** Parameter Result Date/Time Ву Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 19 of 43



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Fax (860) 645-0823 Tel. (860) 645-1102

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

ΑT

SW

Glastonbury, CT 06033

Sample Information **Custody Information** Collected by: Matrix: **GROUND WATER**

GZA-AMER Location Code:

Rush Request: Standard

45441 P.O.#:

Analyzed by: see "By" below

Received by:

SDG ID: GBJ10453 **Laboratory Data**

Date 04/30/15

04/30/15

Phoenix ID: BJ10459

Time

12:05

16:55

AMERBELLE MILLS Project ID:

Client ID: MW-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
					05/01/15	EK	SW6010C
Silver	< 0.001	0.001	mg/L	1			
Arsenic	< 0.004	0.004	mg/L	1	05/01/15	EK	SW6010C
Barium	0.036	0.002	mg/L	1	05/01/15	EK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Chromium	0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Copper	0.005	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	05/01/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	05/01/15	EK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	EK	SW6010C
Zinc	0.015	0.002	mg/L	1	05/01/15	LK	SW6010C
Ammonia as Nitrogen	0.13	0.05	mg/L	1	05/05/15	WHM	E350.1
Phenolics	< 0.015	0.015	mg/L	1	05/07/15	BS	E420.4
Mercury Digestion	Completed				05/01/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D

Page 20 of 43 Ver 1 Client ID: MW-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2,6-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chloronaphthalene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DĐ	SW8270D
2-Nitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	05/05/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
3-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
Acetophenone	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Aniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Benzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Benzoic acid	ND	50	ug/L	1	05/05/15	DD	SW8270D
Benzyl butyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Carbazole	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Dibenzofuran	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Diethyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Dimethylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Di-n-butylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Di-n-octylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Isophorone	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodimethylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Phenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
QA/QC Surrogates			-9	cen	00.00.70		
% 2,4,6-Tribromophenol	105		%	1	05/05/15	DD	15 - 110 %
% 2-Fluorobiphenyl	84		%	1	05/05/15	DD	30 - 130 %
% 2-Fluorophenol	77		%	1	05/05/15	DD	15 - 110 %
% Nitrobenzene-d5	84		%	1	05/05/15	DD	30 - 130 %
% Phenol-d5	77		%	1	05/05/15	DD	15 - 110 %
% Terphenyl-d14	119		%	1	05/05/15	DD	30 - 130 %
	113			'	03/03/13	00	30 - 130 70
<u>Semivolatiles</u>		_ 10_		2			
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)
2-Methylnaphthalene	ND	1.0	ug/L	1	05/04/15	DD	SW8270D (SIM)
Acenaphthene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)
Acenaphthylene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)
Anthracene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)

Page 21 of 43 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ10459

Client ID: MW-02

B 400	D#	RL/	Units	Dilution	Date/Time	Ву	Reference	
Parameter	Result	PQL	Units	Dilution		÷		_
Benz(a)anthracene	0.03	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	В
Chrysene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	105		%	1	05/04/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	84		%	1	05/04/15	DD	30 - 130 %	
% 2-Fluorophenol	77		%	1	05/04/15	DD	15 - 110 %	
% Nitrobenzene-d5	84		%	1	05/04/15	DD	30 - 130 %	
% Phenol-d5	77		%	1	05/04/15	DD	15 - 110 %	
% Terphenyl-d14	119		%	1	05/04/15	DD	30 - 130 %	
Aniline	ND	10.0	ug/L	1	05/06/15	DD	SW8270D/E625	

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information Custody Information **Date Time** Matrix: **GROUND WATER** Collected by: AT 04/30/15 15:35 Received by: SW 04/30/15 **Location Code: GZA-AMER** 16:55

Rush Request: Standard Analyzed by: see "By" below

P.O.#: 45441 Laboratory Data SDG ID: GBJ10453

Phoenix ID: BJ10460

Project ID: AMERBELLE MILLS

Client ID: MW-03

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	05/01/15	EK	SW6010C
Barium	0.232	0.002	mg/L	1	05/01/15	EK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Chromium	0.003	0.001	mg/L	1	05/01/15	EK	SW6010C
Copper	0.013	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury •	< 0.0002	0.0002	mg/L	1	05/01/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	05/01/15	EK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	EK	SW6010C
Zinc	0.037	0.002	mg/L	1	05/01/15	LK	SW6010C
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	05/05/15	WHM	E350.1
Phenolics	< 0.015	0.015	mg/L	1	05/07/15	BS	E420.4
Mercury Digestion	Completed				05/01/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/01/15	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
Benzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C

Page 23 of 43 Ver 1

Client ID: MW-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
m&p-Xylene	ND	2.0	ug/L	1	05/01/15	НМ	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	1	05/01/15	НМ	SW8260C
Naphthalene	ND	5.0	ug/L	1	05/01/15	НМ	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	05/01/15	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	05/01/15	HM	SW8260C
p-Isopropyitoluene	ND	1.0	ug/L	1	05/01/15	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
Styrene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
ert-Butylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
Toluene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C
Total Xylenes	ND	2.0	ug/L	1	05/01/15	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	05/01/15	НМ	70 - 130 %
% Bromofluorobenzene	98		%	1	05/01/15	НМ	70 - 130 %
% Dibromofluoromethane	100		%	1	05/01/15	НМ	70 - 130 %
% Toluene-d8	103		%	1	05/01/15	НМ	70 - 130 %
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
,	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
,2-Diphenylhydrazine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chloronaphthalene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Nitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	05/05/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
3-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
Acetophenone	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Acetophenone Aniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Aniline Benzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Benzoic acid	ND	50	ug/L	1	05/05/15	DD	SW8270D

Page 24 of 43

Client ID: MW-03

B 4	. "	RL/	77. 14	D # #	5 ·	_	D (
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	_
Benzyl butyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Carbazole	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Dibenzofuran	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Diethyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Dimethylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Di-n-butylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Di-n-octylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Isophorone	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	5.0	ug/L	11	05/05/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D	
Phenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	104		%	1	05/05/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	72		%	1	05/05/15	DD	30 - 130 %	
% 2-Fluorophenol	57		%	1	05/05/15	DD	15 - 110 %	
% Nitrobenzene-d5	66		%	1	05/05/15	DD	30 - 130 %	
% Phenol-d5	60		%	1	05/05/15	DD	15 - 110 %	
% Terphenyl-d14	112		%	1	05/05/15	DD	30 - 130 %	
<u>Semivolatiles</u>								
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
2-Methylnaphthalene	ND	1.0	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Acenaphthene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Acenaphthylene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Anthracene	0.02	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benz(a)anthracene	0.04	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	0.04	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	В
Chrysene	0.02	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	0.03	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	i	05/04/15	DD	SW8270D (SIM)	
Pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
							` '	

Page 25 of 43

Phoenix I.D.: BJ10460

Phoenix I.D.: BJ10460 Project ID: AMERBELLE MILLS

Client ID: MW-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Pyridine	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)
QA/QC Surrogates % 2,4,6-Tribromophenol	104		%	1	05/04/15	DD	15 - 110 %
% 2,4,6-morohiophenoi % 2-Fluorobiphenyl	72		%	1	05/04/15	DD	30 - 130 %
% 2-Fluorophenol	57		%	1	05/04/15	DD	15 - 110 %
% Nitrobenzene-d5	66		%	1	05/04/15	DD	30 - 130 %
% Phenol-d5	60		%	1	05/04/15	DD	15 - 110 %
% Terphenyl-d14	112		%	1	05/04/15	DD	30 - 130 %
Aniline	ND	10.0	ug/L	1	05/06/15	DD	SW8270D/E625

B = Present in blank, no bias suspected.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

GROUND WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

Collected by:

AT SW 04/30/15

Date

04/30/15

9:00 16:55

Received by: S
Analyzed by: s

see "By" below

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10461

Project ID:

AMERBELLE MILLS

Client ID:

GZ-1

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	05/01/15	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	05/01/15	LK	SW6010C
Barium	0.113	0.002	mg/L	1	05/01/15	LK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	05/01/15	LK	SW6010C
Chromium	< 0.001	0.001	mg/L	1	05/01/15	LK	SW6010C
Copper	< 0.005	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	05/04/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	05/01/15	LK	SW6010C
QC for Mercury	Completed				05/04/15		
QC for ICP	Completed				05/01/15		SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	LK	SW6010C
Zinc	< 0.002	0.002	mg/L	1	05/01/15	LK	SW6010C
Ammonia as Nitrogen	0.06	0.05	mg/L	1	05/05/15	WHM	E350.1
Phenolics	< 0.015	0.015	mg/L	1	05/07/15	BS	E420.4
QC for Ammonia	Completed				05/05/15		
Mercury Digestion MS/MSD	Completed				05/04/15		SW7471B
Mercury Digestion	Completed				05/04/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	E/D/D	SW3520C
MS/MSD Ext. for Semi-Vol.	Completed				05/04/15		
Total Metals Digest MS/MSD	Completed				05/01/15		
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D

RL/ **Parameter** Result PQL Units Dilution Date/Time By Reference ND 1.0 1 05/05/15 DD SW8270D 2,4,5-Trichlorophenol ug/L ND 1.0 1 05/05/15 DD SW8270D ug/L 2,4,6-Trichlorophenol DD ND 1.0 ug/L 1 05/05/15 SW8270D 2,4-Dichlorophenol ND 1.0 1 05/05/15 DD SW8270D 2,4-Dimethylphenol ug/L ND 1 DD SW8270D 2,4-Dinitrophenol 1.0 ug/L 05/05/15 DD ND 05/05/15 SW8270D 2,4-Dinitrotoluene 5.0 ug/L 1 ND 1 DD SW8270D 5.0 05/05/15 ug/L 2.6-Dinitrotoluene ND 5.0 ug/L 1 05/05/15 DD SW8270D 2-Chloronaphthalene 2-Chlorophenol ND 1.0 ug/L 1 05/05/15 DD SW8270D DD SW8270D ND 1.0 1 05/05/15 2-Methylphenol (o-cresol) ug/L DD 2-Nitroaniline ND 5.0 ug/L 1 05/05/15 SW8270D ND 1 DD SW8270D 1.0 05/05/15 2-Nitrophenol ug/L ND DD SW8270D 3&4-Methylphenol (m&p-cresol) 10 1 05/05/15 ug/L 3,3'-Dichlorobenzidine ND 5.0 ug/L 1 05/05/15 DD SW8270D 1 05/05/15 DD SW8270D 3-Nitroaniline ND 5.0 ug/L DD SW8270D 4,6-Dinitro-2-methylphenol ND 1.0 ug/L 1 05/05/15 1 DD ND 5.0 05/05/15 SW8270D 4-Bromophenyl phenyl ether ug/L DD ND 1 05/05/15 SW8270D 1.0 4-Chloro-3-methylphenol ug/L ND 5.0 1 05/05/15 DD SW8270D 4-Chloroaniline ug/L DD SW8270D ND 1.0 ug/L 1 05/05/15 4-Chlorophenyl phenyl ether ND 5.0 1 05/05/15 DD SW8270D 4-Nitroaniline ug/L 1 DD ND 1.0 05/05/15 SW8270D 4-Nitrophenol ug/L 1 DD ND 5.0 05/05/15 SW8270D Acetophenone ug/L Aniline ND 5.0 ug/L 1 05/05/15 DD SW8270D ND 5.0 1 05/05/15 DD SW8270D ug/L Benzidine ND 1 05/05/15 DD SW8270D Benzoic acid 50 ug/L ND 5.0 1 05/05/15 DD SW8270D Benzyl butyl phthalate ug/L 1 DD SW8270D Bis(2-chloroethoxy)methane ND 5.0 ug/L 05/05/15 1 ND 1.0 05/05/15 DD SW8270D Bis(2-chloroethyl)ether ug/L ND 1 05/05/15 DD SW8270D Bis(2-chloroisopropyl)ether 5.0 ug/L DD ND 5.0 1 05/05/15 SW8270D Carbazole ug/L ND 1 05/05/15 DD SW8270D 5.0 ug/L Dibenzofuran Diethyl phthalate ND 5.0 ug/L 1 05/05/15 DD SW8270D 1 Dimethylphthalate ND 5.0 ug/L 05/05/15 DD SW8270D 1 05/05/15 DD SW8270D ND 5.0 Di-n-butylphthalate ug/L ND 1 DD SW8270D Di-n-octylphthalate 5.0 ug/L 05/05/15 ND 5.0 1 05/05/15 DD SW8270D ug/L Hexachlorocyclopentadiene 1 05/05/15 DD SW8270D ND 5.0 ug/L Isophorone ND 5.0 1 05/05/15 DD SW8270D N-Nitrosodimethylamine ug/L DD 1 05/05/15 SW8270D ND 5.0 ug/L N-Nitrosodi-n-propylamine 1 DD SW8270D N-Nitrosodiphenylamine ND 5.0 ug/L 05/05/15 1 DD SW8270D ND 05/05/15 Phenol 1.0 ug/L QA/QC Surrogates 103 % 1 05/05/15 DD 15 - 110 % % 2,4,6-Tribromophenol 71 % 1 05/05/15 DD 30 - 130 % % 2-Fluorobiphenyl % 1 DD 15 - 110 % % 2-Fluorophenol 45 05/05/15 % 58 1 DD 30 - 130 % % Nitrobenzene-d5 05/05/15 1 61 % DD 15 - 110 % % Phenol-d5 05/05/15

%

1

140

% Terphenyl-d14

Page 28 of 43 Ver 1

05/05/15

DD

30 - 130 %

3

Phoenix I.D.: BJ10461

Client ID: GZ-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Semivolatiles								
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
2-Methylnaphthalene	ND	1.0	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Acenaphthene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Acenaphthylene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Anthracene	0.09	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benz(a)anthracene	0.04	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.02	ug/L	31	05/04/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	0.02	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	05/04/15	DĐ	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	В
Chrysene	0.02	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	103		%	1	05/04/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	71		%	1	05/04/15	DD	30 - 130 %	
% 2-Fluorophenol	45		%	1	05/04/15	DD	15 - 110 %	
% Nitrobenzene-d5	58		%	1	05/04/15	DD	30 - 130 %	
% Phenol-d5	61		%	1	05/04/15	DD	15 - 110 %	
% Terphenyl-d14	140		%	1	05/04/15	DD	30 - 130 %	3
Aniline	ND	10.0	ug/L	1	05/06/15	DD	SW8270D/E625	
QC for Semi-Volatile	Completed				05/05/15			

Page 29 of 43 Ver 1

Phoenix I.D.: BJ10461

Client ID: GZ-1

Phoenix I.D.: BJ10461

RL/ **Parameter** Result POL Units Dilution Date/Time Ву Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Semi-Volatile Comment:

One of the surrogate recoveries was above the upper range due to sample matrix interference. The other surrogates associated with this sample were within QA/QC criteria. No significant bias is suspected.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 30 of 43 Ver 1

^{3 =} This parameter exceeds laboratory specified limits.

B = Present in blank, no bias suspected.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

GROUND WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

<u>Date</u> 04/30/15

10:23

Time

Received by:

DI /

Collected by:

Analyzed by:

SW see "By" below

ΑT

16:55

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10462

04/30/15

Project ID:

AMERBELLE MILLS

Client ID:

GZ-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	05/01/15	EK	SW6010C
Barium	0.338	0.002	mg/L	1	05/01/15	EK	SW6010C
Cadmium	< 0.001	0.001	mg/L	1	05/01/15	EK	SW6010C
Chromium	0.006	0.001	mg/L	1	05/01/15	EK	SW6010C
Copper	0.014	0.005	mg/L	1	05/01/15	LK	SW6010C
Mercury	< 0.0002	0.0002	mg/L	1	05/04/15	RS	SW7470A
Lead	< 0.002	0.002	mg/L	1	05/01/15	ΕK	SW6010C
Selenium	< 0.010	0.010	mg/L	1	05/01/15	EK	SW6010C
Zinc	0.018	0.002	mg/L	1	05/01/15	LK	SW6010C
Ammonia as Nitrogen	0.27	0.05	mg/L	1	05/05/15	WHM	E350.1
Phenolics	< 0.015	0.015	mg/L	1	05/07/15	BS	E420.4
Mercury Digestion	Completed				05/04/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	05/05/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D

Phoenix I.D.: BJ10462

Project ID: AMERBELLE MILLS

Client ID: GZ-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2,6-Dinitrotoluene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chloronaphthalene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Chlorophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
2-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
2-Nitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	05/05/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
3-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Chloroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitroaniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
4-Nitrophenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
Acetophenone	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Aniline	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Benzidine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Benzoic acid	ND	50	ug/L	1	05/05/15	DD	SW8270D
Benzyl butyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Carbazole	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Dibenzofuran	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Diethyl phthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Dimethylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Di-n-butylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Di-n-octylphthalate	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Isophorone	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodimethylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	05/05/15	DD	SW8270D
Phenol	ND	1.0	ug/L	1	05/05/15	DD	SW8270D
QA/QC Surrogates			_				
% 2,4,6-Tribromophenol	87		%	1	05/05/15	DD	15 - 110 %
% 2-Fluorobiphenyl	65		%	1	05/05/15	DD	30 - 130 %
% 2-Fluorophenol	42		%	1	05/05/15	DD	15 - 110 %
% Nitrobenzene-d5	52		%	1	05/05/15	DD	30 - 130 %
% Phenol-d5	50		%	1	05/05/15	DD	15 - 110 %
% Terphenyl-d14	92		%	1	05/05/15	DD	30 - 130 %
ATTENDED							
<u>Semivolatiles</u>	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)
1,2,4,5-Tetrachlorobenzene		1.0	ug/L ug/L	1	05/04/15	DD	
2-Methylnaphthalene	ND		ug/L ug/L	1	05/04/15	DD	
Acenaphthene	ND	0.05	ug/L ug/L	1	05/04/15	DD	
Acenaphthylene	ND	0.05					
Anthracene	0.05	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)

Page 32 of 43

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ10462

Client ID: GZ-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
								_
Benz(a)anthracene	0.03	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L 	1	05/04/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	=2/1
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	В
Chrysene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyrene	0.03	0.02	ug/L	1	05/04/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	05/04/15	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	87		%	1	05/04/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	65		%	1	05/04/15	DD	30 - 130 %	
% 2-Fluorophenol	42		%	1	05/04/15	DD	15 - 110 %	
% Nitrobenzene-d5	52		%	1	05/04/15	DD	30 - 130 %	
% Phenol-d5	50		%	1	05/04/15	DD	15 - 110 %	
% Terphenyl-d14	92		%	1	05/04/15	DD	30 - 130 %	
Aniline	ND	10.0	ug/L	1	05/06/15	DD	SW8270D/E625	

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 33 of 43 Ver 1



587 East Middle Tumpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

GROUND WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

AT

<u>Date</u> 04/30/15 <u>Time</u> 12:00

Received by:

Collected by:

SW

04/30/15

16:55

Analyzed by:

PI /

see "By" below

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10463

Project ID:

AMERBELLE MILLS

Client ID:

GZ-3

Parameter	Result	PQL	Ur	its Dil	lution	Date/Time	е Ву	Reference	
Silver	< 0.001	0.001	m	g/L	1	05/01/15	EK	SW6010C	
Arsenic	< 0.004	0.004	m	g/L	1	05/01/15	EK	SW6010C	
Barium	0.113	0.002	m	g/L	1	05/01/15	EK	SW6010C	
Cadmium	< 0.001	0.001	m	g/L	1	05/01/15	EK	SW6010C	
Chromium	< 0.001	0.001	m	g/L	1	05/01/15	EK	SW6010C	
Copper	< 0.005	0.005	m	g/L	1	05/01/15	LK	SW6010C	
Mercury	< 0.0002	0.0002	m	g/L	1	05/04/15	RS	SW7470A	
Lead	0.002	0.002	m	g/L	1	05/01/15	EK	SW6010C	
Selenium	< 0.010	0.010	m	g/L	1	05/01/15	EK	SW6010C	
Zinc	0.002	0.002	m	g/L	1	05/01/15	LK	SW6010C	
Mercury Digestion	Completed					05/04/15	1/1	SW7470A	
Semi-Volatile Extraction	Completed					05/01/15	Т	SW3520C	
Total Metals Digestion	Completed					04/30/15	AG	SW3050B	
Aromatic Volatiles									
1,2,3-Trichlorobenzene	ND	1.0	u	_] /L	1	05/01/15	НМ	SW8260C	
1,2,4-Trichlorobenzene	ND	1.0	u	_J /L	1	05/01/15	HM	SW8260C	
1,2,4-Trimethylbenzene	ND	1.0	u	J/L	1	05/01/15	HM	SW8260C	
1,2-Dichlorobenzene	ND	1.0	u	J/L	1	05/01/15	HM	SW8260C	
1,3,5-Trimethylbenzene	ND	1.0	u	J/L	1	05/01/15	НМ	SW8260C	
1,3-Dichlorobenzene	ND	1.0	u	j/L	1	05/01/15	НМ	SW8260C	
1,4-Dichlorobenzene	ND	1.0	uş	g/L	1	05/01/15	НМ	SW8260C	
Benzene	ND	1.0	u	_J /L	1	05/01/15	HM	SW8260C	
Chlorobenzene	ND	1.0	uş	g/L	1	05/01/15	HM	SW8260C	
Ethylbenzene	ND	1.0	u	g/L	1	05/01/15	НМ	SW8260C	
Isopropylbenzene	ND	1.0	u	g/L	1	05/01/15	НМ	SW8260C	
m&p-Xylene	ND	2.0	u	g/L	1	05/01/15	НМ	SW8260C	
Methyl t-butyl ether (MTBE)	ND	2.0	u	g/L	1	05/01/15	НМ	SW8260C	

Client ID: GZ-3

Client ID. OZ-3		RL/						
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
Naphthalene	ND	5.0	ug/L	1	05/01/15	НМ	SW8260C	
n-Butylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C	
n-Propylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C	
o-Xylene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C	
p-Isopropyltoluene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C	
sec-Butylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C	
Styrene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C	
tert-Butylbenzene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C	
Toluene	ND	1.0	ug/L	1	05/01/15	НМ	SW8260C	
Total Xylenes	ND	2.0	ug/L	1	05/01/15	НМ	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	05/01/15	НМ	70 - 130 %	
% Bromofluorobenzene	99		%	1	05/01/15	НМ	70 - 130 %	
% Dibromofluoromethane	99		%	1	05/01/15	НМ	70 - 130 %	
% Toluene-d8	102		%	1	05/01/15	НМ	70 - 130 %	
Semivolatiles by SIM								
2-Methylnaphthalene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Acenaphthene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Acenaphthylene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Anthracene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Benz(a)anthracene	0.02	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.10	ug/L	1	05/05/15	DĐ	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Chrysene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	3	05/05/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.07	ug/L	1	05/05/15	DD	SW8270D (SIM)	
Pyrene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)	
QA/QC Surrogates			-					
% 2-Fluorobiphenyl	66		%	1	05/05/15	DD	30 - 130 %	
% Nitrobenzene-d5	49		%	1	05/05/15	DD	30 - 130 %	
% Terphenyl-d14	154		%	1	05/05/15	DD	30 - 130 %	3

Page 35 of 43 Ver 1

Phoenix I.D.: BJ10463

Client ID: GZ-3

Phoenix I.D.: BJ10463

RL/

Result PQL

Units Dilution

Date/Time

By

Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Parameter

Semi-Volatile Comment:

One of the surrogate recoveries was above the upper range due to sample matrix interference. The other surrogates associated with this sample were within QA/QC criteria. No significant bias is suspected.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 36 of 43 Ver 1

^{3 =} This parameter exceeds laboratory specified limits.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

GROUND WATER

Custody Information
Collected by: AT

<u>Date</u> 04/30/15

<u>Time</u> 14:30

Location Code:

GZA-AMER

sw

04/30/15

16:55

Rush Request:

Standard

Analyzed by:

Received by:

DI/

see "By" below

P.O.#:

Matrix:

45441

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10464

Project ID:

AMERBELLE MILLS

Client ID:

GZ-4

Parameter	Result	RL/ PQL	Un	ts Diluti	on Date/Time	e By	Reference
Silver	< 0.001	0.001	mg		05/01/15	EK	SW6010C
Arsenic	< 0.004	0.004	mg		05/01/15	EK	SW6010C
Barium	0.765	0.002	mg		05/01/15	EK	SW6010C
Cadmium	0.001	0.001	mg		05/01/15	EK	SW6010C
Chromium	0.001	0.001	mg		05/01/15	EK	SW6010C
Copper	0.005	0.005	mg	/L 1	05/01/15	LK	SW6010C
Mercury	< 0.0002	0.0002	mg	/L 1	05/04/15	RS	SW7470A
Lead	< 0.002	0.002	mg	/L 1	05/01/15	EK	SW6010C
Selenium	< 0.010	0.010	mg	/L 1	05/01/15	EK	SW6010C
Zinc	0.068	0.002	mg	/L 1	05/01/15	LK	SW6010C
Mercury Digestion	Completed				05/04/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				05/01/15	Т	SW3520C
Total Metals Digestion	Completed				04/30/15	AG	SW3050B
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug.	L 1	05/02/15	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug.	L 1	05/02/15	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug	L 1	05/02/15	MH	SW8260C
1,1,2-Trichloroethane	24	1.0	ug.	L 1	05/02/15	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug.	L 1	05/02/15	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug.	L 1	05/02/15	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug	L 1	05/02/15	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug	'L 1	05/02/15	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug	L 1	05/02/15	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug	L 1	05/02/15	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug		05/02/15	МН	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug		05/02/15	МН	SW8260C
1,2-Dibromoethane	ND	1.0	ug		05/02/15	МН	SW8260C

Page 37 of 43 Ver 1

Client ID: GZ-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	05/02/15	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	05/02/15	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	à	05/02/15	МН	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	05/02/15	МН	SW8260C
Acetone	ND	25	ug/L	1	05/02/15	МН	SW8260C
Acrylonitrile	ND	5.0	ug/L	1 7	05/02/15	МН	SW8260C
Benzene	ND	0.70	ug/L	1	05/02/15	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Bromodichloromethane	ND	0.50	ug/L	i	05/02/15	мн	SW8260C
Bromoform	ND	1.0	ug/L	\! 1	05/02/15	мн	SW8260C
Bromomethane	ND	1.0	ug/L	1	05/02/15	мн	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	05/02/15	мн	SW8260C
	ND	1.0	ug/L	1	05/02/15	мн	SW8260C
Carbon tetrachloride	ND	1.0	ug/L ug/L	1	05/02/15	MH	SW8260C
Chlorothese	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Chloroethane	ND	1.0	ug/L ug/L	1	05/02/15	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Chloromethane	ND	1.0	ug/L ug/L	1	05/02/15	MH	SW8260C
cis-1,2-Dichloroethene	ND	0.40	ug/L ug/L	1	05/02/15	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.50	ug/L ug/L	1	05/02/15	MH	SW8260C
Dibromochloromethane		1.0		4	05/02/15	MH	SW8260C
Dibromomethane	ND		ug/L	\$	05/02/15	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	196	05/02/15	MH	
Ethylbenzene	ND	1.0	ug/L	10			
Hexachlorobutadiene	ND	0.40	ug/L	1	05/02/15	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	05/02/15	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
o-Xylene	ND	1.0	ug/L	4	05/02/15	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Styrene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Tetrachloroethene	5900	250	ug/L	250	05/03/15	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	05/02/15	МН	SW8260C

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ10464

Client ID: GZ-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Toluene	ND	1.0	ug/L	1	05/02/15	МН	SW8260C
Total Xylenes	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	05/02/15	MH	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	05/02/15	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	05/02/15	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	05/02/15	MH	70 - 130 %
% Bromofluorobenzene	103		%	1	05/02/15	MH	70 - 130 %
% Dibromofluoromethane	95		%	1	05/02/15	MH	70 - 130 %
% Toluene-d8	100		%	1	05/02/15	МН	70 - 130 %
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Acenaphthene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Acenaphthylene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Anthracene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benz(a)anthracene	0.02	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(a)pyrene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Chrysene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	05/05/15	DD	SW8270D (SIM)
Fluoranthene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Fluorene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	05/05/15	DD	SW8270D (SIM)
Naphthalene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
Phenanthrene	ND	0.07	ug/L	1	05/05/15	DD	SW8270D (SIM)
Pyrene	ND	0.10	ug/L	1	05/05/15	DD	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	69		%	1	05/05/15	DD	30 - 130 %
% Nitrobenzene-d5	59		%	1	05/05/15	DD	30 - 130 %
% Terphenyl-d14	105		%	1	05/05/15	DD	30 - 130 %

Page 39 of 43 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ10464

Client ID: GZ-4

RL/
Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 40 of 43 Ver 1



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: A

Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Custody Information

AT

<u>Date</u>

<u>Time</u>

Matrix:

P.O.#:

GROUND WATER

Collected by:

04/30/15

Location Code:

GZA-AMER

SW

04/30/15

16:55

Rush Request:

Standard

Received by: Analyzed by:

see "By" below

45441

Laboratory Data

SDG ID: GBJ10453

Phoenix ID: BJ10465

Project ID:

AMERBELLE MILLS

Client ID:

TB043015

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
)							
<u>Volatiles</u>							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	05/03/15	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	05/03/15	МН	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	05/03/15	MH	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	05/03/15	MH	SW8260C

Page 41 of 43 Ver 1

Client ID: TB043015

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Acetone	ND	25	ug/L	1	05/03/15	МН	SW8260C
Acrylonitrile	ND	5.0	ug/L	1	05/03/15	MH	SW8260C
Benzene	ND	0.70	ug/L	1	05/03/15	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	05/03/15	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	05/03/15	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
Chloroethane	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
Chloroform	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
Chloromethane	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	05/03/15	МН	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	05/03/15	МН	SW8260C
Dibromomethane	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	05/03/15	мн	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	05/03/15	мн	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
Methylene chloride	ND	1.0	ug/L	1	05/03/15	мн	SW8260C
Naphthalene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
o-Xylene	ND	1.0	ug/L ug/L	1	05/03/15	MH	SW8260C SW8260C
p-Isopropyltoluene	ND	1.0	-	1			
	ND	1.0	ug/L	Table 1	05/03/15	MH	SW8260C
sec-Butylbenzene		. =	ug/L	1	05/03/15	MH	SW8260C
Styrene	ND ND	1.0	ug/L	1	05/03/15	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1/	05/03/15	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	05/03/15	MH	SW8260C
Toluene	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Total Xylenes	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
rans-1,2-Dichloroethene	ND	1.0	ug/L 	1	05/03/15	МН	SW8260C
rans-1,3-Dichloropropene	ND	0.40	ug/L 	1	05/03/15	МН	SW8260C
rans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	05/03/15	MH	SW8260C
Frichloroethene	ND	1.0	ug/L 	1	05/03/15	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	05/03/15	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	05/03/15	МН	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	05/03/15	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	05/03/15	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	05/03/15	MH	70 - 130 %

Page 42 of 43 Ver 1

Phoenix I.D.: BJ10465

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ10465

Client ID: TB043015

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
% Toluene-d8	100		%	1	05/03/15	МН	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

TRIP BLANK INCLUDED.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Ethan Lee, Project Manager

Page 43 of 43 Ver 1



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 08, 2015

QA/QC Data

SDG I.D.: GBJ10453

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 306535 (mg/L), BJ10460)	QC Samı	ole No: I	3J10150	(BJ1045	3, BJ10	0454, B	J10455,	BJ104	56, BJ1	0457, E	3J1045	8, BJ10	459,	
Mercury - Water Comment:	BRL	0.0002	<0.0002	<0.0002	NC	93.2	92.1	1.2	81.8	71.8	13.0	70 - 130	20	lm
Additional Mercury criteria: LCS	acceptano	e range f	or waters	is 80-120°	% and fo	or soils is	s 70-130°	%.						
QA/QC Batch 306494 (mg/L), BJ10460, BJ10461, BJ10462,				(BJ1045	3, BJ10	0454, B	J10455	BJ104	56, BJ1	10457, 1	BJ1045	58, BJ10	459,	
ICP Metals - Aqueous														
Arsenic	BRL	0.004	<0.004	<0.004	NC	93.4	92.9	0.5	96.9	98.4	1.5	75 - 125	20	
Barium	BRL	0.002	0.113	0.111	1.80	96.7	94.5	2.3	92.1	92.7	0.6	75 - 125	20	
Cadmium	BRL	0.001	<0.001	<0.001	NC	96.0	94.1	2.0	90.7	93.1	2.6	75 - 125	20	
Chromium	BRL	0.001	<0.001	<0.001	NC	93.4	91.0	2.6	90.1	91.9	2.0	75 - 125	20	
Copper	BRL	0.005	<0.005	<0.005	NC	91.6	89.5	2.3	92.0	93.0	1.1	75 - 125	20	
Lead	BRL	0.002	<0.002	<0.002	NC	93.7	91.5	2.4	89.2	91.1	2.1	75 - 125	20	
Selenium	BRL	0.010	<0.010	<0.010	NC	91.0	89.4	1.8	90.3	91.7	1.5	75 - 125	20	
Silver	BRL	0.001	<0.001	<0.001	NC	90.3	88.7	1.8	91.5	92.3	0.9	75 - 125	20	
Zinc	BRL	0.002	<0.002	<0.002	NC	94.4	92.2	2.4	93.5	95.4	2.0	75 - 125	20	
QA/QC Batch 306550 (mg/L),	QC Sam	ple No:	BJ10461	(BJ1046	1, BJ1	0462, B	J10463	BJ104	l64)					
Mercury - Water	BRL		<0.0002			99.1	85.1	15.2	108	110	1.8	70 - 130	20	
Comment:														
Additional Mercury criteria: LCS	acceptano	e range	for waters	is 80-120	% and f	or soils i	s 70-130	%.						

m = This parameter is outside laboratory ms/msd specified recovery limits.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 08, 2015

QA/QC Data

SD	G	I D -	GBJ1	10453
വ	u	I. L <i>J</i>	CODJ	I U433

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 306730 (mg/L), QC	Samp	le No:	BJ10461	(BJ10453	3, BJ1	0455, B	J10456,	BJ104	59, BJ	10460,	BJ1046	1, BJ10	462)
Ammonia as Nitrogen	BRL	0.05	0.06	0.06	NC	104			99.3			85 - 115	20
QA/QC Batch 307095 (mg/L), QC	Samp	le No:	BJ10461	(BJ10455	5, BJ1	0456, B	J10459,	BJ104	60, BJ	10461,	BJ1046	2)	
Phenolics	BRL	0.015	<0.015	<0.015	NC	88.0			87.0			85 - 115	20



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 08, 2015

QA/QC Data

SDG I.D.: GBJ10453

Way 00, 2013													
Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits		
QA/QC Batch 306555 (ug/L),	QC Samp	e No: BJ09	9170 (BJ10460, BJ1	10463)									
Volatiles - Ground Water													
1,2,3-Trichlorobenzene	ND	1.0		104	114	9.2	109	108	0.9	70 - 130	30		
1,2,4-Trichlorobenzene	ND	5.0		102	110	7.5	106	105	0.9	70 - 130	30		
1,2,4-Trimethylbenzene	ND	1.0		93	104	11.2	105	102	2.9	70 - 130	30		
1,2-Dichlorobenzene	ND	1.0		98	106	7.8	101	100	1.0	70 - 130	30		
1,3,5-Trimethylbenzene	ND	1.0		98	110	11.5	106	102	3.8	70 - 130	30		
1,3-Dichlorobenzene	ND	1.0		97	106	8.9	103	99	4.0	70 - 130	30		
1,4-Dichlorobenzene	ND	1.0		95	103	8.1	101	99	2.0	70 - 130	30		
Benzene	ND	0.70		98	107	8.8	103	101	2.0	70 - 130	30		
Chlorobenzene	ND	1.0		96	104	8.0	102	100	2.0	70 - 130	30		
Ethylbenzene	ND	1.0		98	108	9.7	103	101	2.0	70 - 130	30		
Isopropylbenzene	ND	1.0		99	111	11.4	107	101	5.8	70 - 130	30		
m&p-Xylene	ND	1.0		98	107	8.8	105	100	4.9	70 - 130	30		
Methyl t-butyl ether (MTBE)	ND	1.0		108	113	4.5	107	108	0.9	70 - 130	30		
Naphthalene	ND	1.0		110	117	6.2	114	113	0.9	70 - 130	30		
n-Butylbenzene	ND	1.0		98	109	10.6	106	103	2.9	70 - 130	30		
n-Propylbenzene	ND	1.0		91	102	11.4	103	98	5.0	70 - 130	30		
o-Xylene	ND	1.0		100	108	7.7	106	102	3.8	70 - 130	30		
p-Isopropyltoluene	ND	1.0		101	111	9.4	107	104	2.8	70 - 130	30		
sec-Butylbenzene	ND	1.0		102	115	12.0	106	104	1.9	70 - 130	30		
Styrene	ND	1.0		102	108	5.7	109	106	2.8	70 - 130	30		
tert-Butylbenzene	ND	1.0		98	110	11.5	105	103	1.9	70 - 130	30		
Toluene	ND	1.0		96	107	10.8	103	100	3.0	70 - 130	30		
% 1,2-dichlorobenzene-d4	102	%		100	101	1.0	102	100	2.0	70 - 130	30		
% Bromofluorobenzene	97	%		100	99	1.0	102	101	1.0	70 - 130	30		
% Dibromofluoromethane	101	%		100	102	2.0	98	102	4.0	70 - 130	30		
% Toluene-d8	101	%		99	100	1.0	101	101	0.0	70 - 130	30		
Comment:													
A blank MS/MSD was analyze	d with this b	atch.											
Additional 8260 criteria: 10% c			s can be outside of ac	ceptance	criteria as	s long as	recove	ry is 40-1	160%.				
QA/QC Batch 306605 (ug/L)													
Polynuclear Aromatic I				•				·					
2-Methylnaphthalene	ND	0.05		56	55	1.8				30 - 130	20		
Acenaphthene	ND	0.05		68	68	0.0				30 - 130	20		

Acenaphthene ND 0.05 0.0 54 0.0 30 - 130 20 ND 0.04 54 Acenaphthylene 80 80 0.0 30 - 130 20 0.05 Anthracene ND 20 76 30 - 130 75 1.3 Benz(a)anthracene ND 0.02 30 - 130 20 74 73 1.4 ND 0.02 Benzo(a)pyrene 20 ND 0.02 76 76 0.0 30 - 130 Benzo(b)fluoranthene 65 64 1.6 30 - 130 20 ND 0.05 Benzo(ghi)perylene 30 - 130 20 75 77 2.6 0.02 ND Benzo(k)fluoranthene

%

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Chrysene	ND	0.02	78	77	1.3				30 - 130	20
Dibenz(a,h)anthracene	ND	0.01	68	67	1.5				30 - 130	
Fluoranthene	ND	0.05	76	76	0.0				30 - 130	
Fluorene	ND	0.05	79	77	2.6				30 - 130	
Indeno(1,2,3-cd)pyrene	ND	0.02	56	55	1.8				30 - 130	
Naphthalene	ND	0.05	51	51	0.0				30 - 130	
Phenanthrene	ND	0.05	73	73	0.0				30 - 130	
Pyrene	ND	0.05	79	79	0.0				30 - 130	
% 2-Fluorobiphenyl	57	%	61	62	1.6				30 - 130	20
% Nitrobenzene-d5	67	%	60	60	0.0				30 - 130	20
% Terphenyl-d14	74	%	88	88	0.0				30 - 130	20
Comment:	*/									
A LCS and LCS Duplicate were	performed i	instead of a matrix spike and matri	x spike d	uplicate.						
acceptance range for aqueous QA/QC Batch 306598 (mg/L),	samples: 15 , QC Samp	le No: BJ10455 (BJ10455)	eria as lor	ig as reco	overy is a	at least 1	10%. (Ad	id surro	gates	
Alcohol Analysis - Grou										
Methanol	ND	1.0	103	104	1.0	82	104	23.7	70 - 130	30
QA/QC Batch 306495 (ug/L),	QC Sampl	-								
Formaldehyde	ND	50	88	89	1.1				30 - 130	20
QA/QC Batch 306882 (ug/L),	QC Sampl	e No: BJ10458 (BJ10454, BJ1	0457, B	J10458,	BJ1046	64)				
Volatiles - Ground Water	er									
1,1,1,2-Tetrachloroethane	ND	1.0	96	92	4.3	101	109	7.6	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	88	84	4.7	100	106	5.8	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	97	94	3.1	93	98	5.2	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	97	96	1.0	101	108	6.7	70 - 130	30
1,1-Dichloroethane	ND	1.0	89	85	4.6	99	105	5.9	70 - 130	30
1,1-Dichloroethene	ND	1.0	83	78	6.2	94	100	6.2	70 - 130	30
1,1-Dichloropropene	ND	1.0	86	83	3.6	103	108	4.7	70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	104	105	1.0	100	115	14.0	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	92	88	4.4	91	99	8.4	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	104	102	1.9	102	117	13.7	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	95	92	3.2	107	115	7.2	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	95	95	0.0	92	103	11.3	70 - 130	30
1,2-Dibromoethane	ND	1.0	101	100	1.0	104	110	5.6	70 - 130	30
1,2-Dichlorobenzene	ND	1.0	95	91	4.3	99	106	6.8	70 - 130	30
1,2-Dichloroethane	ND	1.0	97	96	1.0	104	110	5.6	70 - 130	30
1,2-Dichloropropane	ND	1.0	93	91	2.2	99	107	7.8	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	97	91	6.4	107	114	6.3	70 - 130	30
1,3-Dichlorobenzene	ND	1.0	92	88	4.4	96	103	7.0	70 - 130	30
1,3-Dichloropropane	ND	1.0	99	97	2.0	102	109	6.6	70 - 130	
1,4-Dichlorobenzene	ND	1.0	92	89	3.3	97	106	8.9	70 - 130	
2,2-Dichloropropane	ND	1.0	91	87	4.5	84	88	4.7	70 - 130	
2-Chlorotoluene	ND	1.0	86	81	6.0	93	101	8.2	70 - 130	
2-Hexanone	ND	5.0	102	100	2.0	107	113	5.5	70 - 130	
2-Isopropyltoluene	ND	1.0	93	89	4.4	100	109	8.6	70 - 130	
4-Chlorotoluene	ND	1.0	89	84	5.8	95	102	7.1	70 - 130	
4-Methyl-2-pentanone	ND	5.0	100	100	0.0	104	110	5.6	70 - 130	
Acetone	ND	5.0	85	90	5.7	103	108	4.7	70 - 130	
Acrylonitrile	ND	5.0	101	104 80	2.9	103	106 105	2.9	70 - 130	
Lanzana	ND	41 413	u ·	va	., .,	11111	1116	7 U	<i>m</i> 170	341)

ND

Benzene

0.70

91

89

2.2

100

105

4.9 70 - 130

30

Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Bromobenzene	ND	1.0		87	84	3.5	92	99	7.3	70 - 130	30	
Bromochloromethane	ND	1.0		97	96	1.0	99	108	8.7	70 - 130	30	
Bromodichloromethane	ND	0.50		101	99	2.0	103	109	5.7	70 - 130	30	
Bromoform	ND	1.0		101	96	5.1	97	106	8.9	70 - 130	30	
Bromomethane	ND	1.0		78	75	3.9	81	91	11.6	70 - 130	30	
Carbon Disulfide	ND	1.0		87	81	7.1	92	99	7.3	70 - 130	30	
Carbon tetrachloride	ND	1.0		87	85	2.3	103	110	6.6	70 - 130	30	
Chlorobenzene	ND	1.0		91	87	4.5	99	105	5.9	70 - 130	30	
Chloroethane	ND	1.0		76	72	5.4	93	98	5.2	70 - 130	30	
Chloroform	ND	1.0		93	89	4.4	99	104	4.9	70 - 130	30	
Chloromethane	ND	1.0		70	67	4.4	85	98	14.2	70 - 130	30	1
cis-1,2-Dichloroethene	ND	1.0		94	90	4.3	99	106	6.8	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40		100	97	3.0	98	105	6.9	70 - 130	30	
Dibromochloromethane	ND	0.50		106	102	3.8	103	112	8.4	70 - 130	30	
Dibromomethane	ND	1.0		98	99	1.0	104	110	5.6	70 - 130	30	
Dichlorodifluoromethane	ND	1.0		74	72	2.7	93	96	3.2	70 - 130	30	
Ethylbenzene	ND	1.0		89	86	3.4	99	105	5.9	70 - 130	30	
Hexachlorobutadiene	ND	0.40		90	84	6.9	96	103	7.0	70 - 130	30	
Isopropylbenzene	ND	1.0		81	76	6.4	92	98	6.3	70 - 130	30	
m&p-Xylene	ND	1.0		91	87	4.5	101	109	7.6	70 - 130	30	
Methyl ethyl ketone	ND	5.0		90	89	1.1	88	100	12.8	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0		107	105	1.9	106	112	5.5	70 - 130	30	
Methylene chloride	ND	1.0		89	87	2.3	88	97	9.7	70 - 130	30	
Naphthalene	ND	1.0		110	110	0.0	99	120	19.2	70 - 130	30	
n-Butylbenzene	ND	1.0		90	86	4.5	102	110	7.5	70 - 130	30	
n-Propylbenzene	ND	1.0		80	76	5.1	95	100	5.1	70 - 130	30	
o-Xylene	ND	1.0		94	90	4.3	103	108	4.7	70 - 130	30	
p-Isopropyltoluene	ND	1.0		93	86	7.8	104	110	5.6	70 - 130	30	
sec-Butylbenzene	ND	1.0		89	84	5.8	98	104	5.9	70 - 130	30	
Styrene	ND	1.0		94	90	4.3	103	109	5.7	70 - 130	30	
tert-Butylbenzene	ND	1.0		85	80	6.1	97	103	6.0	70 - 130	30	
Tetrachloroethene	ND	1.0		87	84	3.5	108	111	2.7	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5		94	95	1.1	90	95	5.4	70 - 130	30	
Toluene	ND	1.0		90	87	3.4	98	105	6.9	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0		92	87	5.6	97	105	7.9	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40		103	103	0.0	100	107	6.8	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0		91	87	4.5	82	87	5.9	70 - 130	30	
Trichloroethene	ND	1.0		89	86	3.4	100	107	6.8	70 - 130	30	
Trichlorofluoromethane	ND	1.0		74	72	2.7	96	100	4.1	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0		79	77	2.6	95	97	2.1	70 - 130		
Vinyl chloride	ND	1.0		81	78	3.8	93	102	9.2	70 - 130		
% 1,2-dichlorobenzene-d4	100	%		101	101	0.0	102	100	2.0	70 - 130		
% Bromofluorobenzene	100	%		105	105	0.0	106	106	0.0	70 - 130	30	
% Dibromofluoromethane	97	%		100	103	3.0	99	97	2.0	70 - 130	30	
% Toluene-d8 Comment:	99	%		99	101	2.0	98	99	1.0	70 - 130	30	
Additional 8260 criteria: 10% of												

QA/QC Batch 306604 (ug/L), QC Sample No: BJ10461 (BJ10455, BJ10456, BJ10459, BJ10460, BJ10461, BJ10462)

Semivolatiles - Ground Water

1,2,4,5-Tetrachlorobenzene	ND	0.50	92	91	1.1	95	98	3.1	30 - 130	20
1,2,4-Trichlorobenzene	ND	3.5	72	72	0.0	83	81	2.4	30 - 130	20
1,2-Dichlorobenzene	ND	1.0	63	63	0.0	75	74	1.3	30 - 130	20

SDG	I.D.:	GBJ10453	
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Parameter	Blank	Blk RL	 LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2-Diphenylhydrazine	ND	1.6	96	93	3.2	93	95	2.1	30 - 130	20	
1,3-Dichlorobenzene	ND	1.0	58	58	0.0	68	67	1.5	30 - 130	20	
1,4-Dichlorobenzene	ND	1.0	60	61	1.7	71	70	1.4	30 - 130	20	
2,4,5-Trichlorophenol	ND	1.0	105	104	1.0	104	108	3.8	30 - 130	20	
2,4,6-Trichlorophenol	ND	1.0	95	95	0.0	96	100	4.1	30 - 130	20	
2,4-Dichlorophenol	ND	1.0	91	90	1.1	91	96	5.3	30 - 130	20	
2,4-Dimethylphenol	ND	1.0	88	87	1.1	90	93	3.3	30 - 130	20	
2,4-Dinitrophenol	ND	1.0	116	116	0.0	122	137	11.6	30 - 130	20	m
2,4-Dinitrotoluene	ND	3.5	98	93	5.2	96	99	3.1	30 - 130	20	
2,6-Dinitrotoluene	ND	3.5	97	95	2.1	97	98	1.0	30 - 130	20	
2-Chloronaphthalene	ND	3.5	88	87	1.1	93	92	1.1	30 - 130	20	
2-Chlorophenol	ND	1.0	67	67	0.0	77	77	0.0	30 - 130	20	
2-Methylnaphthalene	ND	0.05	85	85	0.0	89	91	2.2	30 - 130	20	
2-Methylphenol (o-cresol)	ND	1.0	83	83	0.0	86	91	5.6	30 - 130	20	
2-Nitroaniline	ND	3.5	117	109	7.1	94	104	10.1	30 - 130	20	
2-Nitrophenol	ND	1.0	79	78	1.3	85	89	4.6	30 - 130	20	
3&4-Methylphenol (m&p-cresol)	ND	1.0	81	81	0.0	77	85	9.9	30 - 130	20	
3,3'-Dichlorobenzidine	ND	5.0	54	54	0.0	<10	<10	NC	30 - 130	20	m
3-Nitroaniline	ND	5.0	96	91	5.3	70	82	15.8	30 - 130	20	
4,6-Dinitro-2-methylphenol	ND	1.0	109	104	4.7	124	122	1.6	30 - 130	20	
4-Bromophenyl phenyl ether	ND	3.5	93	95	2.1	87	91	4.5	30 - 130	20	
4-Chloro-3-methylphenol	ND	1.0	102	100	2.0	95	103	8.1	30 - 130	20	
4-Chloroaniline	ND	3.5	72	71	1.4	55	59	7.0	30 - 130	20	
4-Chlorophenyl phenyl ether	ND	1.0	91	88	3.4	89	91	2.2	30 - 130	20	
4-Nitroaniline	ND	5.0	95	93	2.1	92	95	3.2	30 - 130	20	
4-Nitrophenol	ND	1.0	117	109	7.1	125	118	5.8	30 - 130	20	
Acenaphthene	ND	0.05	88	86	2.3	91	89	2.2	30 - 130	20	
Acenaphthylene	ND	0.02	84	84	0.0	85	86	1.2	30 - 130	20	
Acetophenone	ND	5.0	80	80	0.0	87	89	2.3	30 - 130	20	
Aniline	ND	3.5	57	51	11.1	61	68	10.9	30 - 130	20	
Anthracene	ND	0.02	94	94	0.0	93	NC	NC	30 - 130	20	
Benz(a)anthracene	ND	0.02	93	93	0.0	93	16	141.3	30 - 130	20	m,r
Benzidine	ND	4.5	24	27	11.8	<10	<10	NC	30 - 130	20	l,m
Benzo(a)pyrene	ND	0.02	86	87	1.2	82	80	2.5	30 - 130	20	
Benzo(b)fluoranthene	ND	0.02	90	90	0.0	93	53	54.8	30 - 130	20	r
Benzo(ghi)perylene	ND	0.02	104	99	4.9	109	94	14.8	30 - 130	20	
Benzo(k)fluoranthene	ND	0.02	86	86	0.0	88	83	5.8	30 - 130	20	
Benzoic acid	ND	10	123	107	13.9	94	121	25.1	30 - 130	20	r
Benzyl butyl phthalate	ND	3.5	90	89	1.1	100	87	13.9	30 - 130	20	
Bis(2-chloroethoxy)methane	ND	3.5	83	83	0.0	91	91	0.0	30 - 130	20	
Bis(2-chloroethyl)ether	ND	1.0	62	61	1.6	88	80	9.5	30 - 130	20	
Bis(2-chloroisopropyl)ether	ND	1.0	69	69	0.0	83	80	3.7	30 - 130	20	
Bis(2-ethylhexyl)phthalate	0.09	0.05	96	96	0.0	105	100	4.9	30 - 130	20	
Carbazole	ND	5.0	104	103	1.0	99	102	3.0	30 - 130	20	
Chrysene	ND	0.02	98	98	0.0	98	52	61.3	30 - 130	20	r
Dibenz(a,h)anthracene	ND	0.01	103	100	3.0	111	97	13.5	30 - 130	20	
Dibenzofuran	ND	3.5	92	91	1:1	92	93	1.1	30 - 130	20	
Diethyl phthalate	ND	3.5	90	88	2.2	95	91	4.3	30 - 130	20	
Dimethylphthalate	ND	3.5	91	89	2.2	93	91	2.2	30 - 130	20	
Di-n-butylphthalate	ND	3.5	82	80	2.5	102	78	26.7	30 - 130	20	r
Di-n-octylphthalate	ND	3.5	95	96	1.0	88	99	11.8	30 - 130	20	
Fluoranthene	ND	0.04	80	79	1.3	97	75	25.6	30 - 130	20	r
Fluorene	ND	0.05	90	88	2.2	88	91	3.4	30 - 130	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Hexachlorobenzene	ND	0.02	80	82	2.5	78	76	2.6	30 - 130	20	
Hexachlorobutadiene	ND	0.05	72	71	1.4	84	83	1.2	30 - 130	20	
Hexachlorocyclopentadiene	ND	3.5	49	50	2.0	40	51	24.2	30 - 130	20	r.
Hexachloroethane	ND	0.05	58	58	0.0	65	67	3.0	30 - 130	20	
Indeno(1,2,3-cd)pyrene	ND	0.02	83	81	2.4	86	77	11.0	30 - 130		
Isophorone	ND	3.5	80	79	1.3	86	83	3.6	30 - 130		
Naphthalene	ND	0.05	75	75	0.0	84	85	1.2	30 - 130	-	
Nitrobenzene	ND	0.05	74	74	0.0	82	86	4.8	30 - 130	20	
N-Nitrosodimethylamine	ND	0.05	54	54	0.0	62	61	1.6	30 - 130	20	
N-Nitrosodi-n-propylamine	ND	3.5	81	81	0.0	81	85	4.8	30 - 130	20	
N-Nitrosodiphenylamine	ND	3.5	88	86	2.3	91	96	5.3	30 - 130	20	
Pentachloronitrobenzene	ND	0.10	103	101	2.0	104	98	5.9	30 - 130	20	
Pentachlorophenol	ND	0.30	166	164	1.2	159	180	12.4	30 - 130	20	I,m
Phenanthrene	ND	0.05	96	95	1.0	96	96	0.0	30 - 130	20	
Phenol	ND	1.0	66	66	0.0	72	76	5.4	30 - 130	20	
Pyrene	ND	0.02	75	75	0.0	94	70	29.3	30 - 130	20	r
Pyridine	ND	0.50	35	34	2.9	48	45	6.5	30 - 130	20	
% 2,4,6-Tribromophenol	98	%	90	91	1.1	87	91	4.5	30 - 130	20	
% 2-Fluorobiphenyl	76	%	73	72	1.4	79	77	2.6	30 - 130	20	
% 2-Fluorophenol	67	%	52	53	1.9	62	61	1.6	15 - 110	20	
% Nitrobenzene-d5	75	%	69	69	0.0	75	80	6.5	30 - 130	20	
% Phenol-d5	76	%	67	68	1.5	69	73	5.6	15 - 110	20	
% Terphenyl-d14 Comment:	92	%	73	73	0.0	98	70	33.3	30 - 130	20	r

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 306751 (ug/L), QC Sample No: BJ10465 (BJ10457 (2X, 10X) , BJ10464 (250X) , BJ10465)

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Volatiles - Ground Water	<u>er</u>												
1,1,1,2-Tetrachloroethane	ND	1.0			90	101	11.5	102	100	2.0	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0			91	95	4.3	103	96	7.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50			77	98	24.0	94	94	0.0	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0			77	99	25.0	102	101	1.0	70 - 130	30	
1,1-Dichloroethane	ND	1.0			89	95	6.5	104	99	4.9	70 - 130	30	
1,1-Dichloroethene	ND	1.0			88	89	1.1	98	89	9.6	70 - 130	30	
1,1-Dichloropropene	ND	1.0			94	95	1.1	99	95	4.1	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0			86	109	23.6	100	107	6.8	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0			77	94	19.9	95	94	1.1	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0			93	108	14.9	102	106	3.8	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0			102	104	1.9	109	107	1.9	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0			78	100	24.7	98	102	4.0	70 - 130	30	
1,2-Dibromoethane	ND	1.0			79	103	26.4	103	103	0.0	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0			87	98	11.9	99	98	1.0	70 - 130	30	
1,2-Dichloroethane	ND	1.0			81	100	21.0	104	103	1.0	70 - 130	30	
1,2-Dichloropropane	ND	1.0			84	97	14.4	102	98	4.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0			108	106	1.9	109	106	2.8	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0			91	97	6.4	98	97	1.0	70 - 130	30	
1,3-Dichloropropane	ND	1.0			83	102	20.5	103	101	2.0	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0			89	98	9.6	99	98	1.0	70 - 130	30	
2,2-Dichloropropane	ND	1.0			97	100	3.0	87	82	5.9	70 - 130	30	
2-Chlorotoluene	ND	1.0			95	91	4.3	96	93	3.2	70 - 130	30	
2-Hexanone	ND	5.0			73	103	34.1	105	107	1.9	70 - 130	30	r
2-Isopropyltoluene	ND	1.0			102	104	1.9	106	104	1.9	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
4-Chlorotoluene	ND	1.0	94	96	2.1	100	96	4.1	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	69	102	38.6	105	104	1.0	70 - 130	30	l,r
Acetone	ND	5.0	62	89	35.8	110	93	16.7	70 - 130	30	j,r
Acrylonitrile	ND	5.0	75	104	32.4	106	106	0.0	70 - 130	30	r
Benzene	ND	0.70	91	97	6.4	101	95	6.1	70 - 130	30	
Bromobenzene	ND	1.0	84	93	10.2	93	92	1.1	70 - 130	30	
Bromochloromethane	ND	1.0	81	102	23.0	105	100	4.9	70 - 130	30	
Bromodichloromethane	ND	0.50	87	105	18.8	105	101	3.9	70 - 130	30	
Bromoform	ND	1.0	87	111	24.2	104	106	1.9	70 - 130	30	
Bromomethane	ND	1.0	85	88	3.5	64	77	18.4	70 - 130	30	m
Carbon Disulfide	ND	1.0	96	95	1.0	98	91	7.4	70 - 130	30	
Carbon tetrachloride	ND	1.0	94	96	2.1	98	95	3,1	70 - 130	30	
Chlorobenzene	ND	1.0	91	96	5.3	100	98	2.0	70 - 130	30	
Chloroethane	ND	1.0	85	86	1.2	101	96	5,1	70 - 130	30	
Chloroform	ND	1.0	87	97	10.9	105	99	5.9	70 - 130	30	
Chloromethane	ND	1.0	83	87	4.7	97	93	4.2	70 - 130	30	
cis-1,2-Dichloroethene	ND	1.0	90	100	10.5	105	96	9.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	86	104	18.9	99	97	2.0	70 - 130	30	
Dibromochloromethane	ND	0.50	90	111	20.9	107	105	1.9	70 - 130	30	
Dibromomethane	ND	1.0	80	101	23.2	103	102	1.0	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	92	95	3.2	102	96	6.1	70 - 130	30	
Ethylbenzene	ND	1.0	97	97	0.0	100	96	4.1	70 - 130	30	
Hexachlorobutadiene	ND	0.40	100	99	1.0	95	92	3.2	70 - 130	30	
Isopropylbenzene	ND	1.0	94	89	5.5	93	88	5.5	70 - 130	30	
m&p-Xylene	ND	1.0	96	98	2.1	102	100	2.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	61	94	42.6	101	100	1.0	70 - 130	30	l,r
Methyl t-butyl ether (MTBE)	ND	1.0	78	108	32.3	105	104	1.0	70 - 130	30	r
Methylene chloride	ND	1.0	78	90	14.3	95	92	3.2	70 - 130	30	
Naphthalene	ND	1.0	87	112	25.1	100	111	10.4	70 - 130	30	
n-Butylbenzene	ND	1.0	100	100	0.0	101	99	2.0	70 - 130	30	
n-Propylbenzene	ND	1.0	92	88	4.4	97	93	4.2	70 - 130	30	
o-Xylene	ND	1.0	97	100	3.0	103	100	3.0	70 - 130	30	
p-Isopropyltoluene	ND	1.0	102	102	0.0	104	99	4.9	70 - 130	30	
sec-Butylbenzene	ND	1.0	101	96	5.1	97	95	2.1	70 - 130	30	
Styrene	ND	1.0	92	100	8.3	103	98	5.0	70 - 130	30	
tert-Butylbenzene	ND	1.0	96	94	2.1	97	92	5.3	70 - 130	30	
Tetrachloroethene	ND	1.0	99	95	4.1	98	92	6.3	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	61	94	42.6	100	100	0.0	70 - 130	30	1,1
Toluene	ND	1.0	90	96	6.5	100	97	3.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	96	99	3.1	104	96	8.0	70 - 130	30	
trans-1,3-Dichtoropropene	ND	0.40	85	108	23.8	100	99	1.0	70 - 130	30	
trans-1,4-dichloro-2-butene	ND	5.0	83	106	24.3	93	92	1.1	70 - 130	30	
Trichloroethene	ND	1.0	95	97	2.1	101	97	4.0	70 - 130	30	
Trichlorofluoromethane	ND	1.0	84	86	2.4	99	93	6.3	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	83	87	4.7	95	87	8.8	70 - 130	30	
Vinyl chloride	ND	1.0	92	94	2.2	100	94	6.2	70 - 130	30	
% 1,2-dichlorobenzene-d4	101	%	95	100	5.1	101	99	2.0	70 - 130	30	
% Bromofluorobenzene	101	%	101	107	5.8	104	106	1.9	70 - 130	30	
% Dibromofluoromethane	95	%	87	98	11.9	99	100	1.0	70 - 130	30	
% Toluene-d8	100	%	97	98	1.0	98	98	0.0	70 - 130	30	

MS MSD MS Rec RPD

Parameter

Blk Blank RL

LCSD LCS %

%

LCS **RPD**

%

RPD %

Limits Limits

Comment:

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

I = 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

A blank MS/MSD was analyzed with this batch.

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis/Shiller, Laboratory Director

May 08, 2015

Criteria: CT: GWP, SWP Friday, May 08, 2015

State:

Sample Criteria Exceedences Report **GBJ10453 - GZA-AMER**

Analysis Units mg/L mg/L mg/L mg/L mg/L mg/L ng/L mg/L mg/L mg/L mg/L ng/L ug/L ug/L ug/L ug/L ng/L ng/L ug/L ng/L ug/L ug/L J/gr Jg/ J/gr J/gr J/gr J/gr ng/L ng/L RL Criteria 0.0004 0.015 0.013 0.015 0.013 0.048 0.123 0.004 0.05 0.004 0.08 0.05 0.05 90.0 0.05 0.5 0.5 0.5 0.05 0.5 2 9 20 20 2 88 မှ မ 0.0004 0.015 0.013 Criteria 0.015 0.013 0.048 0.123 0.05 0.004 0.004 90.0 0.08 0.05 0.05 0.05 0.5 0.5 0.5 0.5 2 88 ည 9 9 S 5 2 0.0002 0.002 0.002 0.002 0.020 0.002 0.002 0.02 0.00 0.004 0.02 10.0 5.0 250 0.7 250 5.0 5.0 5.0 5.0 6 0. 9 0. 6. 0. 0.0016 0.835 0.835 Result 0.010 0.031 0.009 1.13 1.10 2.98 0.08 5900 5900 0.031 160 99 24 99 9 9 9 99 47 15 14 47 CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L) / VOLATILE ORGANIC COMPOUND / GWPC (µg/L) / VOLATILE ORGANIC COMPOUND / GWPC (µg/L) CT / VOLATILE ORGANIC COMPOUND / SWPC (µg/L) GWPC (µg/L) CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L) / VOLATILE ORGANIC COMPOUND / GWPC (µg/L) CT / SEMIVOLATILE ORGANIC COMP / GWPC (µg/L) INORGANIC SUBSTANCES / GWPC (µg/L) CT / INORGANIC SUBSTANCES / GWPC (µg/L) INORGANIC SUBSTANCES / SWPC (µg/L) INORGANIC SUBSTANCES / SWPC (µg/L) INORGANIC SUBSTANCES / GWPC (µg/L) CT / INORGANIC SUBSTANCES / SWPC (µg/L) INORGANIC SUBSTANCES / SWPC (µg/L) INORGANIC SUBSTANCES / SWPC (µg/L) CT / INORGANIC SUBSTANCES / SWPC (µg/L) CT / INORGANIC SUBSTANCES / SWPC (µg/L) / VOLATILE ORGANIC COMPOUND / 55 占 占 5 5 5 cis-1,2-Dichloroethene Benzo(b)fluoranthene 1,1,2-Trichloroethane Benzo(b)fluoranthene 1,2-Dibromoethane 1,2-Dibromoethane 1,2-Dibromoethane ,2-Dibromoethane ,2-Dibromoethane Benz(a)anthracene **Tetrachloroethene Tetrachloroethene** etrachloroethene Phoenix Analyte **<u>Irichloroethene</u>** Vinyl chloride Acrylonitrile Acrylonitrile Acrylonitrile Acrylonitrile Acrylonitrile Mercury Copper Arsenic Arsenic Barium \$8270-SIMFSR Aniline Aniline Lead Lead Lead Lead Zinc \$8270-SIMR \$8270-SIMR \$8260GWR \$8260GWR \$8260GWR 88260GWR \$8260GWR 38260GWR \$8260GWR \$8260GWR 38260GWR \$8260GWR \$8260GWR \$8260GWR 38260GWR \$8260GWR \$8260GWR \$8260GWR \$8260GWR 58100SIMR ANILINEW AS-WM AS-WM BA-WM PB-WM CU-WM HG-WM P-WM P-WM PB-WM MA-NZ Acode BJ10464 BJ10465 **BJ10456** BJ10457 3110458 BJ10458 BJ10465 BJ10453 BJ10454 BJ10454 BJ10454 BJ10454 BJ10455 BJ10455 BJ10456 BJ10457 BJ10457 BJ10457 BJ10457 3J10457 3)10464 3)10464 3)10464 3)10464 SampNo BJ10453 BJ10453 BJ10454 BJ10454 **BJ10454** BJ10453 3,10454 BJ10454

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labo	oratory Name:	Phoenix Envi	ronmental Lab	s, Inc.	Client:		GZA	GeoEnvir	onmenta	ıı, ınc.
Proje	ect Location:	AMERBELLE	MILLS		Project	Number:				
Labo	oratory Sample		453, BJ10454, 461, BJ10462,					0458, BJ	10459, E	3J10460,
Sam	pling Date(s):	4/30/2015								
RCP	Methods Used	i:								
<u> </u>	311/1312 📝 60	10 🗌 7000	7196	✓ 7	470/7471	8081		☐ EPH		TO15
<u> </u>	082	51 🗸 8260	✓ 8270	✓ E	TPH	9010/90)12	☐ VPH		
1.	For each analytic specified QA/QC any criteria fallin method-specific	performance of according to the according to the performance of according to the a	riteria followed, i ceptable guidelin	ncludin es, as s	g the requi pecified in	rement to ex	xplain	✓ Yes	□ No	
1a.	Were the metho	d specified pres	servation and hol	ding tin	ne requirer	nents met?		✓ Yes	□ No	
1b.	EPH and VPH m significant modif						it	☐ Yes	□ No	✓ NA
2.	Were all sample described on the					ent with that		✓ Yes	□ No	
3.	Were samples re	eceived at an a	ppropriate tempe	rature (< 6 Degree	es C)?		✓ Yes	□No	□NA
4.	Were all QA/QC Protocol docume VOA Narration.						ration,	☐ Yes	✓ No	
5a.	Were reporting I	imits specified o	or referenced on	the cha	in-of-custo	dy?		✓ Yes	□ No	
5b.	Were these repo	orting limits met	?					☐ Yes	✓ No	□NA
6.	For each analytic results reported presented in the	for all constitue	nts identified in t	he meth	nod-specifi			☐ Yes	✓ No	□NA
7	Are project-spec	ific matrix spike	s and laboratory	duplica	ites include	ed in the dat	a set?	✓ Yes	□No	□NA
i, th	For all questions be provided in a requirements for e undersigned belief and bas tained in this a	n attached narra "Reasonable Co , attest under ed upon my	tive. If the answern the confidence". The pains and personal inqui	r to que	stion #1, # ties of pe	A or 1B is "Nerjury that,	no", the	data packa best of i	nge does n	vledge
		,								
٨4	horized		_			Date:	Friday,	May 08,	2015	
	norized nature:	Ethan	· Lee		Print	ed Name:	Ethan	Lee		
			-			Position:	Project	Managei	r	



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

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.

BJ10453, BJ10458, BJ10463, BJ10464 - The client requested a short list for 8270 RCP Semivolatile. Only the PAH constituents are reported as requested on the chain-of-custody.

BJ10460, BJ10463 - The client requested a short list for 8260 RCP Volatiles. Only the volatile aromatic constituents are reported as requested on the chain-of-custody.

ALCOHOL

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

Headspace 05/04/15-1 (BJ10455)

Printed Name

Jeff Bucko

Position:

Chemist

Date:

5/4/2015

QC (Site Specific)

----- Sample No: BJ10455, QA/QC Batch: 306598 -----

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

All MS recoveries were within 70 - 130 with the following exceptions: None.

All MSD recoveries were within 70 - 130 with the following exceptions: None.

All MS/MSD RPDs were less than 30% with the following exceptions: None.

Formaldehyde

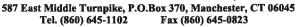
Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

Hplc-frm1 05/01/15-1 (BJ10456)

The ICAL and CCAL meet criteria.







RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

Printed Name

Raman Makol

Position:

Chemist

Date:

5/1/2015

QC (Site Specific)

----- Sample No: BJ10456, QA/QC Batch: 306495 -----

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.

Mercury Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

Merlin 05/01/15-1 (BJ10453, BJ10454, BJ10455, BJ10456, BJ10457, BJ10458,

BJ10459, BJ10460)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name

Rick Schweitzer

Position:

Chemist

Date:

5/1/2015

Instrument:

Merlin 05/04/15-1 (BJ10461, BJ10462, BJ10463, BJ10464)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name

Rick Schweitzer

Position:

Chemist

Date:

5/4/2015



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Fax (860) 645-0823



RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

QC (Site Specific)

----- Sample No: BJ10461, QA/QC Batch: 306550 ------

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

All MS recoveries were within 75 - 125 with the following exceptions: None.

All MSD recoveries were within 75 - 125 with the following exceptions: None.

All MS/MSD RPDs were less than 20% with the following exceptions: None.

QC (Batch Specific)

----- Sample No: BJ10150, QA/QC Batch: 306535 ------

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

ICP Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

Blue 05/01/15-1 (BJ10453, BJ10454, BJ10455, BJ10456, BJ10457, BJ10458,

BJ10459, BJ10460, BJ10461, BJ10462, BJ10463, BJ10464)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin Position: Chemist

Date: 5/1/2015

Instrument: Blue 05/07/15-1 (BJ10454)

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.



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

Printed Name Laura Kinnin Position: Chemist

Date:

5/7/2015

QC (Site Specific)

----- Sample No: BJ10461, QA/QC Batch: 306494 -----

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.

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No. See SVOASIM Narration.

Instrument:

Chem06 05/04/15-1 (BJ10461)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM06/SV_0427):

94% of target compounds met criteria.

The following compounds had %RSDs >20%: 2,4-Dinitrophenol (25%), 4,6-Dinitro-2-methylphenol (37%), 4-Nitrophenol (25%), Benzidine (26%), Pentachlorophenol (35%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM06/0504_02-SV_0427):

99% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: Benzidine (-199%)[30%]

The following compounds did not meet maximum % deviations: Benzidine (-199%)[40%]

The following compounds did not meet recommended response factors: 2-nitrophenol (.065)[0.1], Hexachlorobenzene (.070)[0.1]

The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position:

Chemist

Date:

5/4/2015

Instrument:

Chem06 05/05/15-1 (BJ10456, BJ10459, BJ10460, BJ10461, BJ10462)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

control.Initial Calibration Verification (CHEM06/SV_0505):

95% of target compounds met criteria.

The following compounds had %RSDs >20%: 2,4-Dinitrophenol (26%), 4,6-Dinitro-2-methylphenol (32%), 4-Nitrophenol (23%), Benzidine (22%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM06/0505 11-SV 0505):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.073)[0.1], Hexachlorobenzene (.070)[0.1]

The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position: Chemist

Date:

5/5/2015

Instrument:

Chem19 05/05/15-1 (BJ10455, BJ10461)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control. Initial Calibration Verification (CHEM19/SV 0504):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: 4,6-Dinitro-2-methylphenol (30%), 4-Chlorophenyl phenyl ether (23%), Dibenz(a,h)anthracene (22%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM19/0505_02-SV_0504):

99% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: Benzidine (-49%)[30%]

The following compounds did not meet maximum % deviations: Benzidine (-49%)[40%]

The following compounds did not meet recommended response factors: 2-nitrophenol (.078)[0.1], Hexachlorobenzene (.094)[0.1]

The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position:

Chemist

Date:

5/5/2015



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

QC (Site Specific)
Sample No: BJ10461, QA/QC Batch: 306604
All LCS recoveries were within 30 - 130 with the following exceptions: Benzidine(24%), Pentachlorophenol(166%)
All LCSD recoveries were within 30 - 130 with the following exceptions: Benzidine(27%), Pentachlorophenol(164%)
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 30 - 130 with the following exceptions: 3,3'-Dichlorobenzidine(<10%), Benzidine(<10%), Pentachlorophenol(159%)
All MSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(137%), 3,3'-Dichlorobenzidine(<10%), Benzidine(<10%), Pentachlorophenol(180%)
All MS/MSD RPDs were less than 20% with the following exceptions: % Terphenyl-d14(33.3%), Benz(a)anthracene(141.3%), Benzo(b)fluoranthene(54.8%), Benzoic acid(25.1%), Chrysene(61.3%), Di-n-butylphthalate(26.7%), Fluoranthene(25.6%), Hexachlorocyclopentadiene(24.2%), Pyrene(29.3%)
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
QC (Batch Specific)
Sample No: BJ10079, QA/QC Batch: 306605
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.



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

SVOASIM Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

BJ10461, BJ10463 - The surrogate recovery exceeds the method criteria for %Terphenyl-d14. All other surrogate recoveries are acceptable, therefore no significant bias is suspected.

OC Batch 306604 (Samples: BJ10455, BJ10456, BJ10459, BJ10460, BJ10461, BJ10462): ----

A trace amount of an analyte was found in blank but were not reported in the sample(s), therefore no bias is suspected. (Bis(2-ethylhexyl)phthalate)

The LCS/LCSD recovery is acceptable. One or more analytes in the site specific matrix spike recovery is below the method criteria, therefore a low bias is likely. (3,3"-Dichlorobenzidine, Benz(a)anthracene)

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. (2,4-Dinitrophenol)

The OC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (Benzidine)

The QC recovery for one or more analytes is above the upper range but were not reported in the sample(s), therefore no significant bias is suspected. (Pentachlorophenol)

The MS/MSD RPD for one or more analytes exceed the method criteria, therefore there may be variability in the reported result. (Benz(a)anthracene, Benzo(b)fluoranthene, Chrysene, Fluoranthene, Pyrene)

The MS/MSD RPD exceeds the method criteria for one or more analyte that were not reported in the samples, therefore no sample variability is suspected. (Benzoic acid, Di-n-butylphthalate, Hexachlorocyclopentadiene)

The MS/MSD RPD exceeds the method criteria for one or more surrogates, therefore there may be variability in the reported result. (%Terphenyl-d14)

Instrument:

Chem04 05/02/15-1 (BJ10453)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

In the event that lower detection levels were requested, the samples may have been analyzed by selective ion monitoring (SIM) mode.

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list, so some of the compounds in the narrative may be non-applicable. Initial Calibration Verification (CHEM04/SIM_0428):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM04/0502 02-SIM 0428):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.066)[0.1]

The following compounds did not meet minimum response factors: None.



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

Printed Name

Damien Drobinski

Position:

Chemist

Date:

5/2/2015

Instrument:

Chem04 05/04/15-1 (BJ10455, BJ10456, BJ10459, BJ10460, BJ10461, BJ10462)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

In the event that lower detection levels were requested, the samples may have been analyzed by selective ion monitoring (SIM) mode.

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list, so some of the compounds in the narrative may be non-applicable. Initial Calibration Verification (CHEM04/SIM 0428):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM04/0504 02-SIM 0428):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.067)[0.1], Bis(2-chloroethyl)ether (.690)[0.7] The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position:

Chemist

Date:

5/4/2015

Instrument:

Chem04 05/05/15-1 (BJ10457, BJ10458, BJ10463, BJ10464)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

In the event that lower detection levels were requested, the samples may have been analyzed by selective ion monitoring (SIM) mode.

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list, so some of the compounds in the narrative may be non-applicable. Initial Calibration Verification (CHEM04/SIM 0428):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM04/0505 02-SIM_0428):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.068)[0.1], Bis(2-chloroethyl)ether (.642)[0.7]

The following compounds did not meet minimum response factors: None.



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

Printed Name Damien Drobinski

Position: Chemist Date: 5/5/2015

QC Comments: QC Batch 306605 05/01/15 (BJ10453, BJ10457, BJ10458, BJ10463, BJ10464)

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QC (Site Specific)

----- Sample No: BJ10461, QA/QC Batch: 306604 -----

All LCS recoveries were within 30 - 130 with the following exceptions: Benzidine(24%), Pentachlorophenol(166%)

All LCSD recoveries were within 30 - 130 with the following exceptions: Benzidine(27%), Pentachlorophenol(164%)

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

All MS recoveries were within 30 - 130 with the following exceptions: 3,3'-Dichlorobenzidine(<10%), Benzidine(<10%), Pentachlorophenol(159%)

All MSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(137%), 3,3'-Dichlorobenzidine(<10%), Benz(a)anthracene(16%), Benzidine(<10%), Pentachlorophenol(180%)

All MS/MSD RPDs were less than 20% with the following exceptions: % Terphenyl-d14(33.3%), Benz(a)anthracene(141.3%), Benzo(b)fluoranthene(54.8%), Benzoic acid(25.1%), Chrysene(61.3%), Di-n-butylphthalate(26.7%), Fluoranthene(25.6%), Hexachlorocyclopentadiene(24.2%), Pyrene(29.3%)

A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.

QC (Batch Specific)

----- Sample No: BJ10079, QA/QC Batch: 306605 -----

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.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 306751 (Samples: BJ10457, BJ10464, BJ10465): ---

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. (4-Methyl-2-pentanone, Acetone, Methyl ethyl ketone, Tetrahydrofuran (THF))

The LCS/LCSD RPD exceeds the method criteria for one or more anlaytes that were not reported in the samples, therefore no sample variability is suspected. (4-Methyl-2-pentanone, Acetone, Acrylonitrile, Methyl ethyl ketone, Methyl t-butyl ether (MTBE), Tetrahydrofuran (THF))

QC Batch 306882 (Samples: BJ10454, BJ10457, BJ10458, BJ10464): ----

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. (Chloromethane)

Instrument: Chem16 04/30/15-1 (BJ10460, BJ10463)

Initial Calibration Verification (CHEM16/rcpw 0429):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM16/0430H04-rcpw_0429):

99% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: Bromomethane (42%)[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.

Printed Name Harry Mullin Position: Chemist 4/30/2015

Instrument: Chem17 05/01/15-2 (BJ10454, BJ10457, BJ10458, BJ10464, BJ10465)

Initial Calibration Verification (CHEM17/VOA 0430):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Bromoform (22%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM17/0501S33-VOA_0430):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.





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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

Printed Name Michael Hahn Chemist Date: 5/1/2015

Instrument: Chem17 05/03/15-1 (BJ10457, BJ10464, BJ10465)

Initial Calibration Verification (CHEM17/VOA 0430):

99% of target compounds met criteria.

The following compounds had %RSDs >20%: Bromoform (22%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM17/0503S03-VOA 0430):

96% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: Acetone (33%)[30%], Methyl Ethyl Ketone (39%)[30%], Tetrahydrofuran (thf) (33%)[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.

Printed Name Michael Hahn Position: Chemist 5/3/2015

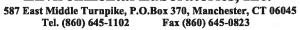
OC Comments: OC Batch 306751 05/03/15 (BJ10457, BJ10464, BJ10465)

A blank MS/MSD was analyzed with this batch.

QC Comments: QC Batch 306555 04/30/15 (BJ10460, BJ10463)

A blank MS/MSD was analyzed with this batch.







RCP Certification Report

May 08, 2015

SDG I.D.: GBJ10453

QC (Site Specific) Sample No: BJ10458, QA/QC Batch: 306882	
All LCS recoveries were within 70 - 130 with the following exceptions: None.	
All LCSD recoveries were within 70 - 130 with the following exceptions: Chloromethane(67%)	
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.	
All MS recoveries were within 70 - 130 with the following exceptions: None.	
All MSD recoveries were within 70 - 130 with the following exceptions: None.	
All MS/MSD RPDs were less than 30% with the following exceptions: None.	
QC (Batch Specific) Sample No: BJ09170, QA/QC Batch: 306555	_
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.	
Sample No: BJ10465, QA/QC Batch: 306751	
All LCS recoveries were within 70 - 130 with the following exceptions: 4-Methyl-2-pentanone(69%), Acetone(62%), Methyl Tetrahydrofuran (THF)(61%)	ethyl ketone(61%),
All LCSD recoveries were within 70 - 130 with the following exceptions: None.	
All LCS/LCSD RPDs were less than 30% with the following exceptions: 2-Hexanone(34.1%), 4-Methyl-2-pentanone(38.6%) Acrylonitrile(32.4%), Methyl ethyl ketone(42.6%), Methyl t-butyl ether (MTBE)(32.3%), Tetrahydrofuran (THF)(42.6%)	, Acetone(35.8%),
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Temperature Narration

The samples in this delivery group were received at 2°C. (Note acceptance criteria is above freezing up to 6°C)

CHAIN OF CUSTODY RECORD

Contact Options: Temp : C

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CHAIN OF CUSTODY RECORD

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Bobbi - Phoenixlabs

From:

Christopher Frey [christopher.frey@gza.com]

Sent:

Wednesday, May 06, 2015 5:31 PM

To:

Bobbi - Phoenixlabs

Cc:

Anthony Trani

Subject:

FW: Phoenix Labs - GBJ10453, AMERBELLE MILLS - COC Acknowledgement

Attachments: Sample Acknowledgement.pdf

Bobbi,

Looking back at our data set, we are also interested in getting <u>copper</u> and <u>zinc</u> added to the metals list. Is it possible that you could add these metals to the pending report? - (for an updated charge of course).

Christopher J. Frey Senior Project Manager Direct Dial: (860) 858-3103 Cell Phone: (860) 250-6867

From: clientservices@phoenixlabs.com [mailto:clientservices@phoenixlabs.com]

Sent: Friday, May 01, 2015 10:12 AM

To: Christopher Frey

Subject: Phoenix Labs - GBJ10453, AMERBELLE MILLS - COC Acknowledgement

Chris,

Delivery group GBJ10453 (AMERBELLE MILLS) has been logged in for the following samples:

Phoenix Id	Client Id
BJ10453	AM-1
BJ10454	AM-7
BJ10455	ME-1
BJ10456	ME-2
BJ10457	ME-6
BJ10458	MW-01
BJ10459	MW-02
BJ10460	MW-03
BJ10461	GZ-1
BJ10462	GZ-2
BJ10463	GZ-3
BJ10464	GZ-4
BJ10465	TB043015

The samples in this delivery group were received at 2°C. (Note acceptance criteria is above freezing up to 6°C)

If there are any questions regarding this submittal, please call Phoenix Client Services at extension 200.

Phoenix Environmental Laboratories, Inc. 587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06374
Tel. (860) 645-1102
Fax. (860) 645-0823
www.phoenixlabs.com

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For information about GZA GeoEnvironmental, Inc. and its services, please visit our website at www.gza.com.



Wednesday, May 20, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BJ17740 - BJ17743

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis/Shiller

Laboratory Director

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #MA-CT-007 ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530 RI Lab Registration #63 VT Lab Registration #VT11301



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823



SDG Comments

May 20, 2015

SDG I.D.: GBJ17740

Volatile 8260 analysis:

The reporting level for Acrylonitrile is above the GWP criteria.

1,2-Dibromoethane does not meet GWP criteria, this compound is analyzed by GC/ECD to achieve this criteria.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 20, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Time Sample Information **Custody Information** Date **GROUND WATER** Collected by: AT 05/18/15 11:55 Matrix: **GZA-AMER** Received by: LK 05/18/15 12:26 **Location Code:** Rush Request:

Analyzed by: 24 Hour see "By" below

> _aboratory Data SDG ID: GBJ17740

Phoenix ID: BJ17740

AMERBELLE MILLS Project ID:

45441.00

Client ID: GZ-1

P.O.#:

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Talameter	TOOGIL		Ornico	Bildilott	2010, 11110		1.0.0.0.00
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Benzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
m&p-Xylene	ND	2.0	ug/L	1	05/18/15	M/P	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	1	05/18/15	M/P	SW8260C
Naphthalene	ND	5.0	ug/L	1	05/18/15	M/P	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
o-Xylene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Styrene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Toluene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Total Xylenes	ND	2.0	ug/L	1	05/18/15	M/P	SW8260C
QA/QC Surrogates			-				
% 1,2-dichlorobenzene-d4	100		%	1	05/18/15	M/P	70 - 130 %
% Bromofluorobenzene	102		%	1	05/18/15	M/P	70 - 130 %

Page 1 of 8 Ver 2 Project ID: AMERBELLE MILLS

Client ID: GZ-1

RL/ **Parameter** Result **PQL Units Dilution** Date/Time By Reference % Dibromofluoromethane 100 % 1 05/18/15 M/P 70 - 130 % % Toluene-d8 101 % 1 05/18/15 M/P 70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 20, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Phoenix I.D.: BJ17740



587 East Middle Tumpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 20, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information Time** Date ΑT 11:15 05/18/15 Matrix: **GROUND WATER** Collected by: Received by: LK 05/18/15 12:26 **Location Code: GZA-AMER**

Rush Request: 24 Hour Analyzed by: see "By" below

> **Laboratory Data** SDG ID: GBJ17740

Phoenix ID: BJ17741

AMERBELLE MILLS Project ID:

45441.00

Client ID: GZ-2

P.O.#:

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Aromatic Volatiles							
	ND	1.0	ug/l	1	05/18/15	M/P	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L ug/L	1	05/18/15	M/P	SW8260C
1,2,4-Trichlorobenzene	ND	1.0		1	05/18/15	M/P	SW8260C SW8260C
1,2,4-Trimethylbenzene		1.0	ug/L	1	05/18/15	M/P	SW8260C SW8260C
1,2-Dichlorobenzene	ND		ug/L		05/18/15	M/P	SW8260C SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/18/15		SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	•	M/P	
1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Benzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
m&p-Xylene	ND	2.0	ug/L	1	05/18/15	M/P	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	1	05/18/15	M/P	SW8260C
Naphthalene	ND	5.0	ug/L	1	05/18/15	M/P	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
o-Xylene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Styrene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Toluene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Total Xylenes	ND	2.0	ug/L	1	05/18/15	M/P	SW8260C
QA/QC Surrogates			_				
% 1,2-dichlorobenzene-d4	100		%	1	05/18/15	M/P	70 - 130 %
% Bromofluorobenzene	100		%	1	05/18/15	M/P	70 - 130 %

Ver 2 Page 3 of 8

Project ID: AMERBELLE MILLS

Client ID: GZ-2

Phoenix I.D.: BJ17741

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
% Dibromofluoromethane	102		%	1	05/18/15	M/P	70 - 130 %	
% Toluene-d8	101		%	1	05/18/15	M/P	70 - 130 %	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 20, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 20, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information **Custody Information** <u>Date</u> <u>Time</u> ΑT 05/18/15 10:25 Matrix: **GROUND WATER** Collected by: Received by: **Location Code: GZA-AMER** LK 05/18/15 12:26 Rush Request: 24 Hour Analyzed by: see "By" below

Laboratory Data

SDG ID: GBJ17740

Phoenix ID: BJ17742

Project ID: AMERBELLE MILLS

45441.00

Client ID: ME-2

P.O.#:

_	.	RL/		D" ("	D 4 57	_	D (
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Aromatic Volatiles							
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
Benzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
m&p-Xylene	ND	10	ug/L	5	05/18/15	M/P	SW8260C
Methyl t-butyl ether (MTBE)	ND	10	ug/L	5	05/18/15	M/P	SW8260C
Naphthalene	ND	25	ug/L	5	05/18/15	M/P	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
o-Xylene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
Styrene Styrene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
Toluene	ND	5.0	ug/L	5	05/18/15	M/P	SW8260C
Total Xylenes	ND	10	ug/L	5	05/18/15	M/P	SW8260C
QA/QC Surrogates			- -	-			- >
% 1,2-dichlorobenzene-d4	100		%	5	05/18/15	M/P	70 - 130 %
% Bromofluorobenzene	101		%	5	05/18/15	M/P	70 - 130 %
75 D. G. Holldon obolization							

Page 5 of 8 Ver 2

Project ID: AMERBELLE MILLS

Client ID: ME-2

Phoenix I.D.: BJ17742

Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
104		%	5	05/18/15	M/P	70 - 130 %
101		%	5	05/18/15	M/P	70 - 130 %
	104	Result PQL	Result PQL Units	Result PQL Units Dilution 104 % 5	Result PQL Units Dilution Date/Time 104 % 5 05/18/15	Result PQL Units Dilution Date/Time By 104 % 5 05/18/15 M/P

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Volatile Comment:

Elevated reporting limits due to the foamy nature of the sample.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 20, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 20, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: G

GROUND WATER

Collected by:

Custody Information

<u>Date</u>

Time

Location Code:

GZA-AMER

Received by:

AT LK 05/18/15 05/18/15 10:00 12:26

Rush Request:

24 Hour

Analyzed by:

DL /

see "By" below

SDG ID: GBJ17740

P.O.#:

45441.00

Laboratory Data

Phoenix ID: BJ17743

Project ID:

AMERBELLE MILLS

Client ID:

TB051815

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Azamatia Valatilaa							,
Aromatic Volatiles					05/10/15		014100000
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Benzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
m&p-Xylene	ND	2.0	ug/L	1	05/18/15	M/P	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	1	05/18/15	M/P	SW8260C
Naphthalene	ND	5.0	ug/L	1	05/18/15	M/P	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
o-Xylene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Styrene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Toluene	ND	1.0	ug/L	1	05/18/15	M/P	SW8260C
Total Xylenes	ND	2.0	ug/L	1	05/18/15	M/P	SW8260C
QA/QC Surrogates			ū				
% 1,2-dichlorobenzene-d4	101		%	1	05/18/15	M/P	70 - 130 %
% Bromofluorobenzene	97		%	1	05/18/15	M/P	70 - 130 %

Project ID: AMERBELLE MILLS

Client ID: TB051815

RL/ **Parameter** Result **PQL** Units **Dilution** Date/Time By Reference % Dibromofluoromethane 98 % 1 05/18/15 M/P 70 - 130 % % Toluene-d8 100 % 05/18/15 M/P 70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

TRIP BLANK INCLUDED.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 20, 2015

Reviewed and Released by: Bobbi Aloisa, Vice President

Phoenix I.D.: BJ17743



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

May 20, 2015

QA/QC Data

SDG I.D.: GBJ17740

Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 308320 (ug/L), (QC Samp	le No: Bu	17743 (BJ17740, BJ1	7741, B.	J17742 ((5X) , B	J17743	3)				
Volatiles - Ground Wate	r.											
1,1,1,2-Tetrachloroethane	ND	1.0		112	102	9.3	93	94	1.1	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0		111	101	9.4	98	96	2.1	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50		104	98	5.9	84	86	2.4	70 - 130		
1,1,2-Trichloroethane	ND	1.0		109	103	5.7	92	95	3.2	70 - 130	30	
1,1-Dichloroethane	ND	1.0		111	99	11.4	97	96	1.0	70 - 130	30	
1,1-Dichloroethene	ND	1.0		117	103	12.7	98	94	4.2	70 - 130	30	
1,1-Dichloropropene	ND	1.0		109	96	12.7	90	89	1.1	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0		93	86	7.8	68	76	11.1	70 - 130	30	m
1,2,3-Trichloropropane	ND	1.0		98	92	6.3	84	86	2.4	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0		98	91	7.4	74	77	4.0	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0		104	94	10.1	92	91	1.1	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0		101	94	7.2	81	83	2.4	70 - 130	30	
1,2-Dibromoethane	ND	1.0		107	101	5.8	88	93	5.5	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0		104	96	8.0	86	87	1.2	70 - 130	30	
1,2-Dichloroethane	ND	1.0		111	104	6.5	93	96	3.2	70 - 130	30	
1,2-Dichloropropane	ND	1.0		110	101	8.5	93	95	2.1	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0		106	94	12.0	91	88	3.4	70 - 130		
1,3-Dichlorobenzene	ND	1.0		101	93	8.2	87	86	1.2	70 - 130		
1,3-Dichloropropane	ND	1.0		103	99	4.0	88	92	4.4	70 - 130		
1,4-Dichlorobenzene	ND	1.0		101	93	8.2	86	87	1.2	70 - 130		
2,2-Dichloropropane	ND	1.0		116	104	10.9	93	90	3.3	70 - 130	30	
2-Chlorotoluene	ND	1.0		102	91	11.4	87	86	1.2	70 - 130	30	
2-Hexanone	ND	5.0		102	95	7.1	77	80	3.8	70 - 130	30	
2-Isopropyltoluene	ND	1.0		106	97	8.9	90	88	2.2	70 - 130	30	
4-Chlorotoluene	ND	1.0		102	91	11.4	87	86	1.2	70 - 130		
4-Methyl-2-pentanone	ND	5.0		107	103	3.8	79	83	4.9	70 - 130		
Acetone	ND	5.0		93	109	15.8	69	72	4.3	70 - 130		m
Acrylonitrile	ND	5.0		121	110	9.5	98	101	3.0	70 - 130		3177
Benzene	ND	0.70		109	100	8.6	92	92	0.0	70 - 130		
Bromobenzene	ND	1.0		101	93	8.2	86	86	0.0	70 - 130		
Bromochloromethane	ND	1.0		117	108	8.0	100	99	1.0	70 - 130		
Bromodichloromethane	ND	0.50		118	111	6.1	96	97	1.0	70 - 130		
Bromoform	ND	1.0		118	110	7.0	94	97	3.1	70 - 130		
Bromomethane	ND	1.0		103	93	10.2	80	92	14.0	70 - 130		
Carbon Disulfide	ND	1.0		121	106	13.2	100	99	1.0	70 - 130		
Carbon tetrachloride	ND	1.0		116	104	10.9	99	95	4.1	70 - 130		
Chlorobenzene	ND	1.0		105	95	10.0	90	90	0.0	70 - 130		
Chloroethane	ND	1.0		102	89	13.6	96	93	3.2	70 - 130		
Chloroform	ND	1.0		113	103	9.3	98	98	0.0	70 - 130		
Chloromethane	ND	1.0		89	82	8.2	92	88	4.4	70 - 130		
cis-1,2-Dichloroethene	ND	1.0		112	103	8.4	99	97	2.0	70 - 130		

QA/QC Data

Blk LCS LCSD LCS MS MSD MS Rec **RPD** Blank RL % **RPD** % % RPD Limits Limits % **Parameter** cis-1,3-Dichloropropene ND 0.40 118 106 10.7 93 95 2.1 70 - 130 30 Dibromochloromethane ND 0.50 117 109 7.1 93 95 2.1 70 - 130 30 Dibromomethane ND 1.0 111 105 5.6 93 96 3.2 70 - 130 30 Dichlorodifluoromethane ND 1.0 96 85 12.2 103 101 2.0 70 - 130 30 Ethylbenzene ND 1.0 108 97 10.7 90 89 1.1 70 - 130 30 Hexachlorobutadiene ND 0.40 103 95 8.1 81 80 1.2 70 - 130 30 Isopropyibenzene ND 1.0 99 90 9.5 84 84 0.0 70 - 130 30 m&p-Xylene ND 1.0 106 97 8.9 92 91 1.1 70 - 130 30 Methyl ethyl ketone ND 5.0 107 4.6 90 112 84 6.9 70 - 130 30 Methyl t-butyl ether (MTBE) ND 1.0 119 111 97 7.0 98 1.0 70 - 130 30 Methylene chloride ND 72 1.0 82 77 6.3 72 0.0 70 - 13030 Naphthalene ND 1.0 89 86 3.4 65 73 11.6 70 - 130 30 n-Butylbenzene ND 1.0 106 93 13.1 89 87 2.3 70 - 130 30 n-Propyibenzene ND 1.0 95 87 8.8 87 84 3.5 70 - 130 30 o-Xylene ND 1.0 107 97 9.8 90 89 1.1 70 - 130 30 p-Isopropyltoluene ND 1.0 106 93 13.1 90 87 3.4 70 - 130 30 sec-Butylbenzene ND 1.0 106 95 10.9 88 84 4.7 70 - 130 30 Styrene ND 1.0 106 97 8.9 91 91 0.0 70 - 130 30 tert-Butylbenzene ND 1.0 101 92 9.3 87 85 70 - 130 2.3 30 Tetrachloroethene ND 101 1.0 111 9.4 93 92 1.1 70 - 130 30 Tetrahydrofuran (THF) ND 2.5 107 104 2.8 94 95 1.1 70 - 130 30 ND Toluene 1.0 110 100 9.5 92 92 0.0 70 - 130 30 trans-1,2-Dichloroethene ND 1.0 113 101 11.2 95 93 2.1 70 - 130 30 trans-1,3-Dichloropropene ND 0.40 119 112 6.1 94 97 3.1 70 - 130 30 trans-1,4-dichloro-2-butene ND 108 5.0 116 7.1 79 80 1.3 70 - 130 30 ND Trichloroethene 100 93 1.0 110 9.5 93 0.0 70 - 130 30 Trichlorofluoromethane ND 1.0 113 98 14.2 104 98 5.9 70 - 130 30 Trichlorotrifluoroethane ND 1.0 117 104 11.8 100 95 5.1 70 - 130 30 Vinyl chloride ND 1.0 97 13.5 99 97 70 - 130 111 2.0 30 % 1,2-dichlorobenzene-d4 101 % 102 101 1.0 102 101 1.0 70 - 130 30 % Bromofluorobenzene 100 % 104 104 0.0 103 104 70 - 130 1.0 30 % Dibromofluoromethane 102 % 102 102 0.0 106 104 1.9 70 - 130 30 % Toluene-d8 101 % 101 102 1.0 99 102 3.0 70 - 13030 Comment:

A blank MS/MSD was analyzed with this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

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

SDG I.D.: GBJ17740

May 20, 2015

m = This parameter is outside laboratory ms/msd specified recovery limits.

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Analysis

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Sample Criteria Exceedences Report

GBJ17740 - GZA-AMER

Wednesday, May 20, 2015 Criteria: CT: GWP, SWP

State: CT

SampNo	Acode	Phoenix Analyte	Criteria	Result	R	Criteria	Criteria	Units
BJ17740	\$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	ND	5.0	0.5	0.5	ng/L
BJ17740	\$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (μg/L)	Q	1.0	0.05	0.05	ng/L
BJ17741	\$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	QN	1.0	0.05	0.05	ug/L
BJ17741	\$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	5.0	0.5	0.5	ng/L
BJ17742	\$8020WMR	Benzene	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	2	5.0	-	-	ug/L
BJ17742	\$8260GWR	Benzene	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	3.5	-	-	ng/L
BJ17742	\$8260GWR	1,1,1,2-Tetrachloroethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	5.0	-	_	ng/L
BJ17742	\$8260GWR	1,1,2,2-Tetrachloroethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	2.5	0.5	0.5	ng/L
BJ17742	\$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	5.0	0.05	0.05	ng/L
BJ17742	\$8260GWR	1,2-Dichloroethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	3.0	-	_	ng/L
BJ17742	\$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	25	0.5	0.5	ng/L
BJ17742	\$8260GWR	Bromodichloromethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	2.5	0.56	0.56	ng/L
BJ17742	\$8260GWR	Вготобот	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	5.0	4	4	ng/L
BJ17742	\$8260GWR	Chloromethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	g	5.0	2.7	2.7	ng/L
BJ17742	\$8260GWR	cis-1,3-Dichloropropene	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	2.0	9.0	0.5	ng/L
BJ17742	\$8260GWR	Dibromochloromethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	2.5	0.5	0.5	ng/L
BJ17742	\$8260GWR	Hexachlorobutadiene	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	2.0	0.45	0.45	ng/L
BJ17742	\$8260GWR	trans-1,3-Dichloropropene	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	Q	2.0	0.5	0.5	ng/L
BJ17742	\$8260GWR	Vinyl chloride	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	2	5.0	2	2	ng/L
BJ17742	\$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / SWPC (µg/L)	Q	25	20	20	ug/L
BJ17743	\$8260GWR	Acrylonitrile	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	<u>R</u>	5.0	0.5	0.5	ng/L
BJ17743	\$8260GWR	1,2-Dibromoethane	CT / VOLATILE ORGANIC COMPOUND / GWPC (µg/L)	2	1.0	0.05	0.05	ng/L

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

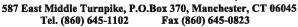
Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

GZA GeoEnvironmental, Inc.

Laboratory Name: Phoenix Environmental Labs, Inc. Client:

Proje	ect Location	: AME	RBELLE MI	ILLS	Proj	ect Nu	mber:			
Labo	oratory Samp	ple ID(s):	: BJ17740	, BJ17741, I	BJ17742, BJ	17743				
Sam	pling Date(s): 5/18/2	2015							
RCP	Methods Us	sed:								
<u> </u>	311/1312	6010	7000	7196	7470/74	71 [8081	EPH		TO15
<u> </u>	082	8151	✓ 8260	8270	ETPH		9010/9012	☐ VPH		
1.	For each anal specified QA/cany criteria fa method-speci	QC perfor Iling outside	mance criter de of accept	ria followed, i able guidelin	ncluding the r es, as specific	equiremed in the	ent to explain	✓ Yes	□ No	
1a.	Were the met	thod speci	fied preserv	ation and hole	ding time requ	uirement	ts met?	✓ Yes	□ No	
1b,	EPH and VPH significant mo							□ Yes	□ No	✓ NA
2.	Were all samp described on	the assoc	iated Chain-	of-Custody d	ocument(s)?			✓ Yes	□ No	
3.	Were samples							✓ Yes	□No	□NA
4.	Were all QA/0 Protocol docu			ia specified ir	n the Reasona	ible Cor	ifidence	✓ Yes	□ No	
5a.	Were reportin	ıg limits sp	ecified or re	eferenced on	the chain-of-o	ustody?		✓ Yes	□ No	
5b.	Were these re	eporting lir	mits met?					☐ Yes	✓ No	□NA
6.	For each anal results reported presented in the second sec	ed for all c	onstituents	identified in th	ne method-sp	ecific an		✓ Yes	□ No	□NA
7.	Are project-sp	ecific mat	trix spikes aı	nd laboratory	duplicates inc	cluded ir	the data set?	□ Yes	✓ No	□NA
Note:		n an attach	ed narrative.	If the answe			question #5a, #7 r 1B is "No", the			
and	belief and b	ased up	on my per	sonal inqui	ry of those	respon	ry that, to the sible for pro- and complet	viding the		
Aut	horized	_					Date: Wedn	esday, Ma	y 20, 201	15
	nonzed nature:	Et	han:	See	F	rinted I	Name: Ethan	Lee		
						Po	sition: Projec	t Manager	•	







RCP Certification Report

May 20, 2015

SDG I.D.: GBJ17740

BJ17742 - Sample(s) required a dilution for Volatiles due to the foamy nature of the sample. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

Chem17 05/18/15-1 (BJ17740, BJ17741, BJ17742, BJ17743)

Initial Calibration Verification (CHEM17/VT-S0505):

94% of target compounds met criteria.

The following compounds had %RSDs >20%: 1,2-Dibromo-3-Chloropropane (22%), Acetone (28%), Acrylonitrile (24%), Bromoform (24%), Methylene Chloride (40%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM17/0518S02-VT-S0505):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the continuing calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: None.

The following compounds did not meet minimum response factors: None.

Printed Name Michael Hahn

Position: Chemist

Date: 5/18/2015

QC Comments: QC Batch 308320 05/18/15 (BJ17740, BJ17741, BJ17742, BJ17743)

A blank MS/MSD was analyzed with this batch.

QC (Batch Specific)

----- Sample No: BJ17743, QA/QC Batch: 308320 -----

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.

Temperature Narration

The samples were received at 4C with cooling initiated. (Note acceptance criteria is above freezing up to 6°C)



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

May 20, 2015

SDG I.D.: GBJ17740

□ ICE 🕅 No□	°C Pg′ of	is s		- 11.	This section MUST be completed with	Bottle Quantities.	Tuggi ASSI	Alaga (Alaga)	26 818088 20 10 10 10 10 10 10 10 10 10 10 10 10 10								Data Format	K Excel	GIS/Key	Other	Data Package Tier II Checklist	Phoenix Std Report	* SURCHARGE APPLIES
7	Temp 🐈 °	, , , , , , , , , , , , , , , , , , ,	Chrittople	Project P.O.	This s	Boti	Ser.	\$ \$\frac{1}{2}\line{1}\line{1}{2}\line{1}\line{1}{2}\line{1}\li	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		M	Μ	٦					MCP Certification	GW-2	S-1	S-2	S-3 MWRA eSMART Other	: CJ
	ORD			AMERICALLE MALLS	r R ey				\$ 165 105 105									Direct Exposure RRCP Cert	SW Protection	GA Mobility	a DEC	l/c DEC	State where samples were collected:
	CHAIN OF CUSTODY RECORD	37	sex (W.S.W.M.Meets	CHREST												Time:	2	□ GW	Other			
	TAIN OF	east Middle Turnpike, P.O. Box Email: info@phoenixlabs.com	Client Ser		402 Report to: Invoice to:		Analysis	Total Control of the	30	X	X	×	×				Date:	5/18/12			Turnaround:	3 Days*	Other • SURCHARGE APPLIES
	ਠ	587 East M Email:		į	DENE JULIE (on Date: 5/18/1 /	ww =Waste Water 1 W =Wipe	Date Time Sampled Sampled		2[11]	5001	0001										
			- 1	9	D D	6	ıtion - Identificatio	W=Surface Water W S=Soil SD=Solid	Sample	74.5 1		3	>	\			ed by:	uadin		lations:			
	A.A.	OENIX	Laboratorie	٦I.	GLATTONOVIEW		Client Sample - Information - Identification	W=Ground Water Sediment SL=Sludge	Customer Sample Identification	(-25)	62-7	ME-2	TB 051815				Ascepted by	· 3		uirements or Regu			
		PHOENIX W	environmental		Address: 65		Sampler's Chien Signature	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 #	5 OHLLI	9 177	2	17 SHLL)				Relinquished by:	anthog Tran		Comments, Special Requirements or Regulations:			

APPENDIX F SURFACE WATER AND SEDIMENT SAMPLE LOGS AND LABORATORY ANALYTICAL REPORTS

				SI	SURFACE	100	ER SAI	WATER SAMPLE FIELD LOG	ELD I	50	
GZA GeoEnvironmental, Inc.	ental, Inc.				PROJ	OJECT			Date:		4/22/2015 Page 1 of 1
655 Winding Brook Drive,	Drive,	1	Project Name:	:-		Amerb	Amerbelle Mils		File No.		44541
Suite 402, Glastonbury, CT 06033 Phone: (860) 286-8900	ury, CT 00 900		Project Location:	ation:		Rockı	Rockville, CT		GZA Staff/Sampler:	Sampler:	AJT/BAG PM: CJF
GZA Staff:	AJT/BAG		Sample Dev	Sample Device: Perista		Sample Method/Device	42		Surface Water Body	ter Body	Paner Mill Pond and American Mill Pond
	Sunny		Grab	Bomb	Kemmerer	Trap Bottle		Other			Table Till Tolle and Tilliologic Will Tolle
			Wate	er Quality M	Water Quality Meter Calibration Data	tion Data) R	ORP: 2375 256/2375	75
pH Meter: Model:	Y	YSI 556A		Reading:		pH 4: 4	/ 4	pH 7: 6.98	7.0	pH 10: 9.98	/ 10
Spec. Con. Model:	Y	YSI 556A		Standard Solution:	127	82		Reading: (start)	1248		(finish) 1278
DO: Model:	Y	YSI 556A		Standard Solution:	olution:			Reading: (start)	t) 100.4%		
Turbidity: Model:		Micro TPI		Standard Solution:	olution: 0/10/1	0/100/1000		Reading: (start)	(1
Sample ID	Time	Water Depth	Sample Depth	Turbidity	Hd	S.C.	D0	Temp.	DO	Temp.	
		(ft.)	(ft.)	(ntn)	(ns)	(Sn)	(mg/L)	(C)	(mg/L)	(0)	Sample Location
AOC-25 SW1	0925	5' 9"	1	2.73	7.73	160	12.16	8.16	0.08	155.9	America Mill Pond
AOC-25 SW2	0945	10'8"	1	2.00	7.68	161	11.45	8.23	0.08	189.1	America Mill Pond
AOC-25 SW3	1045	6	-	1.32	7.37	160	11.75	8.35	0.08	171.3	America Mill Pond
AOC-25 SW-4	1300	9	-	0.48	7.80	163	11.55	9.77	0.08	2.7	Behind Automotive Shop
AOC-25 SW-5	1330	3	-	0.61	7.39	162	10.78	9.87	0.08	32.3	Center island 10' off
AOC-25 SW-6	1350	4	1	1.97	7.46	165	10.44	10.69	0.08	162.2	By razed buildings
SITE SKETCH											
1. Samples were field filtered.	re field fil	tered.									

2. See map for location.

				SEDIM		ENT SAMPLE FIELD LOG	ELD LC	50
GZA GeoEnvironmental, Inc. 655 Winding Brook Drive, Suite 402	, Inc. e, Suite 402		Project Name:		PROJECT	Amerbelle Mills	500	Date: 4/22/2015 Page 1 of 1 File No. 45441
Glastonbury, CT 06033 Phone: (860) 286-8900			Location:	P.		Rockville, CT		ff/Sampler AJT/BAG
Air Temperature (°F):	.09			SAM	SAMPLING EQUIPMENT	PMENT		PID; Calibration Standard: 100 Source lamp: 10.6
Weather Conditions:	Sunny		Sample Method/Device:	od/Device:				tart):
			Grab	Hand Auger		Hand Core/Borer	Dredge	
Sample ID	Time	Water Depth (ft.)	Sample Depth (ft.below ground)	OVM Reading (PPM)	Odor	Moisture Content	Organic Content	1
AOC-25 SED1	0935	.6.5	0-0.5	0	No			Brown, fine to coarse SAND and GRAVEL, fine Gravel
AOC-25 SED2	1000	10'8"	0-0.5	0	No No			Dark brown ORGANICS and fine to coarse SAND, little fine to coarse Gravel
AOC-25 SED3	1100	,6	0-0.5	0	No No			Dark brown ORGANCS and fine to coarse SAND, little fine to coarse Gravel
AOC-25 SED4	1320	,9	0-0.5	0	No			Dark brown ORGANCS and fine to coarse SAND, little fine to coarse Gravel, trace Silt
AOC-25 SED5	1340	3,	0-0.5	0	No			Dark brown ORGANICS and fine to medium Sand, little fine Gravel, little Silt
AOC-25 SED6	1405	4'	0-0.5	0	No			Dark brown ORGANICS and fine to medium Sand, little fine Gravel, little Silt
SITE SKETCH:								
See Map								

Fossiliferous root mat - decomposed fiber structure.

Note: e.g. logs, branches, roots, shells, black streaks, H2S odor.

Organic Silt: Dark gray to black, light weight, often H2S odor.

ORGANIC MATERIALS

ABBREVIATIONS

Decomposed root/twig/leaf litter - forest areas. Living root fiber structures, found in marshes.

Humus: Root Mat: Peat:

F/M - Fine to Medium F/C - Fine to Coarse

GR - Gray BN - Brown YEL - Yellow RD - Red

V. Soft Soft M. Stiff Stiff

M. Dense

0-10% 10-20% 20-35% 35-50%

V - Very

Silt/Clay

Sand V. Loose Loose

Too fine to see. TRACE (TR.)

Fines (silts & clay)
Fine sand.
Med. Sand

SOIL CONDITIONS

Finest visible particles, LITTLE (L.) 1/64"-1/16" (granular sugar), SOME (S.) 1/6"-1/4" (rock salt), AND

1/4"-3/4" (pea to grape).

C. Sand Fine gravel

DENSITY

F - Fine M - Medium C - Coarse



Tuesday, May 05, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BJ06358 - BJ06363

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis/Shiller

Laboratory Director

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #MA-CT-007 ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530 RI Lab Registration #63 VT Lab Registration #VT11301



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 05, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

SURFACE WATER

Location Code:

GZA-AMER

Standard

P.O.#:

Matrix:

45441

Custody Information

Laboratory Data

Collected by: Received by:

LB

04/22/15 04/22/15

Date

9:25 16:02

Time

Rush Request:

Analyzed by:

see "By" below

SDG ID: GBJ06358

Phoenix ID: BJ06358

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SW-1

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	04/23/15	LK	SW6010C
Barium	0.022	0.002	mg/L	1	04/23/15	LK	SW6010C
Cadmium	< 0.0001	0.0001	mg/L	1	04/23/15	LK	SW6010C
Chromium	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Hardness (CaCO3)	24.0	0.1	mg/L	1	04/23/15		E200.7
Mercury	< 0.0002	0.0002	mg/L	1	04/23/15	RS	SW7470A
Lead	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Selenium	< 0.005	0.005	mg/L	1	04/23/15	LK	SW6010C
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	04/27/15	WHM	E350.1
Phenolics	< 0.015	0.015	mg/L	1	04/23/15	BS	E420.4
Mercury Digestion	Completed				04/23/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				04/22/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/22/15	AG	SW3050B
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D

Client ID: AOC-25 SW-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
2-Chloronaphthalene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Chlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	04/26/15	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
3-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	3	04/26/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Acetophenone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Aniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzoic acid	ND	50	ug/L	1	04/26/15	DD	SW8270D	
Benzyl butyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Carbazole	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dibenzofuran	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Diethyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dimethylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-butylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-octylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Isophorone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Phenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
QA/QC Surrogates			J					
% 2,4,6-Tribromophenol	107		%	1	04/26/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	81		%	1	04/26/15	DD	30 - 130 %	
% 2-Fluorophenol	63		%	1	04/26/15	DD	15 - 110 %	
% Nitrobenzene-d5	90		%	1	04/26/15	DD	30 - 130 %	
% Phenol-d5	60		%	1	04/26/15	DD	15 - 110 %	
% Terphenyl-d14	116		%	1	04/26/15	DD	30 - 130 %	
<u>Semivolatiles</u>								
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
2-Methylnaphthalene	ND	1.0	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthylene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benz(a)anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	В

Page 2 of 18 Ver 2

Client ID: AOC-25 SW-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Benzo(a)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SiM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Chrysene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	В
Dibenz(a,h)anthracene	ND	0.01	ug/L	ñ	04/24/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	107		%	1	04/24/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	81		%	1	04/24/15	DD	30 - 130 %	
% 2-Fluorophenol	63		%	1	04/24/15	DD	15 - 110 %	
% Nitrobenzene-d5	90		%	1	04/24/15	DD	30 - 130 %	
% Phenol-d5	60		%	1	04/24/15	DD	15 - 110 %	
% Terphenyl-d14	116		%	1	04/24/15	DD	30 - 130 %	

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 05, 2015

Reviewed and Released by: Maryam Taylor, Project Manager

Page 3 of 18 Ver 2



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 05, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SURFACE WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

Laboratory Data

Collected by:

Analyzed by:

Received by:

LB

see "By" below

04/22/15 04/22/15

<u>Date</u>

9:45 16:02

<u>Time</u>

SDG ID: GBJ06358 Phoenix ID: BJ06359

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SW-2

RI	1

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	04/23/15	LK	SW6010C
Barium	0.023	0.002	mg/L	1	04/23/15	LK	SW6010C
Cadmium	< 0.0001	0.0001	mg/L	1	04/23/15	LK	SW6010C
Chromium	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Hardness (CaCO3)	24.6	0.1	mg/L	1	04/23/15		E200.7
Mercury	< 0.0002	0.0002	mg/L	1	04/23/15	RS	SW7470A
Lead	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Selenium	< 0.005	0.005	mg/L	1	04/23/15	LK	SW6010C
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	04/27/15	WHM	E350.1
Phenolics	< 0.015	0.015	mg/L	1	04/23/15	BS	E420.4
Mercury Digestion	Completed				04/23/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				04/22/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/22/15	AG	SW3050B
Semivolatiles							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D

Page 4 of 18 Ver 2

Phoenix I.D.: BJ06359

Project ID: AMERBELLE MILLS Client ID: AOC-25 SW-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
2-Chloronaphthalene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Chlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	04/26/15	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
3-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Acetophenone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Aniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzoic acid	ND	50	ug/L	1	04/26/15	DD	SW8270D	
	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzyl butyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether Carbazole	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dibenzofuran	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Diethyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dimethylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-butylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-octylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Isophorone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Phenol	ND	1.0	ugr	•	5 11 2 51 7 5	_		
QA/QC Surrogates	108		%	1	04/26/15	DD	15 - 110 %	
% 2,4,6-Tribromophenol	77		%	1	04/26/15	DD	30 - 130 %	
% 2-Fluorobiphenyl	62		%	1	04/26/15	DD	15 - 110 %	
% 2-Fluorophenol	85		% %	1	04/26/15	DD	30 - 130 %	
% Nitrobenzene-d5			%	1	04/26/15	DD	15 - 110 %	
% Phenol-d5	61 426		%	1	04/26/15	DD	30 - 130 %	
% Terphenyl-d14	126		70	· 1/1	04/20/10	55	33 .33 /3	
<u>Semivolatiles</u>				4	04/04/45	חח	SW8270D (SIM)	
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	04/24/15	DD		
2-Methylnaphthalene	ND	1.0	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthylene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benz(a)anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	

Page 5 of 18 Ver 2

Client ID: AOC-25 SW-2

Parameter	Result	RL/ P Q L	Units	Dilution	Date/Time	Ву	Reference	
Benzo(a)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	_
Benzo(b)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Chrysene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	В
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	108		%	1	04/24/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	77		%	1	04/24/15	DD	30 - 130 %	
% 2-Fluorophenol	62		%	1	04/24/15	DD	15 - 110 %	
% Nitrobenzene-d5	85		%	1	04/24/15	DD	30 - 130 %	
% Phenol-d5	61		%	1	04/24/15	DD	15 - 110 %	
% Terphenyl-d14	126		%	1	04/24/15	DD	30 - 130 %	

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 05, 2015

Reviewed and Released by: Maryam Taylor, Project Manager

Page 6 of 18 Ver 2



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 05, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SURFACE WATER

Location Code:

GZA-AMER Standard

Rush Request:

45441

Custody Information

Received by:

Analyzed by:

Collected by:

LB

04/22/15 04/22/15

<u>Date</u>

<u>Time</u> 10:45 16:02

see "By" below

Laboratory Data

SDG ID: GBJ06358

Phoenix ID: BJ06360

Project ID:

AMERBELLE MILLS

Client ID:

P.O.#:

AOC-25 SW-3

Decemeter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Parameter	Result							_
Silver	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C	
Arsenic	< 0.004	0.004	mg/L	1	04/23/15	LK	SW6010C	
Barium	0.022	0.002	mg/L	1	04/23/15	LK	SW6010C	
Cadmium	< 0.0001	0.0001	mg/L	1	04/23/15	LK	SW6010C	
Chromium	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C	
Hardness (CaCO3)	24.1	0.1	mg/L	1	04/23/15		E200.7	
Mercury	< 0.0002	0.0002	mg/L	1	04/23/15	RS	SW7470A	
Lead	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C	
Selenium	< 0.005	0.005	mg/L	1	04/23/15	LK	SW6010C	
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	04/27/15	WHM	E350.1	
Phenolics	< 0.015	0.015	mg/L	1	04/23/15	BS	E420.4	
Mercury Digestion	Completed				04/23/15	1/1	SW7470A	
Semi-Volatile Extraction	Completed				04/22/15	E/D/D	SW3520C	
Total Metals Digestion	Completed				04/22/15	AG	SW3050B	
Semivolatiles								
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
1,2-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D	
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
1,3-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D	
1,4-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D	
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2,4-Dichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2,4-Dimethylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2,4-Dinitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2,4-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2,6-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ06360

Client ID: AOC-25 SW-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
2-Chloronaphthalene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Chlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	04/26/15	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
3-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Acetophenone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Aniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzoic acid	ND	50	ug/L	1	04/26/15	DD	SW8270D	
Benzyl butyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Carbazole	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dibenzofuran	ND	5.0	ug/L	11	04/26/15	DD	SW8270D	
Diethyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dimethylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-butylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-octylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Isophorone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Phenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
QA/QC Surrogates			-					
% 2,4,6-Tribromophenol	106		%	1	04/26/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	78		%	1	04/26/15	DD	30 - 130 %	
% 2-Fluorophenol	67		%	1	04/26/15	DD	15 - 110 %	
% Nitrobenzene-d5	88		%	1	04/26/15	DD	30 - 130 %	
% Phenol-d5	65		%	1	04/26/15	DD	15 - 110 %	
% Terphenyl-d14	133		%	1	04/26/15	DD	30 - 130 %	;
<u>Semivolatiles</u>								
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
2-Methylnaphthalene	ND	1.0	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthylene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benz(a)anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	

Page 8 of 18 Ver 2

Project ID: AMERBELLE MILLS

Client ID: AOC-25 SW-3

Phoenix I.D.: BJ06360

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Benzo(a)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	i	04/24/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	i	04/24/15	DD	SW8270D (SIM)	
Chrysene	ND	0.02	ug/L	្នំ	04/24/15	DD	SW8270D (SIM)	В
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	i	04/24/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	î	04/24/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	ì	04/24/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	ì	04/24/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	î	04/24/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	i	04/24/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
QA/QC Surrogates	113	0.00	ug/ L	•	0 112 11 10	55	01102102 (C)	
% 2,4,6-Tribromophenol	106		%	1	04/24/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	78		%	1	04/24/15	DD	30 - 130 %	
% 2-Fluorophenol	67		%	1	04/24/15	DD	15 - 110 %	
% Nitrobenzene-d5	88		%	1	04/24/15	DD	30 - 130 %	
% Phenol-d5	65		%	1	04/24/15	DD	15 - 110 %	
% Terphenyl-d14	133		%	1	04/24/15	DD	30 - 130 %	3

^{3 =} This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Semi-Volatile Comment:

One of the surrogate recoveries was above the upper range due to sample matrix interference. The other surrogates associated with this sample were within QA/QC criteria. No significant bias is suspected.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 05, 2015

Reviewed and Released by: Maryam Taylor, Project Manager

Page 9 of 18 Ver 2

B = Present in blank, no bias suspected.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 05, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SURFACE WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

ation .

<u>Date</u> <u>Time</u> 04/22/15 13:00

LB

04/22/15

16:02

Analyzed by: see "By" below

Laboratory Data

Collected by:

Received by:

SDG ID: GBJ06358

Phoenix ID: BJ06361

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SW-4

_		RL/				_	
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	04/23/15	LK	SW6010C
Barium	0.022	0.002	mg/L	1	04/23/15	LK	SW6010C
Cadmium	< 0.0001	0.0001	mg/L	1	04/23/15	LK	SW6010C
Chromium	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Hardness (CaCO3)	24.5	0.1	mg/L	1	04/23/15		E200.7
Mercury	< 0.0002	0.0002	mg/L	1	04/23/15	RS	SW7470A
Lead	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Selenium	< 0.005	0.005	mg/L	1	04/23/15	LK	SW6010C
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	04/27/15	WHM	E350.1
Phenolics	0.022	0.015	mg/L	1	04/23/15	BS	E420.4
Mercury Digestion	Completed				04/23/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				04/22/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/22/15	AG	SW3050B
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D

Page 10 of 18 Ver 2

Phoenix I.D.: BJ06361

Project ID: AMERBELLE MILLS Client ID: AOC-25 SW-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	_
2-Chloronaphthalene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Chlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	04/26/15	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
3-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Acetophenone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Aniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzoic acid	ND	50	ug/L	1	04/26/15	DD	SW8270D	
Benzyl butyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Carbazole	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dibenzofuran	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Diethyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dimethylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-butylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-octylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Isophorone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Phenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
QA/QC Surrogates			J					
% 2,4,6-Tribromophenol	111		%	1	04/26/15	DD	15 - 110 %	3
% 2-Fluorobiphenyl	85		%	1	04/26/15	DD	30 - 130 %	
% 2-Fluorophenol	74		%	1	04/26/15	DD	15 - 110 %	
% Nitrobenzene-d5	95		%	1	04/26/15	DD	30 - 130 %	
% Phenol-d5	67		%	1	04/26/15	DD	15 - 110 %	
% Terphenyl-d14	140		%	1	04/26/15	DD	30 - 130 %	3
<u>Semivolatiles</u>								
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
2-Methylnaphthalene	ND	1.0	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthylene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benz(a)anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	E

Page 11 of 18 Ver 2

Client ID: AOC-25 SW-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
-	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(a)pyrene Benzo(b)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
` '	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND ND	0.02	_	1	04/24/15	DD	SW8270D (SIM)	В
Chrysene			ug/L	•			, ,	_
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
QA/QC Surrogates			•					
% 2,4,6-Tribromophenol	111		%	1	04/24/15	DD	15 - 110 %	3
% 2-Fluorobiphenyl	85		%	1	04/24/15	DD	30 - 130 %	
% 2-Fluorophenol	74		%	1	04/24/15	DD	15 - 110 %	
% Nitrobenzene-d5	95		%	1	04/24/15	DD	30 - 130 %	
% Phenol-d5	67		%	1	04/24/15	DD	15 - 110 %	
% Terphenyl-d14	140		%	1	04/24/15	DD	30 - 130 %	3

^{3 =} This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Semi-Volatile Comment:

One of the surrogate recoveries was above the upper range due to sample matrix interference. The other surrogates associated with this sample were within QA/QC criteria. No significant bias is suspected.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 05, 2015

Reviewed and Released by: Maryam Taylor, Project Manager

B = Present in blank, no bias suspected.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 05, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

SURFACE WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Matrix:

Custody Information

Date

Time

Collected by: Received by: 04/22/15 04/22/15

13:30 16:02

Analyzed by: see "By" below

LB

45441

Laboratory Data

SDG ID: GBJ06358

Phoenix ID: BJ06362

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SW-5

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	04/23/15	LK	SW6010C
Barium	0.023	0.002	mg/L	1	04/23/15	LK	SW6010C
Cadmium	< 0.0001	0.0001	mg/L	1	04/23/15	LK	SW6010C
Chromium	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Hardness (CaCO3)	25.2	0.1	mg/L	1	04/23/15		E200.7
Mercury	< 0.0002	0.0002	mg/L	1	04/23/15	RS	SW7470A
Lead	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Selenium	< 0.005	0.005	mg/L	1	04/23/15	LK	SW6010C
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	04/27/15	WHM	E350.1
Phenolics	< 0.015	0.015	mg/L	1	04/23/15	BS	E420.4
Mercury Digestion	Completed				04/23/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				04/22/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/22/15	AG	SW3050B
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2,5	ug/L	1	04/26/15	DD	SW8270D
1,4-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D

Page 13 of 18

Ver 2

Phoenix I.D.: BJ06362

Project ID: AMERBELLE MILLS
Client ID: AOC-25 SW-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
2-Chloronaphthalene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Chlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	04/26/15	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
3-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Acetophenone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Aniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzoic acid	ND	50	ug/L	1	04/26/15	DD	SW8270D	
Benzyl butyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	04/26/15	ĐD	SW8270D	
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Carbazole	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dibenzofuran	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Diethyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dimethylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-butylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-octylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Isophorone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Phenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
QA/QC Surrogates			•					
% 2,4,6-Tribromophenol	107		%	1	04/26/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	77		%	1	04/26/15	DD	30 - 130 %	
% 2-Fluorophenol	70		%	1	04/26/15	DD	15 - 110 %	
% Nitrobenzene-d5	92		%	1	04/26/15	DD	30 - 130 %	
% Phenol-d5	69		%	1	04/26/15	DD	15 - 110 %	
% Terphenyl-d14	140		%	1	04/26/15	DD	30 - 130 %	3
<u>Semivolatiles</u>								
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
2-Methylnaphthalene	ND	1.0	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthylene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benz(a)anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	Е

Page 14 of 18 Ver 2

Client ID: AOC-25 SW-5

		RL/						
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	
Benzo(a)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Chrysene	ND	0.02	ug/L	3	04/24/15	DD	SW8270D (SIM)	В
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	1	04/24/15	DĐ	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	107		%	1	04/24/15	DD	15 - 110 %	
% 2-Fluorobiphenyl	77		%	1	04/24/15	DD	30 - 130 %	
% 2-Fluorophenol	70		%	1	04/24/15	DD	15 - 110 %	
% Nitrobenzene-d5	92		%	1	04/24/15	DD	30 - 130 %	
% Phenol-d5	69		%	1	04/24/15	DD	15 - 110 %	
% Terphenyl-d14	140		%	1	04/24/15	DD	30 - 130 %	3

^{3 =} This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Semi-Volatile Comment:

One of the surrogate recoveries was above the upper range due to sample matrix interference. The other surrogates associated with this sample were within QA/QC criteria. No significant bias is suspected.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 05, 2015

Reviewed and Released by: Maryam Taylor, Project Manager

Page 15 of 18 Ver 2

B = Present in blank, no bias suspected.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 05, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: SU

SURFACE WATER

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

<u>Date</u> 04/22/15 Time

Collected by: Received by:

Analyzed by:

04/22/15

13:50 16:02

see "By" below

LB

Laboratory Data

SDG ID: GBJ06358

Phoenix ID: BJ06363

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SW-6

	D "	RL/	1124	Dilatia.	Data (Time	D	Deference
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Arsenic	< 0.004	0.004	mg/L	1	04/23/15	LK	SW6010C
Barium	0.024	0.002	mg/L	1	04/23/15	LK	SW6010C
Cadmium	< 0.0001	0.0001	mg/L	1	04/23/15	LK	SW6010C
Chromium	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Hardness (CaCO3)	25.5	0.1	mg/L	1	04/23/15		E200.7
Mercury	< 0.0002	0.0002	mg/L	1	04/23/15	RS	SW7470A
Lead	< 0.001	0.001	mg/L	1	04/23/15	LK	SW6010C
Selenium	< 0.005	0.005	mg/L	1	04/23/15	LK	SW6010C
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	04/27/15	WHM	E350.1
Phenolics	< 0.015	0.015	mg/L	1	04/23/15	BS	E420.4
Mercury Digestion	Completed				04/23/15	1/1	SW7470A
Semi-Volatile Extraction	Completed				04/22/15	E/D/D	SW3520C
Total Metals Digestion	Completed				04/22/15	AG	SW3050B
Semivolatiles .							
1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,2-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
1,3-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
,4-Dichlorobenzene	ND	2.5	ug/L	1	04/26/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dichlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dimethylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D
2,4-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D
2,6-Dinitrotoluene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D

Page 16 of 18 Ver 2

Phoenix I.D.: BJ06363

Project ID: AMERBELLE MILLS Client ID: AOC-25 SW-6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
2-Chloronaphthalene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Chlorophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
2-Methylphenol (o-cresol)	ND	1.0	ug/L	1	04/26/15	DĐ	SW8270D	
2-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
2-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)	ND	10	ug/L	1	04/26/15	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
3-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4,6-Dinitro-2-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Bromophenyl phenyl ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloro-3-methylphenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chloroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Chlorophenyl phenyl ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitroaniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
4-Nitrophenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Acetophenone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Aniline	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzidine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Benzoic acid	ND	50	ug/L	1	04/26/15	DD	SW8270D	
Benzyl butyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethoxy)methane	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroethyl)ether	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
Bis(2-chloroisopropyl)ether	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Carbazole	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dibenzofuran	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Diethyl phthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Dimethylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-butylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Di-n-octylphthalate	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Hexachlorocyclopentadiene	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Isophorone	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodimethylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodi-n-propylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
N-Nitrosodiphenylamine	ND	5.0	ug/L	1	04/26/15	DD	SW8270D	
Phenol	ND	1.0	ug/L	1	04/26/15	DD	SW8270D	
QA/QC Surrogates			•					
% 2,4,6-Tribromophenol	111		%	1	04/26/15	DD	15 - 110 %	3
% 2-Fluorobiphenyl	84		%	1	04/26/15	DD	30 - 130 %	
% 2-Fluorophenol	67		%	1	04/26/15	DD	15 - 110 %	
% Nitrobenzene-d5	88		%	1	04/26/15	DD	30 - 130 %	
% Phenol-d5	66		%	1	04/26/15	DD	15 - 110 %	
% Terphenyl-d14	161		%	1	04/26/15	DD	30 - 130 %	3
<u>Semivolatiles</u>								
1,2,4,5-Tetrachlorobenzene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
2-Methylnaphthalene	ND	1.0	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Acenaphthylene	ND	0.05	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benz(a)anthracene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	В

Page 17 of 18 Ver 2

Project ID: AMERBELLE MILLS

Client ID: AOC-25 SW-6

		RL/						
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference	15
Benzo(a)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Bis(2-ethylhexyl)phthalate	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Chrysene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	В
Dibenz(a,h)anthracene	ND	0.01	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluoranthene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	3	04/24/15	DD	SW8270D (SIM)	
Hexachlorobenzene	ND	0.04	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachlorobutadiene	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Hexachloroethane	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Naphthalene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Nitrobenzene	ND	0.10	ug/L	ř	04/24/15	DD	SW8270D (SIM)	
Pentachloronitrobenzene	ND	0.10	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pentachlorophenol	ND	0.80	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Phenanthrene	ND	0.05	ug/L	11	04/24/15	DD	SW8270D (SIM)	
Pyrene	ND	0.02	ug/L	1	04/24/15	DD	SW8270D (SIM)	
Pyridine	ND	0.50	ug/L	1	04/24/15	DD	SW8270D (SIM)	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	111		%	1	04/24/15	DD	15 - 110 %	3
% 2-Fluorobiphenyl	84		%	1	04/24/15	DD	30 - 130 %	
% 2-Fluorophenol	67		%	1	04/24/15	DD	15 - 110 %	
% Nitrobenzene-d5	88		%	1	04/24/15	DD	30 - 130 %	
% Phenol-d5	66		%	1	04/24/15	DD	15 - 110 %	
% Terphenyl-d14	161		%	1	04/24/15	DD	30 - 130 %	3

^{3 =} This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Semi-Volatile Comment:

One of the surrogate recoveries was above the upper range due to sample matrix interference. The other surrogates associated with this sample were within QA/QC criteria. No significant bias is suspected.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 05, 2015

Reviewed and Released by: Maryam Taylor, Project Manager

Phoenix I.D.: BJ06363

B = Present in blank, no bias suspected.



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

May 05, 2015

QA/QC Data

SDG I.D.: GBJ06358

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 305566 (mg/L), Q	C Samp	ole No: E	3J06266	(BJ0635	8, BJ06	6359, B	J06360,	BJ063	61, BJ0	06362, 1	BJ0636	3)	
Mercury - Water Comment:	BRL	0.0002	<0.0002	<0.0002	NC	114	112	1.8	108	104	3.8	70 - 130	20
Additional Mercury criteria: LCS ac													
QA/QC Batch 305531 (mg/L), Q	C Sam	ole No: E	3J06296	(BJ0635	8, BJ06	6359, B	J06360	, BJ063	61, BJ(06362,	BJ0636	3)	
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	99.9	98.5	1.4	100	99.5	0.5	75 - 125	20
Barium	BRL	0.002	0.863	0.889	3.00	103	101	2.0	112	110	1.8	75 - 125	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	98.1	96.8	1.3	94.1	93.1	1.1	75 - 125	20
Chromium	BRL	0.001	<0.001	<0.001	NC	99.0	97.7	1.3	96.9	96.3	0.6	75 - 125	20
Lead	BRL	0.002	<0.002	<0.002	NC	99.3	97.9	1.4	96.5	95.8	0.7	75 - 125	20
Selenium	BRL	0.010	<0.010	<0.010	NC	98.3	97.5	0.8	98.5	96.9	1.6	75 - 125	20
Silver	BRL	0.001	<0.001	<0.001	NC	99.9	97.9	2.0	102	100	2.0	75 - 125	20



Environmental Laboratories, Inc. 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Fax (860) 645-0823 Tel. (860) 645-1102

QA/QC Report

May 05, 2015

QA/QC Data

SDG I.D.: GBJ06358

Parameter	Blank	Bik RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 305778 (mg/L), Q	C Samp	le No:	BJ06293	(BJ0635	8, BJ06	359, B	J06360,	BJ063	61, BJ	06362, I	3J0636	3)	
Ammonia as Nitrogen	BRL	0.05	<0.05	<0.05	NC	98.3			97.5			85 - 115	20
QA/QC Batch 305571 (mg/L), Q	C Samp	le No:	BJ06358	(BJ0635	8, BJ06	359, B	J06360,	BJ063	61, BJ	06362, E	3J0636	3)	
Phenolics	BRL	0.015	<0.015	<0.015	NC	111			96.5			85 - 115	20



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 05, 2015

QA/QC Data

SDG I.D.: GBJ06358

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Rec Limits	RPD Limits
QA/QC Batch 305513 (ug/L), C	C Sampl	e No: BJ06	05 (BJ06358, BJ06359, B	J06360,	BJ063	61, BJ()6362, E	3J0636	3)	
Semivolatiles - Surface V										
1,2,4,5-Tetrachlorobenzene	ND	0.50	86	88	2.3				30 - 130	20
1,2,4-Trichlorobenzene	ND	3.5	74	75	1.3				30 - 130	20
1,2-Dichlorobenzene	ND	1.0	59	60	1.7				30 - 130	20
1,2-Diphenylhydrazine	ND	1.6	104	104	0.0				30 - 130	20
1,3-Dichlorobenzene	ND	1.0	56	55	1.8				30 - 130	20
1,4-Dichlorobenzene	ND	1.0	57	57	0.0				30 - 130	20
2,4,5-Trichlorophenol	ND	1.0	106	106	0.0				30 - 130	20
2,4,6-Trichlorophenol	ND	1.0	103	103	0.0				30 - 130	20
2,4-Dichlorophenol	ND	1.0	88	89	1.1				30 - 130	20
2,4-Dimethylphenol	ND	1.0	86	88	2.3				30 - 130	20
2,4-Dinitrophenol	ND	1.0	121	119	1.7				30 - 130	20
2,4-Dinitrotoluene	ND	3.5	114	114	0.0				30 - 130	20
2,6-Dinitrotoluene	ND	3.5	108	107	0.9				30 - 130	20
2-Chloronaphthalene	ND	3.5	89	89	0.0				30 - 130	20
2-Chlorophenol	ND	1.0	67	67	0.0				30 - 130	20
2-Methylnaphthalene	ND	0.05	89	90	1.1				30 - 130	20
2-Methylphenol (o-cresol)	ND	1.0	78	78	0.0				30 - 130	20
2-Nitroaniline	ND	3.5	127	128	0.8				30 - 130	20
2-Nitrophenol	ND	1.0	84	83	1.2				30 - 130	20
3&4-Methylphenol (m&p-cresol)	ND	1.0	89	90	1.1				30 - 130	20
3,3'-Dichlorobenzidine	ND	5.0	80	75	6.5				30 - 130	20
3-Nitroaniline	ND	5.0	104		1.9				30 - 130	0 20
4,6-Dinitro-2-methylphenol	ND	1.0	120		0.8				30 - 136	0 20
4-Bromophenyl phenyl ether	ND	3.5	100		0.0				30 - 130	0 20
4-Chloro-3-methylphenol	ND	1.0	106	109	2.8				30 - 13	0 20
4-Chloroaniline	ND	3.5	62	69	10.7				30 - 13	0 20
4-Chlorophenyl phenyl ether	ND	1.0	101		1.0				30 - 13	0 20
4-Nitroaniline	ND	5.0	119		0.0				30 - 13	0 20
4-Nitrophenol	ND	1.0	113		0.9				30 - 13	0 20
Acenaphthene	ND	0.05	91	92	1.1				30 - 13	0 20
Acenaphthylene	ND	0.02	92	93	1.1				30 - 13	0 20
Acetophenone	ND	5.0	86	86	0.0				30 - 13	0 20
Aniline	ND	3.5	69	67	2.9				30 - 13	0 20
Anthracene	ND	0.02	10		0.0				30 - 13	0 20
Benz(a)anthracene	0.03	0.02	111						30 - 13	0 20
Benzidine	ND	4.5	72		21.5				30 - 13	0 20
	ND	0.02	100		1.0				30 - 13	0 20
Benzo(a)pyrene	ND	0.02	111						30 - 13	0 20
Benzo(b)fluoranthene	ND	0.02	87		1.2				30 - 13	0 20
Benzo(ghi)perylene	ND ND	0.02	108						30 - 13	
Benzo(k)fluoranthene Benzoic acid	ND	10	94		3.1				30 - 13	

SDG I.D.: GBJ06358

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Benzyl butyl phthalate	ND	3.5	114	115	0.9		=		30 - 130	20
Bis(2-chloroethoxy)methane	ND	3.5	91	91	0.0				30 - 130	20
Bis(2-chloroethyl)ether	ND	1.0	63	64	1.6				30 - 130	20
Bis(2-chloroisopropyl)ether	ND	1.0	71	70	1.4				30 - 130	20
Bis(2-ethylhexyl)phthalate	ND	0.05	114	113	0.9				30 - 130	20
Carbazole	ND	5.0	102	104	1.9				30 - 130	20
Chrysene	0.02	0.02	106	106	0.0				30 - 130	20
Dibenz(a,h)anthracene	ND	0.01	93	92	1.1				30 - 130	20
Dibenzofuran	ND	3.5	100	101	1.0				30 - 130	20
Diethyl phthalate	ND	3.5	107	107	0.0				30 - 130	20
Dimethylphthalate	ND	3.5	103	104	1.0				30 - 130	20
Di-n-butylphthalate	ND	3.5	108	109	0.9				30 - 130	20
Di-n-octylphthalate	ND	3.5	109	108	0.9				30 - 130	20
Fluoranthene	ND	0.04	109	110	0.9				30 - 130	20
Fluorene	ND	0.05	104	104	0.0				30 - 130	20
Hexachlorobenzene	ND	0.02	95	96	1.0				30 - 130	20
Hexachlorobutadiene	ND	0.05	72	73	1.4				30 - 130	20
Hexachlorocyclopentadiene	ND	3.5	52	52	0.0				30 - 130	20
Hexachloroethane	ND	0.05	57	57	0.0				30 - 130	20
Indeno(1,2,3-cd)pyrene	ND	0.02	88	88	0.0				30 - 130	20
Isophorone	ND	3.5	91	91	0.0				30 - 130	20
Naphthalene	ND	0.05	81	82	1.2				30 - 130	20
Nitrobenzene	ND	0.05	78	78	0.0				30 - 130	20
N-Nitrosodimethylamine	ND	0.05	57	57	0.0				30 - 130	20
N-Nitrosodi-n-propylamine	ND	3.5	92	90	2.2				30 - 130	20
N-Nitrosodiphenylamine	ND	3.5	95	95	0.0				30 - 130	20
Pentachloronitrobenzene	ND	0.10	107	106	0.9				30 - 130	20
Pentachlorophenol	ND	0.30	104	104	0.0				30 - 130	20
Phenanthrene	ND	0.05	103	103	0.0				30 - 130	20
Phenol	ND	1.0	71	72	1.4				30 - 130	20
Pyrene	ND	0.02	110	111	0.9				30 - 130	20
Pyridine	ND	0.50	46	46	0.0				30 - 130	20
% 2,4,6-Tribromophenol	73	%	104	103	1.0				30 - 130	20
% 2-Fluorobiphenyl	62	%	83	82	1.2				30 - 130	20
% 2-Fluorophenol	45	%	54	54	0.0				30 - 130	20
% Nitrobenzene-d5	66	%	74	74	0.0				30 - 130	20
% Phenol-d5	51	%	66	67	1.5				30 - 130	20

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%)

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

% Terphenyl-d14

Comment:

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis Shiller, Laboratory Director

30 - 130

20

May 05, 2015

115

117

1.7

r = This parameter is outside laboratory rpd specified recovery limits.

Page 1 of 1

Sample Criteria Exceedences Report

GBJ06358 - GZA-AMER

Criteria

Phoenix Analyte

Acode

SampNo

State: CT

*** No Data to Display ***

Criteria: CT: AQ, GAM, GWP, SWP

Tuesday, May 05, 2015

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All ack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Criteria

Analysis Units

RL Criteria

ద

Result

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Pricenix Environmental Labs, Inc. Client: GZA GeoEnvironmental, Inc.										
Proje	ect Location:	AMERBELLE M	ILLS	Project	Number:					
Labo	oratory Sample	ID(s): BJ06358	3, BJ06359, I	BJ06360, BJ063	61, BJ06362, B	J06363				
Sam	pling Date(s):	4/22/2015								
RCP	Methods Used	1 :								
13	311/1312 📝 60	10 7000	7196	7 470/7471	8081	EPH		TO15		
80	082 🗌 81	51 8260	✓ 8270	ETPH	9010/9012	☐ VPH				
1,	specified QA/QC any criteria fallin	cal method referen performance crite g outside of accep Reasonable Confi	eria followed, i table guidelin	ncluding the requies, as specified in	rement to explain	✓ Yes	□No			
1a.	Were the metho	d specified preserv	ation and hol	ding time requiren	nents met?	✓ Yes	□ No			
1b.		ethods only: Was ications (see section				☐ Yes	□ No	✓ NA		
2.		s received by the lassociated Chain			ent with that	✓ Yes	□No			
3.	Were samples re	eceived at an appr	opriate tempe	rature (< 6 Degre	es C)?	✓ Yes	□ No	□NA		
4.	Were all QA/QC Protocol docume	□ Yes	☑ No							
5a.	a. Were reporting limits specified or referenced on the chain-of-custody? ✓ Yes □ N									
5b.	Were these repo	✓ Yes	□ No	□NA						
6.	For each analytic results reported presented in the	☐ Yes	✓ No	□NA						
7:-	Are project-spec	ific matrix spikes a	nd laboratory	duplicates include	ed in the data set?	?	✓ No	□NA		
Note: For all questions to which the response was "No" (with the exception of question #5a, #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence".										
and	belief and bas	, attest under th ed upon my per nalytical report	sonal inqui	ry of those res	ponsible for pro	oviding the				
			1		Date: Tues	day, May 0	5, 2015			
	horized nature:	Mahay	lov	Print	ed Name: Mary					
		V	inst.		Position: Proje	ct Manage	r			



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

May 05, 2015

SDG I.D.: GBJ06358

Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list.

8270 Semi-volatile Organics:

In order to achieve the requested reporting levels for the target compounds, the sample was extracted and analyzed via 8270 selective ion monitoring (SIM) as well as 8270 full scan.

Mercury Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Merlin 04/23/15-1 (BJ06358, BJ06359, BJ06360, BJ06361, BJ06362, BJ06363)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer

Position:

Chemist

Date:

4/23/2015

QC (Batch Specific)

----- Sample No: BJ06266, QA/QC Batch: 305566 ------

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

ICP Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Blue 04/23/15-1 (BJ06358, BJ06359, BJ06360, BJ06361, BJ06362, BJ06363)

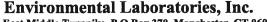
The initial calibration met criteria.

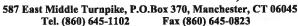
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

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.









RCP Certification Report

May 05, 2015

SDG I.D.: GBJ06358

Printed Name

Laura Kinnin

Position:

Chemist

Date:

4/23/2015

QC (Batch Specific)

----- Sample No: BJ06296, QA/QC Batch: 305531 -----

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.

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

OC Batch 305513 (Samples: BJ06358, BJ06359, BJ06360, BJ06361, BJ06362, BJ06363): —

A trace amount of an analyte was found in blank but were not reported in the sample(s), therefore no bias is suspected. (Benz(a)anthracene, Chrysene)

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. (Benzidine)

Instrument: Chem06 04/26/15-1 (BJ06358, BJ06359, BJ06360, BJ06361, BJ06362, BJ06363)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM06/SV_0426):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: 2,4-Dinitrophenol (23%), 4,6-Dinitro-2-methylphenol (21%), Pentachlorophenol (25%) The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM06/0426_11A-SV_0426):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.071)[0.1], Hexachlorobenzene (.074)[0.1]

The following compounds did not meet minimum response factors: None.

Printed Name

Damien Drobinski

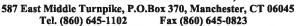
Position:

Chemist

Date:

4/26/2015







RCP Certification Report

May 05, 2015

SDG I.D.: GBJ06358

QC (Batch Specific)

----- Sample No: BJ06305, QA/QC Batch: 305513 ------

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: Benzidine(21.5%)

SVOASIM Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

Chem04 04/24/15-1 (BJ06358, BJ06359, BJ06360, BJ06361, BJ06362, BJ06363)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

In the event that lower detection levels were requested, the samples may have been analyzed by selective ion monitoring (SIM) mode.

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list, so some of the compounds in the narrative may be non-applicable. Initial Calibration Verification (CHEM04/SIM 0406):

100% of target compounds met criteria.

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM04/0424 03-SIM 0406):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-chlorophenol (.658)[0.8], 2-nitrophenol (.065)[0.1], Bis(2chloroethyl)ether (.584)[0.7]

The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position:

Chemist

Date:

4/24/2015

QC (Batch Specific)

----- Sample No: BJ06305, QA/QC Batch: 305513 ------

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.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823



RCP Certification Report

May 05, 2015

SDG I.D.: GBJ06358

Temperature Narration

The samples were received at 4C with cooling initiated. (Note acceptance criteria is above freezing up to 6°C)

CHAIN OF CHSTODY RECORD

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Friday, May 08, 2015

Attn: Mr Chris Frey GZA GeoEnvironmental, Inc. 655 Winding Brook Drive Suite 402 Glastonbury, CT 06033

Project ID: AMERBELLE MILLS Sample ID#s: BJ06364 - BJ06369

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis/Shiller

Laboratory Director

NELAC - #NY11301

CT Lab Registration #PH-0618

MA Lab Registration #MA-CT-007

ME Lab Registration #CT-007

NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530

RI Lab Registration #63

VT Lab Registration #VT11301



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Fax (860) 645-0823 Tel. (860) 645-1102

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc.

655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix: **SEDIMENT**

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Custody Information

Collected by:

04/22/15

<u>Time</u> 9:35

Received by: Analyzed by:

SW see "By" below 04/22/15

<u>Date</u>

16:02

45441

Laboratory Data

SDG ID: GBJ06364

Phoenix ID: BJ06364

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SED-1

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.42	0.42	mg/Kg	1	04/23/15	LK	SW6010C
Arsenic	1.7	8.0	mg/Kg	1	04/23/15	LK	SW6010C
Barium	46.2	0.42	mg/Kg	1	04/23/15	LK	SW6010C
Cadmium	1.14	0.42	mg/Kg	3	04/23/15	LK	SW6010C
Chromium	24.4	0.42	mg/Kg	1	04/23/15	LK	SW6010C
Mercury	0.26	0.03	mg/Kg	1	04/23/15	RS	SW7471B
Lead	67.4	0.42	mg/Kg	1	04/23/15	LK	SW6010C
Selenium	< 1.7	1.7	mg/Kg	1	04/23/15	LK	SW6010C
Percent Solid	83		%		04/22/15	1	SW846-%Solid
Ammonia as Nitrogen	< 4.7	4.7	mg/Kg	1	04/27/15	WHM	E350.1
Phenolics	< 0.90	0.90	mg/Kg	1	04/23/15	BS	SW9066
Tot.Org.Carbon	18000	100	mg/kg	1	04/23/15	MA	SW9060A/L. Kahn
Extraction for SVOA SIM	Completed				04/22/15	BJ/VH	SW3545A
Mercury Digestion	Completed				04/23/15	1/1	SW7471B
Total Metals Digest	Completed				04/22/15	CB/AG	SW3050B
Tot.Org.Carbon Preparation	Completed				04/22/15	MA	
Sieve Test	Completed				04/30/15	*	ASTM
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	7.9	ug/Kg	1	04/23/15	DD	SW8270D
2-Methylnaphthalene	ND	7.9	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthene	14	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthylene	10	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Anthracene	21	1.6	ug/Kg	ĭ	04/23/15	DD	SW8270D
Benz(a)anthracene	46	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(a)pyrene	62	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(b)fluoranthene	88	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(ghi)perylene	60	1.6	ug/Kg	1	04/23/15	DD	SW8270D

Page 1 of 18

Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ06364

Client ID: AOC-25 SED-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Benzo(k)fluoranthene	33	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	39	7.9	ug/Kg	1	04/23/15	DD	SW8270D
Chrysene	58	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Dibenz(a,h)anthracene	12	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Fluoranthene	150	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Fluorene	13	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Hexachlorobenzene	ND	3.4	ug/Kg	1	04/23/15	DD	SW8270D
Hexachlorobutadiene	ND	7.9	ug/Kg	1	04/23/15	DD	SW8270D
Hexachloroethane	ND	7.9	ug/Kg	1	04/23/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	47	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Naphthalene	37	7.9	ug/Kg	1	04/23/15	DD	SW8270D
Pentachloronitrobenzene	ND	7.9	ug/Kg	1	04/23/15	DD	SW8270D
Pentachlorophenol	ND	7.9	ug/Kg	1	04/23/15	DD	SW8270D
Phenanthrene	65	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Phenol	ND	7.9	ug/Kg	1	04/23/15	DD	SW8270D
Pyrene	130	1.6	ug/Kg	1	04/23/15	DD	SW8270D
Pyridine	ND	7.9	ug/Kg	1	04/23/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	92		%	1	04/23/15	DD	30 - 130 %
% 2-Fluorobiphenyl	65		%	1	04/23/15	DD	30 - 130 %
% 2-Fluorophenol	63		%	1	04/23/15	DD	30 - 130 %
% Nitrobenzene-d5	72		%	1	04/23/15	DD	30 - 130 %
% Phenol-d5	68		%	1	04/23/15	DD	30 - 130 %
% Terphenyl-d14	98		%	1	04/23/15	DD	30 - 130 %
Semivolatiles Full Scan							
1,2,4-Trichlorobenzene	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
1,2-Dichlorobenzene	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
1,3-Dichlorobenzene	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
1,4-Dichlorobenzene	ND	400	ug/Kg	1	04/23/15	DĐ	SW8270D
2,4,5-Trichlorophenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2,4-Dichlorophenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2,4-Dimethylphenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2,4-Dinitrophenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2,4-Dinitrotoluene	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2,6-Dinitrotoluene	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2-Chloronaphthalene	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2-Chlorophenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2-Nitroaniline	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
2-Nitrophenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
3-Nitroaniline	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
4-Chloroaniline	ND	400	ug/Kg	1	04/23/15	DD	SW8270D

Page 2 of 18 Ver 1

Project ID: AMERBELLE MILLS

Client ID: AOC-25 SED-1

Phoenix I.D.: BJ06364

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
4-Chlorophenyl phenyl ether	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
4-Nitroaniline	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
4-Nitrophenol	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Acetophenone	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Aniline	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Benzidine	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Benzoic acid	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Benzyl butyl phthalate	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Carbazole	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Dibenzofuran	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Diethyl phthalate	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Dimethylphthalate	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Di-n-butylphthalate	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Di-n-octylphthalate	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Isophorone	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
Nitrobenzene	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
N-Nitrosodimethylamine	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	400	ug/Kg	1	04/23/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	71		%	1	04/23/15	DD	SW8270D
% 2-Fluorobiphenyl	59		%	1	04/23/15	DD	SW8270D
% 2-Fluorophenol	51		%	1	04/23/15	DD	SW8270D
% Nitrobenzene-d5	64		%	1	04/23/15	DD	SW8270D
% Phenol-d5	55		%	1	04/23/15	DD	SW8270D
% Terphenyl-d14	54		%	1	04/23/15	DD	SW8270D

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Phyllis Shiller, Laboratory Director

Page 3 of 18 Ver 1

^{*} See Attached



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SEDIMENT

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

<u>Time</u>

Collected by: Received by:

RI /

04/22/15

<u>Date</u>

10:00

SW

04/22/15

16:02

Analyzed by: see "By" below

Laboratory Data

SDG ID: GBJ06364

Phoenix ID: BJ06365

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SED-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.59	0.59	mg/Kg	1	04/23/15	LK	SW6010C
Arsenic	2.8	1.2	mg/Kg	1	04/23/15	LK	SW6010C
Barium	303	0.59	mg/Kg	1	04/23/15	LK	SW6010C
Cadmium	3.41	0.59	mg/Kg	1	04/23/15	LK	SW6010C
Chromium	38.8	0.59	mg/Kg	1	04/23/15	LK	SW6010C
Mercury	12.6	0.48	mg/Kg	1	04/23/15	RS	SW7471B
Lead	1200	5.9	mg/Kg	10	04/24/15	EK	SW6010C
Selenium	< 2.4	2.4	mg/Kg	1	04/23/15	LK	SW6010C
Percent Solid	51		%		04/22/15	1	SW846-%Solid
Ammonia as Nitrogen	< 20	20	mg/Kg	1	04/27/15	WHM	E350.1
Phenolics	< 1.5	1.5	mg/Kg	1	04/23/15	BS	SW9066
Tot.Org.Carbon	48000	100	mg/kg	1	04/23/15	MA	SW9060A/L. Kahn
Extraction for SVOA SIM	Completed				04/22/15	BJ/VH	SW3545A
Mercury Digestion	Completed				04/23/15	1/1	SW7471B
Total Metals Digest	Completed				04/22/15	CB/AG	SW3050B
Tot.Org.Carbon Preparation	Completed				04/22/15	MA	
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	13	ug/Kg	1	04/23/15	DD	SW8270D
2-Methylnaphthalene	77	13	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthene	640	2.6	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthylene	110	2.6	ug/Kg	1	04/23/15	DD	SW8270D
Anthracene	1100	2.6	ug/Kg	1	04/23/15	DD	SW8270D
Dibenz(a,h)anthracene	650	2.6	ug/Kg	1	04/23/15	DD	SW8270D
Fluorene	480	2.6	ug/Kg	1	04/23/15	DD	SW8270D
Hexachlorobenzene	ND	2.6	ug/Kg	1	04/23/15	DD	SW8270D
Hexachlorobutadiene	ND	13	ug/Kg	1	04/23/15	DD	SW8270D
Hexachloroethane	ND	13	ug/Kg	1	04/23/15	DD	SW8270D

Phoenix I.D.: BJ06365

Project ID: AMERBELLE MILLS Client ID: AOC-25 SED-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Naphthalene	90	13	ug/Kg	1	04/23/15	DD	SW8270D	
Pentachloronitrobenzene	ND	13	ug/Kg	1	04/23/15	DD	SW8270D	
Pentachlorophenol	ND	26	ug/Kg	1	04/23/15	DD	SW8270D	
Phenol	ND	13	ug/Kg	1	04/23/15	DD	SW8270D	
Pyridine	ND	13	ug/Kg	1	04/23/15	DD	SW8270D	
QA/QC Surrogates								
% 2,4,6-Tribromophenol	87		%	1	04/23/15	DD	30 - 130 %	
6 2-Fluorobiphenyl	54		%	1	04/23/15	DD	30 - 130 %	
6 2-Fluorophenol	69		%	1	04/23/15	DD	30 - 130 %	
% Nitrobenzene-d5	70		%	1	04/23/15	DD	30 - 130 %	
% Phenol-d5	70		%	1	04/23/15	DĐ	30 - 130 %	
% Terphenyl-d14	48		%	1	04/23/15	DD	30 - 130 %	
Semivolatiles Full Scan	L o							
1,2,4-Trichlorobenzene	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
1,2-Dichlorobenzene	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
1,2-Diphenylhydrazine	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
1,3-Dichlorobenzene	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
,4-Dichlorobenzene	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
2,4,5-Trichlorophenol	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
2,4,6-Trichlorophenol	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
2,4-Dichlorophenol	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
2,4-Dimethylphenol	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
2,4-Dinitrophenol	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
2,4-Dinitrotoluene	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
2,6-Dinitrotoluene	ND	1300	ug/Kg ug/Kg	2	04/23/15	DD	SW8270D	
-Chloronaphthalene	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
?-Chlorophenol	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
?-Methylphenol (o-cresol)	ND	1300	ug/Kg ug/Kg	2	04/23/15	DD	SW8270D	
2-Nitroaniline	ND	1300	ug/Kg ug/Kg	2	04/23/15	DD	SW8270D	
2-Nitrophenol	ND	1300	ug/Kg ug/Kg	2	04/23/15	DD	SW8270D	
3&4-Methylphenol (m&p-cresol)					04/23/15	DD	SW8270D	
3,3'-Dichlorobenzidine	ND	1300	ug/Kg	2		DD	SW8270D	
B-Nitroaniline	ND	1300	ug/Kg	2	04/23/15			
1,6-Dinitro-2-methylphenol	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
I-Bromophenyl phenyl ether	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
1-Chloro-3-methylphenol	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
1-Chloroaniline	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
1-Chlorophenyl phenyl ether	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
1-Nitroaniline	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
1-Nitrophenol	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
Acetophenone	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
Aniline	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
Benz(a)anthracene	4500	1300	ug/Kg	2	04/23/15	DD	SW8270D	
Benzidine	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	
Benzo(a)pyrene	4100	1300	ug/Kg	2	04/23/15	DD	SW8270D	
Benzo(b)fluoranthene	6400	1300	ug/Kg	2	04/23/15	DD	SW8270D	
Benzo(ghi)perylene	1600	1300	ug/Kg	2	04/23/15	DD	SW8270D	
Benzo(k)fluoranthene	2200	1300	ug/Kg	2	04/23/15	DD	SW8270D	
Benzoic acid	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D	

Project ID: AMERBELLE MILLS Client ID: AOC-25 SED-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Benzyl butyl phthalate	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	2300	1300	ug/Kg	2	04/23/15	DD	SW8270D
Carbazole	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Chrysene	4800	1300	ug/Kg	2	04/23/15	DD	SW8270D
Dibenzofuran	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Diethyl phthalate	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Dimethylphthalate	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Di-n-butylphthalate	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Di-n-octylphthalate	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Fluoranthene	10000	1300	ug/Kg	2	04/23/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	1500	1300	ug/Kg	2	04/23/15	DD	SW8270D
Isophorone	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Nitrobenzene	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
N-Nitrosodimethylamine	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	1300	ug/Kg	2	04/23/15	DD	SW8270D
Phenanthrene	7800	1300	ug/Kg	2	04/23/15	DD	SW8270D
Pyrene	7500	1300	ug/Kg	2	04/23/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	75		%	2	04/23/15	DD	SW8270D
% 2-Fluorobiphenyl	58		%	2	04/23/15	DD	SW8270D
% 2-Fluorophenol	55		%	2	04/23/15	DD	SW8270D
% Nitrobenzene-d5	66		%	2	04/23/15	DD	SW8270D
% Phenol-d5	59		%	2	04/23/15	DĐ	SW8270D
% Terphenyl-d14	37		%	2	04/23/15	DD	SW8270D

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Semi-Volatile Comment:

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.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Phyllis Shiller, Laboratory Director



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SEDIMENT

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

<u>ion</u>

Collected by:

SW

04/22/15

Date

<u>Time</u> 11:00

04/22/15

16:02

Analyzed by:

Received by:

see "By" below

Laboratory Data

SDG ID: GBJ06364

Phoenix ID: BJ06366

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SED-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.68	0.68	mg/Kg	1	04/23/15	LK	SW6010C
Arsenic	2.4	1.4	mg/Kg	1	04/23/15	LK	SW6010C
Arsenic Barium	83.3	0.68	mg/Kg	1	04/23/15	LK	SW6010C
Cadmium	0.93	0.68	mg/Kg	1	04/23/15	LK	SW6010C
Chromium	45.7	0.68	mg/Kg	1	04/23/15	LK	SW6010C
	0.16	0.05	mg/Kg	1	04/23/15	RS	SW7471B
Mercury	294	6.8		10	04/23/15	EK	SW6010C
Lead			mg/Kg		04/24/15		SW6010C
Selenium	< 2.7	2.7	mg/Kg	1		LK	
Percent Solid	52	05	%		04/22/15	1	SW846-%Solid
Ammonia as Nitrogen	< 35	35	mg/Kg	1	04/27/15	WHM	
Phenolics	< 1.4	1.4	mg/Kg	1	04/23/15	BS	SW9066
Tot.Org.Carbon	68000	100	mg/kg	1	04/23/15	MA	SW9060A/L. Kahn
Extraction for SVOA SIM	Completed				04/22/15		SW3545A
Mercury Digestion	Completed				04/23/15	1/1	SW7471B
Total Metals Digest	Completed				04/22/15	CB/AG	SW3050B
Tot.Org.Carbon Preparation	Completed				04/22/15	MA	
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	12	ug/Kg	1	04/23/15	DĐ	SW8270D
2-Methylnaphthalene	ND	12	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthene	67	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthylene	62	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Anthracene	200	2.5	ug/Kg	1	04/23/15	DĐ	SW8270D
Benz(a)anthracene	650	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(a)pyrene	750	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(b)fluoranthene	1000	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(ghi)perylene	530	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(k)fluoranthene	380	2.5	ug/Kg	1	04/23/15	DD	SW8270D

Phoenix I.D.: BJ06366

Project ID: AMERBELLE MILLS
Client ID: AOC-25 SED-3

Bist(2-ethythexyl)phthalate	Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Chrysene	Bis(2-ethylhexyl)phthalate	280	12	ug/Kg	1	04/23/15	DD	SW8270D
Dibenzi(a, h)anthracene		740	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Fluorene	_	130	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Hexachloroutudisiene		62	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Hexachloroethane	Hexachlorobenzene	ND	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Indexno(1,2,3-cd)pyrene	Hexachlorobutadiene	ND	12	ug/Kg	1	04/23/15	DD	SW8270D
Naphtheline	Hexachloroethane	ND	12	ug/Kg	1	04/23/15	DD	SW8270D
Naphthelene	Indeno(1,2,3-cd)pyrene	460	2.5	ug/Kg	1	04/23/15	DD	SW8270D
Pentachloronitrobenzene ND 12 ug/Kg 1 04/23/15 DD SW8270D		22	12	ug/Kg	1	04/23/15	DD	SW8270D
Phenanthrene		ND	12	ug/Kg	1	04/23/15	DD	SW8270D
Phenol	Pentachlorophenol	ND	12	ug/Kg	1	04/23/15	DD	SW8270D
Pyridine	Phenanthrene	820	2.5	ug/Kg	1	04/23/15	DD	SW8270D
OA/QC Surrogates % 1 04/23/15 DD 30 - 130 % % 2.Fluorobiphenol 93 % 1 04/23/15 DD 30 - 130 % % 2.Fluorobiphenol 57 % 1 04/23/15 DD 30 - 130 % % 2.Fluorophenol 57 % 1 04/23/15 DD 30 - 130 % % Phenol-d5 65 % 1 04/23/15 DD 30 - 130 % % Terphenyl-d14 51 % 1 04/23/15 DD 30 - 130 % ** Terphenyl-d14 51 % 1 04/23/15 DD 30 - 130 % ** Terphenyl-d14 51 % 1 04/23/15 DD 30 - 130 % ** Terphenyl-d14 51 % 1 04/23/15 DD 30 - 130 % ** Terphenyl-d14 51 0 ug/Kg 2 04/23/15 DD SW8270D 1,2-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD </td <td>Phenol</td> <td>ND</td> <td>12</td> <td>ug/Kg</td> <td>1</td> <td>04/23/15</td> <td>DD</td> <td>SW8270D</td>	Phenol	ND	12	ug/Kg	1	04/23/15	DD	SW8270D
% 2.4,6-Tribromophenol 93 % 1 04/23/15 DD 30 - 130 % % 2.Fluorophenol 57 % 1 04/23/15 DD 30 - 130 % % 2.Fluorophenol 57 % 1 04/23/15 DD 30 - 130 % % Nitrobenzene-d5 67 % 1 04/23/15 DD 30 - 130 % % Penenol-d5 65 % 1 04/23/15 DD 30 - 130 % % Terphenyl-d14 51 % 1 04/23/15 DD 30 - 130 % Semivolatiles Full Scan Semivolatiles Full Scan 12,4-Trichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,2-Diphenylhydrazine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,3-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,5-Trichlorophenol ND 1200 ug/Kg 2	Pyridine	ND	12	ug/Kg	1	04/23/15	DD	SW8270D
% 2.4,6-Tribromophenol 93 % 1 04/23/15 DD 30 - 130 % % 2.Fluorophenol 57 % 1 04/23/15 DD 30 - 130 % % 2.Fluorophenol 57 % 1 04/23/15 DD 30 - 130 % % Nitrobenzene-d5 67 % 1 04/23/15 DD 30 - 130 % % Penenol-d5 65 % 1 04/23/15 DD 30 - 130 % % Terphenyl-d14 51 % 1 04/23/15 DD 30 - 130 % Semivolatiles Full Scan Semivolatiles Full Scan 12,4-Trichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,2-Diphenylhydrazine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,3-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,5-Trichlorophenol ND 1200 ug/Kg 2	QA/QC Surrogates							
\$2-Fluorophenol 57		93		%	1	04/23/15	DD	30 - 130 %
No. Nitrobenzene-d5	% 2-Fluorobiphenyl	46		%	1	04/23/15	DD	30 - 130 %
Semivolatiles 65 % 1 04/23/15 DD 30 - 130 % Semivolatiles Full Scan 30 1200 ug/Kg 2 04/23/15 DD 30 - 130 % 1,2,4-Trichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,2-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,3-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,3-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,4-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,5-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 <t< td=""><td>% 2-Fluorophenol</td><td>57</td><td></td><td>%</td><td>1</td><td>04/23/15</td><td>DD</td><td>30 - 130 %</td></t<>	% 2-Fluorophenol	57		%	1	04/23/15	DD	30 - 130 %
Semivolatiles Full Scan	% Nitrobenzene-d5	67		%	1	04/23/15	DĐ	30 - 130 %
Semivolatiles Full Scan	% Phenol-d5	65		%	1	04/23/15	DD	30 - 130 %
1,2,4-Trichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,2-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,2-Diphenylhydrazine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,3-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,5-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,6-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 <td< td=""><td>% Terphenyl-d14</td><td>51</td><td></td><td>%</td><td>1</td><td>04/23/15</td><td>DD</td><td>30 - 130 %</td></td<>	% Terphenyl-d14	51		%	1	04/23/15	DD	30 - 130 %
1,2-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,2-Diphenylhydrazine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,3-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,4-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,5-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,6-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/	Semivolatiles Full Scan							
1,2-Diphenylhydrazine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,3-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,4-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,5-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/	1,2,4-Trichlorobenzene	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
1,3-Dichlorobenzene		ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
1,3-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 1,4-Dichlorobenzene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,5-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,-Chloroaphthalene ND 1200 ug/Kg 2 04/23/15<		ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2,4,5-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4,6-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dimethylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Chloronaphthalene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Methylphenol (o-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D	1,3-Dichlorobenzene	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2,4,6-Trichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dimethylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Chloronaphthalene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/Kg 2 04/23/15	1,4-Dichlorobenzene	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2,4-Dichlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dimethylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dimitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Chloronaphthalene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Methylphenol (o-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol (m&p-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23	2,4,5-Trichlorophenol	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2,4-Dimethylphenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 2,4-Dinitrophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Methylphenol (o-cresol) ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Nitroaniline ND 1200 ug/kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/kg 2 04/23/15 DD SW8270D 3,-Nitroaniline ND 1200 ug/kg 2 04/23/15	2,4,6-Trichlorophenol	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2,4-Dinitrophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 2,4-Dinitrotoluene ND 1200 ug/kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Chloronaphthalene ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Methylphenol (o-cresol) ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Nitroaniline ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 3&4-Methylphenol (m&p-cresol) ND 1200 ug/kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/kg 2 04/23/15 DD SW8270D	2,4-Dichlorophenol	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2,4-Dinitrotoluene ND 1200 ug/kg 2 04/23/15 DD SW8270D 2,6-Dinitrotoluene ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Methylphenol (o-cresol) ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Nitroaniline ND 1200 ug/kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/kg 2 04/23/15	2,4-Dimethylphenol	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2,6-Dinitrotoluene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Chloronaphthalene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Methylphenol (o-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3&4-Methylphenol (m&p-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D	2,4-Dinitrophenol	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2-Chloronaphthalene ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Chlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Methylphenol (o-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Methylphenol (o-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3&4-Methylphenol (m&p-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-aniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-henyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D	·	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2-Chlorophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Methylphenol (o-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3&4-Methylphenol (m&p-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 5-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 5-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 5-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 5-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 5-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 5-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 5-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D	2,6-Dinitrotoluene	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2-Methylphenol (o-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3&4-Methylphenol (m&p-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D	2-Chloronaphthalene	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3&4-Methylphenol (m&p-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND <	2-Chlorophenol	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
2-Nitrophenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3&4-Methylphenol (m&p-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D	2-Methylphenol (o-cresol)	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol) ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D	2-Nitroaniline	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
3,3'-Dichlorobenzidine ND 1200 ug/Kg 2 04/23/15 DD SW8270D 3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D	2-Nitrophenol	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
3-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D	3&4-Methylphenol (m&p-cresol)	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
4,6-Dinitro-2-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Bromophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D	3,3'-Dichlorobenzidine	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
4-Bromophenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D	3-Nitroaniline	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D	4,6-Dinitro-2-methylphenol	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
4-Chloro-3-methylphenol ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D		ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
4-Chloroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D		ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
4-Chlorophenyl phenyl ether ND 1200 ug/Kg 2 04/23/15 DD SW8270D 4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D		ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
4-Nitroaniline ND 1200 ug/Kg 2 04/23/15 DD SW8270D		ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
		ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
		ND	1200	ug/Kg	2	04/23/15	DD	SW8270D

Page 8 of 18 Ver 1

Phoenix I.D.: BJ06366

Project ID: AMERBELLE MILLS Client ID: AOC-25 SED-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Acetophenone	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Aniline	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Benzidine	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Benzoic acid	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Benzyl butyl phthalate	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Carbazole	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Dibenzofuran	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Diethyl phthalate	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Dimethylphthalate	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Di-n-butylphthalate	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Di-n-octylphthalate	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Fluoranthene	1300	1200	ug/Kg	2	04/23/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Isophorone	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Nitrobenzene	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
N-Nitrosodimethylamine	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	1200	ug/Kg	2	04/23/15	DD	SW8270D
Pyrene	1100	1000	ug/Kg	2	04/23/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	82		%	2	04/23/15	DD	SW8270D
% 2-Fluorobiphenyl	44		%	2	04/23/15	DD	SW8270D
% 2-Fluorophenol	43		%	2	04/23/15	DD	SW8270D
% Nitrobenzene-d5	59		%	2	04/23/15	DD	SW8270D
% Phenol-d5	50		%	2	04/23/15	DD	SW8270D
% Terphenyl-d14	36		%	2	04/23/15	DD	SW8270D

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Phyllis Shiller, Laboratory Director



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Fax (860) 645-0823 Tel. (860) 645-1102

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

SW

Glastonbury, CT 06033

Sample Information

Matrix:

SEDIMENT

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

<u>Time</u>

Collected by:

Received by:

04/22/15 04/22/15

Date

13:20 16:02

Analyzed by:

Laboratory Data

see "By" below

SDG ID: GBJ06364

Phoenix ID: BJ06367

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SED-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.42	0.42	mg/Kg	1	04/23/15	LK	SW6010C
Arsenic	1.0	0.8	mg/Kg	1	04/23/15	LK	SW6010C
Barium	47.5	0.42	mg/Kg	1	04/23/15	LK	SW6010C
Cadmium	< 0.42	0.42	mg/Kg	1	04/23/15	LK	SW6010C
Chromium	8.49	0.42	mg/Kg	1	04/23/15	LK	SW6010C
Mercury	< 0.04	0.04	mg/Kg	1	04/23/15	RS	SW7471B
_ead	95.4	0.42	mg/Kg	1	04/23/15	LK	SW6010C
Selenium	< 1.7	1.7	mg/Kg	1	04/23/15	LK	SW6010C
Percent Solid	72		%		04/22/15	I	SW846-%Solid
Ammonia as Nitrogen	< 17	17	mg/Kg	1	04/27/15	WHM	E350.1
Phenolics	< 1.0	1.0	mg/Kg	1	04/23/15	BS	SW9066
Tot.Org.Carbon	30000	100	mg/kg	1	04/27/15	MA	SW9060A/L. Kahn
Extraction for SVOA SIM	Completed				04/22/15	BJ/VH	SW3545A
Mercury Digestion	Completed				04/23/15	1/1	SW7471B
Total Metals Digest	Completed				04/22/15	CB/AG	SW3050B
Fot.Org.Carbon Preparation	Completed				04/22/15	MA	
Sieve Test	Completed				04/30/15	*	ASTM
Semivolatile <u>s</u>							
1,2,4,5-Tetrachlorobenzene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
1,2,4-Trichlorobenzene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
1,2-Dichlorobenzene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
, 1,2-Diphenylhydrazine	ND	4600	ug/Kg	10	04/23/15	DD	SW8270D
1,3-Dichlorobenzene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
I,4-Dichlorobenzene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2,4-Dichlorophenol	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D

Project ID: AMERBELLE MILLS Client ID: AOC-25 SED-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
2,4-Dimethylphenol	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2,4-Dinitrophenol	ND	7400	ug/Kg	10	04/23/15	DD	SW8270D
2,4-Dinitrotoluene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2,6-Dinitrotoluene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2-Chloronaphthalene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2-Chlorophenol	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2-Methylnaphthalene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
2-Nitroaniline	ND	7400	ug/Kg	10	04/23/15	DD	SW8270D
2-Nitrophenol	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	4600	ug/Kg	10	04/23/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
3-Nitroaniline	ND	7400	ug/Kg	10	04/23/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	13000	ug/Kg	10	04/23/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	4600	ug/Kg	10	04/23/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
4-Chloroaniline	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
4-Nitroaniline	ND	7400	ug/Kg	10	04/23/15	DD	SW8270D
4-Nitrophenol	ND	13000	ug/Kg	10	04/23/15	DD	SW8270D
Acenaphthene	3200	3000	ug/Kg	10	04/23/15	DD	SW8270D
Acenaphthylene	4800	3200	ug/Kg	10	04/23/15	DD	SW8270D
Acetophenone	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Aniline	ND	13000	ug/Kg	10	04/23/15	DD	SW8270D
Anthracene	9300	3200	ug/Kg	10	04/23/15	DD	SW8270D
Benz(a)anthracene	21000	3200	ug/Kg	10	04/23/15	DD	SW8270D
Benzidine	ND	5500	ug/Kg	10	04/23/15	DD	SW8270D
Benzo(a)pyrene	19000	3200	ug/Kg	10	04/23/15	DD	SW8270D
Benzo(b)fluoranthene	25000	3200	ug/Kg	10	04/23/15	DD	SW8270D
Benzo(ghi)perylene	5700	3200	ug/Kg	10	04/23/15	DD	SW8270D
Benzo(k)fluoranthene	8500	3200	ug/Kg	10	04/23/15	DD	SW8270D
Benzoic acid	ND	13000	ug/Kg	10	04/23/15	DD	SW8270D
Benzyl butyl phthalate	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	4600	ug/Kg	10	04/23/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Carbazole	ND	6900	ug/Kg	10	04/23/15	DD	SW8270D
Chrysene	18000	3200	ug/Kg	10	04/23/15	DD	SW8270D
Dibenz(a,h)anthracene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Dibenzofuran	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Diethyl phthalate	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Dimethylphthalate	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Di-n-butylphthalate	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Di-n-octylphthalate	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Fluoranthene	43000	3200	ug/Kg	10	04/23/15	DD	SW8270D
Fluorene	5000	3200	ug/Kg	10	04/23/15	DD	SW8270D
Hexachlorobenzene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Hexachlorobutadiene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ06367
Client ID: AOC-25 SED-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Hexachlorocyclopentadiene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Hexachloroethane	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	5400	3200	ug/Kg	10	04/23/15	DD	SW8270D
Isophorone	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Naphthalene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Nitrobenzene	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
N-Nitrosodimethylamine	ND	4600	ug/Kg	10	04/23/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	4600	ug/Kg	10	04/23/15	DD	SW8270D
Pentachloronitrobenzene	ND	4600	ug/Kg	10	04/23/15	DD	SW8270D
Pentachlorophenol	ND	4600	ug/Kg	10	04/23/15	DD	SW8270D
Phenanthrene	28000	3200	ug/Kg	10	04/23/15	DD	SW8270D
Phenol	ND	3200	ug/Kg	10	04/23/15	DD	SW8270D
Pyrene	37000	3200	ug/Kg	10	04/23/15	DD	SW8270D
Pyridine	ND	4600	ug/Kg	10	04/23/15	DD	SW8270D
QA/QC Surrogates							
% 2.4,6-Tribromophenol	Diluted Out		%	10	04/23/15	DD	30 - 130 %
% 2-Fluorobiphenyl	Diluted Out		%	10	04/23/15	DD	30 - 130 %
% 2-Fluorophenol	Diluted Out		%	10	04/23/15	DD	30 - 130 %
% Nitrobenzene-d5	Diluted Out		%	10	04/23/15	DD	30 - 130 %
% Phenol-d5	Diluted Out		%	10	04/23/15	DD	30 - 130 %
% Terphenyl-d14	Diluted Out		%	10	04/23/15	DD	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Semi-Volatile Comment:

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.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Phyllis Shiller, Laboratory Director

^{*} See Attached



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

SEDIMENT

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

Matrix:

45441

Custody Information

Laboratory Data

Collected by: Received by:

SW

04/22/15 04/22/15

<u>Date</u>

Time 13:40 16:02

Analyzed by:

PI/

see "By" below

SDG ID: GBJ06364

Phoenix ID: BJ06368

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SED-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.52	0.52	mg/Kg	1	04/23/15	LK	SW6010C
Arsenic	3.4	1.0	mg/Kg	1	04/23/15	LK	SW6010C
Barium	62.8	0.52	mg/Kg	1	04/23/15	LK	SW6010C
Cadmium	< 0.52	0.52	mg/Kg	1	04/23/15	LK	SW6010C
Chromium	19.7	0.52	mg/Kg	1	04/23/15	LK	SW6010C
Mercury	/ 0.13	0.04	mg/Kg	1	04/23/15	RS	SW7471B
Lead	61.0	0.52	mg/Kg	1	04/23/15	LK	SW6010C
Selenium	< 2.1	2.1	mg/Kg	1	04/23/15	LK	SW6010C
Percent Solid	58		%		04/22/15	1	SW846-%Solid
Ammonia as Nitrogen	< 40	40	mg/Kg	1	04/27/15	WHM	E350.1
Phenolics	< 1.3	1.3	mg/Kg	1	04/23/15	BS	SW9066
Tot.Org.Carbon	52000	100	mg/kg	1	04/27/15	MA	SW9060A/L. Kahn
Extraction for SVOA SIM	Completed				04/22/15	BJ/VH	SW3545A
Mercury Digestion	Completed				04/23/15	1/1	SW7471B
Total Metals Digest	Completed				04/22/15	CB/AG	SW3050B
Tot.Org.Carbon Preparation	Completed				04/22/15	MA	
<u>Semivolatiles</u>			*				
1,2,4,5-Tetrachlorobenzene	ND	11	ug/Kg	1	04/23/15	DD	SW8270D
2-Methylnaphthalene	18	11	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthene	23	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthylene	80	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Anthracene	91	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Benz(a)anthracene	260	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(a)pyrene	370	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(b)fluoranthene	540	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(ghi)perylene	200	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(k)fluoranthene	200	2.3	ug/Kg	1	04/23/15	DD	SW8270D

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ06368

Client ID: AOC-25 SED-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Bis(2-ethylhexyl)phthalate	21	11	ug/Kg	1	04/23/15	DD	SW8270D
Chrysene	340	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Dibenz(a,h)anthracene	49	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Fluoranthene	750	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Fluorene	41	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Hexachlorobenzene	ND	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Hexachlorobutadiene	ND	11	ug/Kg	1	04/23/15	DD	SW8270D
Hexachloroethane	ND	11	ug/Kg	1	04/23/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	180	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Naphthalene	42	11	ug/Kg	1	04/23/15	DD	SW8270D
Pentachloronitrobenzene	ND	11	ug/Kg	1	04/23/15	DD	SW8270D
Pentachlorophenol	ND	11	ug/Kg	1	04/23/15	DD	SW8270D
Phenanthrene	380	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Phenol	ND	11	ug/Kg	1	04/23/15	DD	SW8270D
Pyrene	770	2.3	ug/Kg	1	04/23/15	DD	SW8270D
Pyridine	ND	11	ug/Kg	1	04/23/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	83		%	1	04/23/15	DD	30 - 130 %
% 2-Fluorobiphenyl	47		%	1	04/23/15	DD	30 - 130 %
% 2-Fluorophenol	68		%	1	04/23/15	DD	30 - 130 %
% Nitrobenzene-d5	62		%	1	04/23/15	DD	30 - 130 %
% Phenol-d5	74		%	1	04/23/15	DD	30 - 130 %
% Terphenyl-d14	96		%	1	04/23/15	DD	30 - 130 %
Semivolatiles Full Scan							
1,2,4-Trichlorobenzene	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
1,2-Dichlorobenzene	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
1,3-Dichlorobenzene	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
1,4-Dichlorobenzene	ND	570	ug/Kg	_ 1	04/23/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2,4-Dichlorophenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2,4-Dimethylphenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2,4-Dinitrophenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2,4-Dinitrotoluene	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2,6-Dinitrotoluene	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2-Chloronaphthalene	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2-Chlorophenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2-Nitroaniline	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
2-Nitrophenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
3-Nitroaniline	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
4,6-Dinitro-2-methylphenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
4-Chloro-3-methylphenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
4-Chloroaniline	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
4-Chlorophenyl phenyl ether	ND	570	ug/Kg	1	04/23/15	DD	SW8270D

Page 14 of 18 Ver 1

Project ID: AMERBELLE MILLS Client ID: AOC-25 SED-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
4-Nitroaniline	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
4-Nitrophenol	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Acetophenone	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Aniline	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Benzidine	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Benzoic acid	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Benzyl butyl phthalate	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Carbazole	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Dibenzofuran	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Diethyl phthalate	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Dimethylphthalate	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Di-n-butylphthalate	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Di-n-octylphthalate	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
isophorone	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
Nitrobenzene	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
N-Nitrosodimethylamine	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
N-Nitrosodi-n-propylamine	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	570	ug/Kg	1	04/23/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	64		%	1	04/23/15	DD	SW8270D
% 2-Fluorobiphenyl	40		%	1	04/23/15	DD	SW8270D
% 2-Fluorophenol	52		%	1	04/23/15	DD	SW8270D
% Nitrobenzene-d5	55		%	1	04/23/15	DD	SW8270D
% Phenol-d5	57		%	1	04/23/15	DD	SW8270D
% Terphenyl-d14	53		%	1	04/23/15	DD	SW8270D

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Phyllis Shiller, Laboratory Director



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 08, 2015

FOR: Attn: Mr Chris Frey

> GZA GeoEnvironmental, Inc. 655 Winding Brook Drive

Suite 402

Glastonbury, CT 06033

Sample Information

Matrix:

SEDIMENT

Location Code:

GZA-AMER

Rush Request:

Standard

P.O.#:

45441

Custody Information

Collected by:

SW

see "By" below

04/22/15

Date

04/22/15

14:05 16:02

Ver 1

Time

Laboratory Data

Received by:

Analyzed by:

RL/

SDG ID: GBJ06364

Phoenix ID: BJ06369

Project ID:

AMERBELLE MILLS

Client ID:

AOC-25 SED-6

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Silver	< 0.99	0.99	mg/Kg	1	04/23/15	LK	SW6010C
Arsenic	5.6	2.0	mg/Kg	1	04/23/15	LK	SW6010C
Barium	72.5	0.99	mg/Kg	1	04/23/15	LK	SW6010C
Cadmium	< 0.99	0.99	mg/Kg	1	04/23/15	LK	SW6010C
Chromium	24.5	0.99	mg/Kg	1	04/23/15	LK	SW6010C
Mercury	0.26	0.07	mg/Kg	1	04/23/15	RS	SW7471B
_ead	171	0.99	mg/Kg	1	04/23/15	LK	SW6010C
Selenium	< 4.0	4.0	mg/Kg	1	04/23/15	LK	SW6010C
Percent Solid	35		%		04/22/15	- 1	SW846-%Solid
Ammonia as Nitrogen	< 39	39	mg/Kg	1	04/27/15	WHM	E350.1
Phenolics	< 2.1	2.1	mg/Kg	1	04/23/15	BS	SW9066
Tot.Org.Carbon	140000	100	mg/kg	1	04/27/15	MA	SW9060A/L. Kahn
Extraction for SVOA SIM	Completed				04/22/15	BJ/VH	SW3545A
Mercury Digestion	Completed				04/23/15	1/1	SW7471B
Fotal Metals Digest	Completed				04/22/15	CB/AG	SW3050B
Tot.Org.Carbon Preparation	Completed				04/22/15	MA	
<u>Semivolatiles</u>							
1,2,4,5-Tetrachlorobenzene	ND	19	ug/Kg	1	04/23/15	DD	SW8270D
2-Methylnaphthalene	230	19	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthene	990	3.8	ug/Kg	1	04/23/15	DD	SW8270D
Acenaphthylene	500	3.8	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(ghi)perylene	1900	3.8	ug/Kg	1	04/23/15	DD	SW8270D
Benzo(k)fluoranthene	1500	3.8	ug/Kg	1	04/23/15	DD	SW8270D
Bis(2-ethylhexyl)phthalate	130	19	ug/Kg	1	04/23/15	DD	SW8270D
Dibenz(a,h)anthracene	530	3.8	ug/Kg	1	04/23/15	DD	SW8270D
Fluorene	1500	3.8	ug/Kg	1	04/23/15	DD	SW8270D
Hexachlorobenzene	ND	3.8	ug/Kg	1	04/23/15	DD	SW8270D

Page 16 of 18

Phoenix I.D.: BJ06369

Project ID: AMERBELLE MILLS Client ID: AOC-25 SED-6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Hexachlorobutadiene	ND	19	ug/Kg	1	04/23/15	DD	SW8270D
Hexachloroethane	ND	19	ug/Kg	1	04/23/15	DD	SW8270D
Indeno(1,2,3-cd)pyrene	1800	3.8	ug/Kg	1	04/23/15	DD	SW8270D
Naphthalene	420	19	ug/Kg	1	04/23/15	DD	SW8270D
Pentachloronitrobenzene	ND	19	ug/Kg	1	04/23/15	DD	SW8270D
Pentachlorophenol	ND	19	ug/Kg	1	04/23/15	DD	SW8270D
Phenol	ND	19	ug/Kg	1	04/23/15	DD	SW8270D
Pyridine	ND	19	ug/Kg	1	04/23/15	DD	SW8270D
QA/QC Surrogates							
% 2,4,6-Tribromophenol	83		%	1	04/23/15	DD	30 - 130 %
% 2-Fluorobiphenyl	40		%	1	04/23/15	DD	30 - 130 %
% 2-Fluorophenol	66		%	1	04/23/15	DD	30 - 130 %
% Nitrobenzene-d5	71		%	1	04/23/15	DD	30 - 130 %
% Phenol-d5	70		%	1	04/23/15	DD	30 - 130 %
% Terphenyl-d14	53		%	1	04/23/15	DD	30 - 130 %
Semivolatiles Full Scan							
1,2,4-Trichlorobenzene	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
1,2-Dichlorobenzene	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
1,2-Diphenylhydrazine	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
1,3-Dichlorobenzene	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
1,4-Dichlorobenzene	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2,4,5-Trichlorophenol	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2,4,6-Trichlorophenol	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2,4-Dichlorophenol	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2,4-Dimethylphenol	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2,4-Dinitrophenol	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2,4-Dinitrotoluene	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2,6-Dinitrotoluene	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2-Chloronaphthalene	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2-Chlorophenol	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2-Methylphenol (o-cresol)	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2-Nitroaniline	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
2-Nitrophenol	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
3&4-Methylphenol (m&p-cresol)	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
3,3'-Dichlorobenzidine	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
3-Nitroaniline	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
4,6-Dinitro-2-methylphenol		1900		2	04/23/15	DD	SW8270D
4-Bromophenyl phenyl ether	ND ND	1900	ug/Kg ug/Kg	2	04/23/15	DD	SW8270D
4-Chloro-3-methylphenol							
4-Chloroaniline	ND ND	1900 1900	ug/Kg ug/Kg	2 2	04/23/15 04/23/15	DD DD	SW8270D SW8270D
4-Chlorophenyl phenyl ether							
4-Nitroaniline	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
4-Nitrophenol	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Acetophenone	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Aniline	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Anthracene	2300	1900	ug/Kg	2	04/23/15	DD	SW8270D
Benz(a)anthracene	4600	1900	ug/Kg	2	04/23/15	DD	SW8270D
Benzidine	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Benzo(a)pyrene	4000	1900	ug/Kg	2	04/23/15	DD	SW8270D

Page 17 of 18 Ver 1

Project ID: AMERBELLE MILLS Phoenix I.D.: BJ06369

Client ID: AOC-25 SED-6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Benzo(b)fluoranthene	5500	1900	ug/Kg	2	04/23/15	DD	SW8270D
Benzoic acid	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Benzyl butyl phthalate	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-chloroethoxy)methane	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-chloroethyl)ether	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Bis(2-chloroisopropyl)ether	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Carbazole	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Chrysene	4200	1900	ug/Kg	2	04/23/15	DD	SW8270D
Dibenzofuran	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Diethyl phthalate	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Dimethylphthalate	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Di-n-butylphthalate	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Di-n-octylphthalate	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Fluoranthene	9200	1900	ug/Kg	2	04/23/15	DD	SW8270D
Hexachlorocyclopentadiene	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Isophorone	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Nitrobenzene	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
N-Nitrosodimethylamine	ND	1900	ug/Kg	2	04/23/15	DD	\$W8270D
N-Nitrosodi-n-propylamine	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
N-Nitrosodiphenylamine	ND	1900	ug/Kg	2	04/23/15	DD	SW8270D
Phenanthrene	9100	1900	ug/Kg	2	04/23/15	DD	SW8270D
Pyrene	7100	1900	ug/Kg	2	04/23/15	DD	SW8270D
QA/QC Surrogates	191						
% 2,4,6-Tribromophenol	77		%	2	04/23/15	DD	SW8270D
% 2-Fluorobiphenyl	39		%	2	04/23/15	DD	SW8270D
% 2-Fluorophenol	52		%	2	04/23/15	DD	SW8270D
% Nitrobenzene-d5	64		%	2	04/23/15	DD	SW8270D
% Phenol-d5	58		%	2	04/23/15	DD	SW8270D
% Terphenyl-d14	43		%	2	04/23/15	DD	SW8270D

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

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Phyllis Shiller, Laboratory Director

May 08, 2015

Reviewed and Released by: Phyllis Shiller, Laboratory Director



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 08, 2015

QA/QC Data

SDG I.D.: GBJ06364

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 305496 (mg/kg),	QC San	ple No:	BJ06183	3 (BJ063	64, BJ0	06365,	BJ0636	6, BJ06	367, B.	J06368,	BJ063	169)		
ICP Metals - Soil														
Arsenic	BRL	0.69	12.3	15.0	19.8	96.4	95.8	0.6	94.0	94.8	8.0	75 - 125	30	
Barium	BRL	0.35	51.3	51.1	0.40	94.1	98.0	4.1	96.5	93.0	3.7	75 - 125	30	
Cadmium	BRL	0.35	0.42	< 0.36	NC	94.7	104	9.4	90.2	91.6	1.5	75 - 125	30	
Chromium	BRL	0.35	21.9	17.2	24.0	94.5	97.8	3.4	92.1	103	11.2	75 - 125	30	
Lead	BRL	0.35	94.5	427	128	95.5	98.3	2.9	84.0	81.3	3.3	75 - 125	30	r
Selenium	BRL	1.4	<1.6	<1.4	NC	92.0	96.8	5.1	83.6	84.4	1.0	75 - 125	30	
Silver	BRL	0.35	<0.41	<0.36	NC	97.4	99.0	1.6	98.6	100	1.4	75 - 125	30	
QA/QC Batch 305565 (mg/kg),	QC Sam	ple No:	BJ06628	3 (BJ063	64, BJ(06365,	BJ0636	6, BJ06	367, B.	J06368,	BJ063	169)		
Mercury - Soil Comment:	BRL	0.06	<0.03	<0.03	NC	124	112	10.2	115	120	4.3	70 - 130	30	
Additional Mercury criteria: LCS a	acceptanc	e range	for waters	is 80-120	% and for	or soils i	s 70-130'	%.						

r = This parameter is outside laboratory rpd specified recovery limits.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 08, 2015

QA/QC Data

SDG I.D.: GBJ06364

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 305687 (mg/kg),	QC San	ple No:	BJ06250	(BJ063	64, BJ	06365,	BJ06366	3)						
Tot.Org.Carbon	BRL	100	38000	34000	NC	117						85 - 115	30	1
QA/QC Batch 305778 (mg/L), C	C Samp	ole No: 1	BJ06293	(BJ0636	4, BJ0	6365, B	J06366,	BJ063	67, BJ	06368, I	BJ0636	69)		
Ammonia as Nitrogen	BRL	0.05	<0.05	<0.05	NC	98.3			97.5			85 - 115	20	
QA/QC Batch 305573 (mg/Kg),	QC San	nple No	: BJ06366	6 (BJ063	864, BJ	06365,	BJ0636	6, BJ06	367, B	J06368	, BJ063	369)		
Phenolics	BRL	0.015	<1.4	<1.4	NC	110			90.5			85 - 115	30	
QA/QC Batch 305965 (mg/kg),	QC San	ple No:	BJ06367	7 (BJ063	67, BJ	06368,	BJ06369	€)						
Tot.Org.Carbon	BRL	100	30000	35000	NC	114						85 - 115	30	

I = This parameter is outside laboratory lcs/lcsd specified recovery limits.



587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045 Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 08, 2015

QA/QC Data

SDG I.D.: GBJ06364

Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 305519 (ug/kg),	QC Samp	ole No:	BJ06364 (BJ06364,	BJ06365,	BJ06366	, BJ06	367, BJ	106368	, BJ063	69)		
Semivolatiles - Sediment												
1,2,4,5-Tetrachlorobenzene	ND	230		85	85	0.0	84	86	2.4	30 - 130	30	
1,2,4-Trichlorobenzene	ND	230		80	81	1.2	81	82	1.2	30 - 130	30	
1,2-Dichlorobenzene	ND	230		74	74	0.0	71	72	1.4	30 - 130	30	
1,2-Diphenylhydrazine	ND	230		104	105	1.0	84	85	1.2	30 - 130	30	
1,3-Dichlorobenzene	ND	230		70	71	1.4	66	67	1.5	30 - 130	30	
1,4-Dichlorobenzene	ND	230		71	71	0.0	69	69	0.0	30 - 130	30	
2,4,5-Trichlorophenol	ND	230		99	98	1.0	94	95	1.1	30 - 130	30	
2,4,6-Trichlorophenol	ND	130		95	96	1.0	92	92	0.0	30 - 130	30	
2,4-Dichlorophenol	ND	130		89	91	2.2	85	86	1.2	30 - 130	30	
2,4-Dimethylphenol	ND	230		84	84	0.0	63	62	1.6	30 - 130	30	
2,4-Dinitrophenol	ND	230		<10	<10	NC	<10	<10	NC	30 - 130	30	l,m
2.4-Dinitrotoluene	ND	130		102	99	3.0	89	90	1.1	30 - 130	30	
2,6-Dinitrotoluene	ND	130		97	97	0.0	89	88	1.1	30 - 130	30	
2-Chloronaphthalene	ND	230		93	94	1.1	88	86	2.3	30 - 130	30	
2-Chlorophenol	ND	230		82	82	0.0	79	79	0.0	30 - 130	30	
2-Methylnaphthalene	ND	230		85	85	0.0	84	85	1.2	30 - 130	30	
2-Methylphenol (o-cresol)	ND	230		88	89	1.1	81	80	1.2	30 - 130	30	
2-Nitroaniline	ND	670		117	120	2.5	97	100	3.0	30 - 130	30	
2-Nitrophenol	ND	230		82	82	0.0	89	82	8.2	30 - 130	30	
3&4-Methylphenol (m&p-cresol)	ND	230		91	94	3.2	85	86	1.2	30 - 130	30	
3,3'-Dichlorobenzidine	ND	130		111	112	0.9	17	19	11.1	30 - 130	30	m
3-Nitroaniline	ND	670		100	101	1.0	50	53	5.8	30 - 130	30	
4,6-Dinitro-2-methylphenol	ND	170		47	45	4.3	17	<10	NC	30 - 130	30	m
4-Bromophenyl phenyl ether	ND	230		97	98	1.0	81	78	3.8	30 - 130	30	
4-Chloro-3-methylphenol	ND	230		90	92	2.2	87	92	5.6	30 - 130	30	
4-Chloroaniline	ND	230		89	91	2.2	26	27	3.8	30 - 130	30	m
4-Chlorophenyl phenyl ether	ND	230		94	96	2.1	82	83	1.2	30 - 130	30	
4-Nitroaniline	ND	670		105	107	1.9	97	100	3.0	30 - 130	30	
4-Nitrophenol	ND	230		92	93	1.1	103	112	8.4	30 - 130	30	
Acenaphthene	ND	230		88	91	3.4	81	80	1.2	30 - 130	30	
Acenaphthylene	ND	230		91	93	2.2	82	82	0.0	30 - 130	30	
Acetophenone	ND	230		89	90	1.1	88	87	1.1	30 - 130	30	
Aniline	ND	970		64	64	0.0	22	23	4.4	30 - 130	30	m
Anthracene	ND	230		97	98	1.0	89	88	1.1	30 - 130	30	
Benz(a)anthracene	ND	230		103	103	0.0	128	127	0.8	30 - 130		
Benzidine	ND	330		29	27	7.1	<10	<10		30 - 130		l,m
Benzo(a)pyrene	ND	230		96	96	0.0	109	108		30 - 130		·
Benzo(b)fluoranthene	ND	230		92	94	2.2	119	NC	NC	30 - 130		
Benzo(ghi)perylene	ND	230		101	98	3.0	94	74	23.8	30 - 130		
Benzo(k)fluoranthene	ND	230		96	97	1.0	106	109		30 - 130		
Benzoic Acid	ND	330		<10		NC	12	13	8.0	30 - 130		l,m
Denzoic Acid	ND	JJU		-10	~10	.40	12	.5	0.0	55 ,00		1,111

SDG I.D.: GBJ06364

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzyl butyl phthalate	ND	230	94	92	2.2	110	117	6.2	30 - 130	30	
Bis(2-chloroethoxy)methane	ND	230	87	89	2.3	83	83	0.0	30 - 130	30	
Bis(2-chloroethyl)ether	ND	130	70	70	0.0	68	68	0.0	30 - 130	30	
Bis(2-chloroisopropyl)ether	ND	230	76	78	2.6	75	76	1.3	30 - 130	30	
Bis(2-ethylhexyl)phthalate	ND	230	93	94	1.1	113	115	1.8	30 - 130	30	
Carbazole	ND	500	96	97	1.0	97	97	0.0	30 - 130	30	
Chrysene	ND	230	101	101	0.0	129	131	1.5	30 - 130	30	m
Dibenz(a,h)anthracene	ND	230	99	98	1.0	82	71	14.4	30 - 130	30	
Dibenzofuran	ND	230	96	96	0.0	87	88	1.1	30 - 130	30	
Diethyl phthalate	ND	230	100	100	0.0	86	87	1.2	30 - 130	30	
Dimethylphthalate	ND	230	99	100	1.0	87	86	1.2	30 - 130	30	
Di-n-butylphthalate	ND	230	98	98	0.0	81	81	0.0	30 - 130	30	
Di-n-octylphthalate	ND	230	97	99	2.0	76	79	3.9	30 - 130	30	
Fluoranthene	ND	230	94	93	1.1	110	NC	NC	30 - 130	30	
Fluorene	ND	230	96	97	1.0	86	87	1.2	30 - 130	30	
Hexachlorobenzene	ND	130	101	98	3.0	85	82	3.6	30 - 130	30	
Hexachlorobutadiene	ND	230	83	83	0.0	83	82	1.2	30 - 130	30	
Hexachlorocyclopentadiene	ND	230	84	85	1.2	<10	<10	NC	30 - 130	30	m
Hexachloroethane	ND	130	72	74	2.7	65	57	13.1	30 - 130	30	
Indeno(1,2,3-cd)pyrene	ND	230	99	96	3.1	93	79	16.3	30 - 130	30	
Isophorone	ND	130	81	82	1.2	78	79	1.3	30 - 130	30	
Naphthalene	ND	230	79	80	1.3	79	81	2.5	30 - 130	30	
Nitrobenzene	ND	130	86	86	0.0	87	87	0.0	30 - 130	30	
N-Nitrosodimethylamine	ND	230	62	65	4.7	63	61	3.2	30 - 130	30	
N-Nitrosodi-n-propylamine	ND	130	86	88	2.3	84	85	1.2	30 - 130	30	
N-Nitrosodiphenylamine	ND	130	102	102	0.0	89	90	1:1	30 - 130	30	
Pentachloronitrobenzene	ND	230	108	108	0.0	93	88	5.5	30 - 130	30	
Pentachlorophenol	ND	230	77	77	0.0	107	107	0.0	30 - 130	30	
Phenanthrene	ND	230	97	97	0.0	97	99	2.0	30 - 130	30	
Phenol	ND	230	79	79	0.0	78	80	2.5	30 - 130	30	
Pyrene	ND	230	95	95	0.0	108	NC	NC	30 - 130	30	
Pyridine	ND	230	33	35	5.9	46	44	4.4	30 - 130	30	
% 2,4,6-Tribromophenol	88	%	94	93	1.1	90	90	0.0	15 - 130	30	
% 2-Fluorobiphenyl	71	%	85	87	2.3	78	77	1.3	30 - 130	30	
% 2-Fluorophenol	64	%	69	69	0.0	68	67	1.5	15 - 130	30	
% Nitrobenzene-d5	64	%	80	81	1.2	82	83	1.2	30 - 130	30	
% Phenol-d5	64	%	73	74	1.4	73	73	0.0	15 - 130	30	
% Terphenyl-d14 Comment:	85	%	87	86	1.2	83	72	14.2	30 - 130	30	

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%)

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

May 08, 2015

I = This parameter is outside laboratory lcs/lcsd specified recovery limits.

m = This parameter is outside laboratory ms/msd specified recovery limits.

Page 1 of 1

Sample Criteria Exceedences Report

GBJ06364 - GZA-AMER

Criteria

Phoenix Analyte

SampNo Acode
*** No Data to Display ***

Friday, May 08, 2015 Criteria: None State: CT Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Result

Criteria

Analysis Units

RL Criteria

ద

Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Labora	tory Name:	Pnoenix	Environi	nentai Lab	s, inc. Client		GZA GeoEnv	uronmenta	al, Inc.
roject	Location:	AMERBE	ELLE MI	LLS	Projec	t Number:			
aborat	tory Sample	e ID(s): B	J06364,	BJ06365,	BJ06366, BJ06	367, BJ0636	88, BJ06369		
ampliı	ng Date(s):	4/22/201	5						
CP Me	ethods Use	d:							
] 1311/	′1312 📝 60	110	7000	7196	7470/7471	8081	☐ EPH		TO15
8082	□ 81	51	8260	✓ 8270	ETPH	9010/90	112 UPH		
spi	ecified QA/Q(y criteria fallir	C performar ng outside o	nce criter of accepta	ia followed, able guidelin	boratory report p including the req les, as specified ol documents?	uirement to ex	kplain 🗹 Yes	s 🗆 No	
a. We	ere the metho	od specified	preserva	ation and ho	lding time require	ements met?	✓ Yes	s □ No	
					EPH method con spective RCP me		t	s 🗆 No	✓ NA
					a condition consi locument(s)?	stent with that	✓ Yes	s 🗆 No	
. W	ere samples i	received at	an appro	priate tempe	erature (< 6 Degr	ees C)?	✓ Yes	s 🗆 No	□NA
					n the Reasonabl VOA Narration, S			s 🗹 No	
a. Wo	ere reporting	limits speci	fied or re	ferenced on	the chain-of-cus	tody?	✓ Yes	s □ No	
o. We	ere these rep	orting limits	met?				☐ Yes	s ✓ No	□NA
res	sults reported	for all cons	stituents i	dentified in t	boratory report p he method-spec col documents?			s 🗹 No	□ NA
. Are	e project-spe	cific matrix	spikes ar	nd laboratory	duplicates inclu	ded in the dat	a set? ✓ Yes	s 🗆 No	□NA
the u	e provided in a quirements fo indersigned elief and bas	in attached in "Reasonat "Reasonat I, attest ui sed upon	narrative. ble Confid mder the my pers	If the answerence". Pains and sonal inqui	d penalties of iry of those remation is acc	#1A or 1B is "I perjury that sponsible fo	No", the data pac , to the best o or providing t	kage does	not meet th
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Author	rized		2,	612 - 9		Date:	Friday, May 08	3, 2015	
Signat		0	ly Chi	Shille	Pri	nted Name:	Phyllis Shiller		
		/	/			Position:	Laboratory Dir	ector	



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ06364

QC Batch 305687 (Samples: BJ06364, BJ06365, BJ06366): ----- The LCS and/or the LCSD recovery is above the upper range, therefore a slight high bias is possible. (Tot.Org.Carbon)

Metals Analysis:

The client requested a shorter list of elements than the 6010 RCP list. The following analytes from the 6010 RCP Metals list were not reported: Antimony, Beryllium, Copper, Nickel, Thallium, Vanadium, Zinc.

BJ06367 required a dilution for Semi-volatiles due to the presence of target and/or non-target compounds. This resulted in elevated reporting limits that exceed the requested criteria for one or more analytes.

Mercury Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Merlin 04/23/15-1 (BJ06364, BJ06365, BJ06366, BJ06367, BJ06368, BJ06369)

The method preparation blank contains all of the acids and reagents as the samples; the instrument blanks do not.

The initial calibration met all criteria including a standard run at or below the reporting level.

All calibration verification standards (ICV, CCV) met criteria.

All calibration blank verification standards (ICB, CCB) met criteria.

The matrix spike sample is used to identify spectral interfernce for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.

Printed Name Rick Schweitzer

Position:

Chemist

Date:

4/23/2015

QC (Batch Specific)

----- Sample No: BJ06628, QA/QC Batch: 305565 ------

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.

ICP Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument: Arcos 04/23/15-1 (BJ06364, BJ06365, BJ06366, BJ06367, BJ06368, BJ06369)

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.



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ06364

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name

Laura Kinnin

Position:

Chemist

Date:

4/23/2015

Instrument:

Arcos 04/24/15-1 (BJ06365, BJ06366)

The initial calibration met criteria.

The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

The continuing calibration blanks were less than the reporting level for the elements reported.

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name

Laura Kinnin

Position:

Chemist

Date:

4/24/2015

QC (Batch Specific)

----- Sample No: BJ06183, QA/QC Batch: 305496 ------

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.

SVOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

See SVOASIM Narration.

Instrument:

Chem12 04/23/15-1 (BJ06364, BJ06365, BJ06366, BJ06367, BJ06368, BJ06369)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.Initial Calibration Verification (CHEM12/sv 0423):

97% of target compounds met criteria.

The following compounds had %RSDs >20%: 2,4-Dinitrophenol (27%), Benzidine (41%), Benzoic Acid (23%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM12/0423 11-sv 0423):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.086)[0.1], Hexachlorobenzene (.093)[0.1]

The following compounds did not meet minimum response factors: None.



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ06364

Printed Name Damien Drobinski

Position: Chemist Date: 4/23/2015

QC (Site Specific)

----- Sample No: BJ06364, QA/QC Batch: 305519 -----

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), Benzidine(29%), Benzoic Acid(<10%)

All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), Benzidine(27%), Benzoic Acid(<10%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

All MS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 3,3'-Dichlorobenzidine(17%), 4,6-Dinitro-2-methylphenol(17%), 4-Chloroaniline(26%), Aniline(22%), Benzidine(<10%), Benzoic Acid(12%), Hexachlorocyclopentadiene(<10%)

All MSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 3,3'-Dichlorobenzidine(19%), 4,6-Dinitro-2-methylphenol(<10%), 4-Chloroaniline(27%), Aniline(23%), Benzidine(<10%), Benzoic Acid(13%), Chrysene(131%), Hexachlorocyclopentadiene(<10%)

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.

SVOASIM Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 305519 (Samples: BJ06364, BJ06365, BJ06366, BJ06367, BJ06368, BJ06369): —

The LCS/LCSD recovery is acceptable. One or more analytes in the site specific matrix spike recovery is below the method criteria, therefore a low bias is possible. (3,3"-Dichlorobenzidine, 4,6-Dinitro-2-methylphenol, 4-Chloroaniline, Aniline, Hexachlorocyclopentadiene)

The MS and/or the MSD recovery is above the upper range, therefore a slight high bias is possible. (Chrysene)

The QC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (2,4-Dinitrophenol, Benzidine, Benzoic Acid)

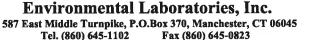
Instrument: Chem04 04/23/15-1 (BJ06364)

The DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.

In the event that lower detection levels were requested, the samples may have been analyzed by selective ion monitoring (SIM) mode.

If PAH/base neutral were requested, Phoenix utilized a method that contained a shortened list, so some of the compounds in the narrative may be non-applicable. Initial Calibration Verification (CHEM04/SIM_0406): 100% of target compounds met criteria.







RCP Certification Report

May 08, 2015

SDG I.D.: GBJ06364

The following compounds had %RSDs >20%: None.

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM04/0423 03-SIM_0406):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.057)[0.1], Bis(2-chloroethyl)ether (.678)[0.7] The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position:

Chemist

Date:

4/23/2015

Instrument:

Chem07 04/23/15-1 (BJ06364, BJ06365, BJ06366, BJ06368, BJ06369)

Initial Calibration Verification (CHEM07/SIM 0403):

98% of target compounds met criteria.

The following compounds had %RSDs >20%: Pentachlorophenol (23%)

The following compounds did not meet a minimum response factor of 0.01: None.

Continuing Calibration Verification (CHEM07/0423_03-SIM_0403):

100% of target compounds met criteria. Internal standards were within the 50%-200% deviation from the initial calibration. The following compounds did not meet % deviation criteria: None.

The following compounds did not meet maximum % deviations: None.

The following compounds did not meet recommended response factors: 2-nitrophenol (.055)[0.1]

The following compounds did not meet minimum response factors: None.

Printed Name Damien Drobinski

Position:

Chemist

Date:

4/23/2015



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RCP Certification Report

May 08, 2015

SDG I.D.: GBJ06364

QC (Site Specific)

----- Sample No: BJ06364, QA/QC Batch: 305519 -----

All LCS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), Benzidine(29%), Benzoic Acid(<10%)

All LCSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), Benzidine(27%), Benzoic Acid(<10%)

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

All MS recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 3,3'-Dichlorobenzidine(17%), 4,6-Dinitro-2-methylphenol(17%), 4-Chloroaniline(26%), Aniline(22%), Benzidine(<10%), Benzidine(<10%), Hexachlorocyclopentadiene(<10%)

All MSD recoveries were within 30 - 130 with the following exceptions: 2,4-Dinitrophenol(<10%), 3,3'-Dichlorobenzidine(19%), 4,6-Dinitro-2-methylphenol(<10%), 4-Chloroaniline(27%), Aniline(23%), Benzidine(<10%), Benzoic Acid(13%), Chrysene(131%), Hexachlorocyclopentadiene(<10%)

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.

Temperature Narration

The samples were received at 4C with cooling initiated. (Note acceptance criteria is above freezing up to 6°C)



MATERIALS TESTING, INC.

55 LAURA STREET • NEW HAVEN, CONNECTICUT 06512 • (203) 468-5216 42 BOSTON POST ROAD • WILLIMANTIC, CONNECTICUT 06226 • (860) 423-1972

DATE: 04-27-15

REPORT: M-1151

CLIENT:

Phoenix Environmental Laboratories, Inc.

PO Box 370

Manchester, CT 06040 Altn: Bobbi Algisa

PROJECT: Client's Information

SUBJECT: WASHED SIEVE ANALYSIS (ASTM C-136, D1140)

Material:

Sandy Gravel

Source:

Client's Sample # BJ 06367

Sampled:

by dient and delivered to MTI on 4/24/15

Sieve Size	Percent Passing
1" (25mm)	100
¾" (19mm)	91
1/5" (12.5mm)	79
%" (9.5mm)	72
¼" (6.3mm)	59
#10 (2.0mm)	44
#20 (850µm)	34
#40 (425µm)	23
#100 (150µm)	8
#200 (75µm)	4.2

A material specification was not provided at this time.

Materials Testing, Inc. Richard C. Kearns

William J. Soucy

1cc: Client

Attachment: (1) Chain of Custody.

wib

Test reports may not be regreduced without the express per meaning of Miller Bis. Leaflery, but, Fresults only relate to items tested,



Materials Testing, Inc.

55 LAURA STREET • NEW HAVEN, CONNECTICUT 06512 • (203) 468-5216 42 BOSTON POST ROAD • WILLIMANTIC, CONNECTICUT 06226 • (860) 423-1972

> DATE: 04-27-15

REPORT: M-1150

CLIENT:

Phoenix Environmental Laboratories, Inc.

PO Box 370

Manchester, CT 06040 Attn: Bobbi Aloisa

PROJECT: Client's Information

SUBJECT: WASHED SIEVE ANALYSIS (ASTM C-136, D1140)

Material:

Sandy Gravel

Source:

Client's Sample # BJ 06364

Sampled:

by client and delivered to MTI on 4/24/15

Sieve Size	Percent Passing
1" (25mm)	100
%" (19mm)	99
¼* (12.5mm)	92
%" (9.5mm)	84
¼" (6.3mm)	74
#10 (2.0mm)	51
#20 (850µm)	33
#40 (425µm)	13
#100 (150µm)	1
#200 (75µm)	0.3

A material specification was not provided at this time.

Materials Testing, Inc. Richard C. Kearns

William J. Soucy

1cc: Client

Attachment: (1) Chain of Custody

wlb

Test reparts may cat be reasonated without the express permission of Melecials Testing, Inc. Results only relate to hems tested.

PHOENIX

CHAIN OF CUSTODY RECORD $\mu^0 \nu / c$ Temp 587 East Middle Tumpike, P.O. Box 370, Manchester, CT 06040

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Email: service@phoenixlabs.com Client Services (860)	12	Invoice to:	Analy	THE SERVICE STATES	Time Sampled	X X X	001	1320	0/	A A A A A A A				4/22/15 1602			•
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Environmental Laboratories, Inc.	THOU THIS NOTE	1 L	Client Sample - Information - Identification	WW=wastewater S=soil/solid SL=sludge A=air	Customer Sample Identification	1	AOC-25 5ED-3			-15 JED-6				Sar		rements or Regulations:	
Environmenta	Customer: G2A	GLATONOURY	Sampler's Signature	Matrix Code: DW=drinking water W GW=groundwater SI	Phoenix Sample #	06364 ADC	,	16-267 MC-25	328	100 Sec) 100-30			Palincipal Market	An Gale		Comments, Special Requirements or Regulations: のこSEひえんそめト	

APPENDIX G LABORATORY ANALYTICAL QUALITY ASSESSMENT SUMMARY TABLES

Groundwater Analytical Data Quality Assessment

Amerbelle Mills Rockville, Connecticut

Lab/Lab Report ID:	PEL GBJ10453	PEL GBJ10555	PEL GBJ06358	PEL GBJ17740
Date:	5/8/2015	5/8/2015	5/5/2015	5/20/2015
Sample ID(s):	AM-1, AM-7, ME-1, ME-2, ME-6, MW-01, MW-02, MW-03, GZ-1, GZ-2, GZ-3, GZ-4 and TB043015	AM-7	SW-1, SW-2, SW-3, SW-4, SW-6 and SW-6	GZ-1, GZ-2, ME-2 and TB051815
Surrogates	Within Limits	Within Limits	Within Limits	Within Limits
1.05	Low recovery of SVOC benzidine and high recovery for pentachlorophenol	Within Limits	Within Limits	Within Limits
ICSD	Low recovery of SVOC (benzidine) and VOC (cholormethane, methyl -2-pentanone, acetone, MEK and tetrahydrofuran) and high recovery for SVOC (pentachlorophenol)	Within Limits	Within Limits	Within Limits
Method Blanks	Low levels of Bis(2-ethylhexyl)phthalate was detected in the blank sample.	No blank contamination	Low levels of benz(a)anthracene and Chrysene detected.	No blank contamination
Lab Contaminants	No blank contamination	No blank contamination	N/A	No blank contamination
Calibration	N/A	N/A	N/A	N/A
Other	LCS /LCSD RPD was within acceptance limis,	N/A	N/A	N/A
Conclusion:	A slight low bias for various SVOCs and VOCs is likely. However the results were only slightly out of range and are not expected to impact the usability of the data set for its intended purposes.	No significant quality issues.	Benz(a)anthracene and chrysene were not reported in the samples, therefore no bias is suspected.	No significant quality issues.

 $\frac{Notes.}{\text{PEL} = \text{Phoenix Environmental Laboratory}}$

Groundwater Analytical Data Usability Evaluation

Amerbelle Mills Rockeville, Connecticut

Lab/Lab Renort ID:	PEI CRITAGG	PFL CB110555	PET CRID6359	DEL CRITTA
Date:	5/8/2015	5/8/2015	5/5/2015	5/20/2015
Sample ID(s):	AM-1, AM-7, ME-1, ME-2, ME-6, MW- 01, MW-02, MW-03, GZ-1, GZ-2, GZ-3, GZ-4 and TB043015	AM-7	SW-1, SW-2, SW-3, SW-4, SW-6 and SW-6	GZ-1, GZ-2, ME-2 and TB051815
RCP Deliverables	Yes	Yes	Yes	Yes
Data Package Inspection	ОК	Ю	Ok	OK
Chain of Custody Evaluation	12 Groundwater, 1 Trip blank	1 Groundwater	6 Surface Water	3 Groundwater, 1 Trip Blank
Preservation and Holding Time	, Ok	0%	0/k	OK
Trip and Field Blank Evaluations	No compounds detected in trip blank.	No compounds detected in trip blank.	No compounds detected in trip blank.	No compounds detected in trip blank.
Tentatively Identified Compounds	N/A	N/A	N/A	N/A
Other QC Data	N/A	N/A	N/A	N/A
RL Evaluation; Criteria/RL	Within Limits	Within Limits	Within Limits	Within Limits
Conclusion:	Data is usable for its intended purpose.	Data is usable for its intended purpose.	Data is usable for its intended purpose.	Data is usable for its intended purpose.

Notes: PEL= Phoenix Environmental Laboratory

MS/MSDs	
Lab/Lab Report ID:	PEL GBJ10453
Date:	5/8/2015
Analysis Performed on:	H-Z9
Analysis:	Low Outliers:
SAOCs	2,4-dinitrophenal
	3,3-dichlorobenzidine
	benzidine
	benzo(a)anthracene
	pentachlorophenol
	chrysene
	fluoranthene
	pyrene
Conclusion	
	Since the LCS/LCSD are within limit the data set is
	usable for its intended
	:esodind

^{1.} Full analytical results are available in the associated lab reports.

Site-specific Soil Analytical Quality Control Sample Evaluation Amerbelle Mills Rockville, Connecticut

MS/MSDs					
Lab/Lab Report ID:	PEL GBJ06364	19	PEL GBH92474	PEL GBH90379	H90379
Date:	\$/\$/2015		4/14/2015	4/10/2015	5102
Analysis:	Low Outliers:	High Outliers:	Low Outliers:	Low Outliers:	High Outliers:
Acceptable range	402	130%	40%	40%	130%
SVOCs	2,4-dinitrophenol	chrysene	Bromomethane	chloroethane	dichlorodifluoromethane
	3,3-dichlorobenzidine		Cholorethane	trichlorofluoromethane	
	4,6-dintro-2-methylphenol		Trichlorofluoromethane		
	4-chloroanaline				
	aniline				
	benzidine				
	benzoic acid				
	hexachlorocyclopentadiene				
			LCS and LCSD both within		
	High bias for chrysene does not at	fect the data set for its	limits. No susected low bias due	High bias for chrysene does not affect the data set for its limits. No susceted low bias due High bias for dichlorodifluoromethane does not affect the data set	hane does not affect the data
	intended purpose. Low bias for SVOCs 2,4-	for SVOCs 2,4-	to low MS/MSD recoveries.	for its intended purpose. No low bias for VOCs chloroethane and	bias for VOCs chloroethane a
	dinitrophenol, benzidine and benzoic acid since the	nzoic acid since the	Data usable for its intended	trichlorofluoromethane since the laboratory control recoveries	e laboratory control recoveries
Conclusion	laboratory control recoveries were also low.	s were also low.	purpose	were within range.	in range.

Full analytical results are available in the associated lab reports.
 Only detected constituents exceeding criteria are shown.

Soil Vapor Analytical Data Quality Assessment

Amerbelle Mills Rockville, Connecticut

Lab/Lab Report ID:	PEL GBH89042	PEL GBH88565
Date:	4/1/2015	4/1/2015
Sample ID(s):	SV-13, SV-12, SV-14, SV-15 and SV-16	SV-10, SV-1, SV-6, SV-4, SV-5, SV-9, SV-2, SV-7, SV-11, SV-9, SV-8, SV-3
Surrogates	Within Limits	Within Limits
ICS	High recovery for VOCs bromodichloromethane and trans-1,3-dichloropropene,	High recovery for VOCs benzyl chloride and bromoform
LCSD	Within Limits	Within Limits
Method Blanks	No blank contamination	No blank contamination
Lab Contaminants	No blank contamination	No blank contamination
Calibration	N/A	N/A
Other	N/A	N/A
Conclusion:	High VOC recoveries do not affect the data set. The data is usable for its intended purposes.	High VOC recoveries do not affect the data set. The data is usable for its intended purposes.

Notes: PEL = Phoenix Environmental Laboratory

Soil Vapor Analytical Data Usability Evaluation

Amerbelle Mills Rockeville, Connecticut

Lab/Lab Report ID:	PEL GBH89042	PEL GBH88565
Date:	4/1/2015	4/1/2015
Sample ID(s);	SV-13, SV-12, SV-14, SV-15 and SV-16	SV-10, SV-1, SV-6, SV-4, SV-5, SV-9, SV- 2, SV-7, SV-11, SV-9, SV-8, SV-3
RCP Deliverables	Yes	Yes
Data Package Inspection	ОК	УÓ
Chain of Custody Evaluation	5 Soil Vapor	11 Soil Vapor
Preservation and Holding Time	OĶ	Ŏ
Trip and Field Blank Evaluations	N/A	N/A
Tentatively Identified Compounds	N/A	N/A
Other QC Data	N/A	N/A
RL Evaluation: Criteria/RL	Within Limits	Within Limits
Conclusion;	Data is usable for its intended purpose.	Data is usable for its intended purpose.

Notes: PEL= Phoenix Environmental Laboratory

Lab/Lab Analysis Per	MS/MSDs	
Analysis Perform	Lab/Lab Report	10:
	O	ate:
SVOCs	Analysis Performed	on:
	Analysis:	
	SVOCs	
Concincion	Conclusion	ion
		No Significant issues

1. Full analytical results are available in the associated lab reports.

Soil Analytical Data Quality Assessment

Amerbelle Mills Rockland, Connecticut

Lab/Lab Report ID: PEL GBJ06364		PEL GBJ04837	PEL GBJ04246	PEL GBJ03546	PEL GBJ03029	PEL GBJ02364	PEL GBJ00652	PEL GBH99838	
Date:	5/5/2015	4/28/2015	4/24/2015	4/27/2015	4/22/2015	4/20/2015	4/15/2015	4/14/2015	
	0,0,200								
Sample ID(s):	SED-1, SED-2, SED-3, SED-4, SED-5 and SED-6	AOC-5-4 (6-8) and AOC-5-6 (4.5-6.5)	AOC-5-3(2-3.3) and AOC-5-5 (4-5.5)	AOC-4-2(0.5-2), AOC-4-3(02), AOC-4-4(2-4), AOC-4-5(4-6) and TB041615	AOC-5-2(5-7)	AOC-6-1(0.5-2) and AOC-6-2(0.2-2)	AOC-19-8(0.5-2.5), AOC-19- 9(0.5-2) and TB040915	AOC-4-1(4-6) and TB040815	
	Withn Limits	Withn Limits	Withn Limits	Within Limits	Within limits	Within limits	Within limits	Within limits	
Surrogates									
	Low recovery for SVOCs 2,4-dinitrophenol, benzidine and benzoic acid.	Low recovery for SVOC benzidine	Low recovery for SVOC benzidine High recovery for SVOCs 2-nitroaniline and 4-nitrophenol.		No Outliers No Outliers		No Outliers	No Outliers	
LCSD	Low recovery for SVOCs 2,4-dinitrophenol, benzidine and benzoic acid.	Low recovery for SVOC benzidine	Low recovery for SVOC benzidine	High recovery for SVOCs 2-nitroaniline and 4-nitrophenol.	Low recovery for ETPH.	No Outliers	Low recovery for ETPH.	No Outliers	
Method Blanks	No Blank Contamination	No Blank Contamination	No Blank Contamination	No Blank Contamination	No Blank Contamination	No blank contamination	No blank contamination	No blank contamination	
Lab Contaminants	No Blank Contamination	No Blank Contamination	No Blank Contamination	No Blank Contamination	No Blank Contamination	No blank contamination	No blank contamination	No blank contamination	
Calibration	Ok	Ok	Ok	Ok	Ok	N/A	N/A	N/A	
Other	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Conclusion:	Low bias for SVOCs 2,4-dinitrophenol, benzidine and benzoic acid since the matrix spike recoveries were also low. These SVOCs were not reported in site samples and are not expected to affect the usability of the data set for its intended purpose.	Slight low bias for benzidine. However, it was not reported in samples. Therefore, this does not affect the usabilit of the data for its intended purpose.	Slight low bias for benzidine. However, it was not reported in samples. Therefore, this does not affect the usabilit of the data for its intended purpose.	High LCS or LCSD bias does not affect the usability of the data for its intended purpose.	All other QC criteria within limits, therefore, no low bias is suspected for ETPH. The data is usable for its intended purpose.	No significant quality issues	All other QC criteria within limits, therefore, no low bias is suspected for ETPH. The data is usable for its intended purpose.	No significant quality issues apparent.	

Notes:
1. PEL = Phoenix Environmental Laboratory, Manchester, CT

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Soil Analytical Data Quality Assessment

Amerbelle Mills Rockland, Connecticut

Lab/Lab Report ID:	PEL GBH92474	PEL GBH92148	PEL GBH89849	PEL GBH90379		
Date:	4/14/2015	4/9/2015	4/7/2015	4/10/2015		
Sample ID(s):	AOC-18-5(0.5-2), AOC-18-5(14-16), AOC-17-1(2-4), AOC-19-1(0.5-2), AOC-19-1(8-10), AOC-19-2(0.5-2), AOC-19-2(6-7.5), AOC-19-3(0.5-2), AOC-19-3(5-7), AOC-19-4(0.5-2), AOC-19-4(10-12), AOC-19-5(8-10), AOC-19-5(13.5-15.5), AOC-19-6(0.5-2), AOC-19-6(4.5-6.5), AOC-19-7(2-4), AOC-19-7(6-8) and TB040615	AOC-13-1(0.5-2), AOC-13-2(0.5-2), AOC-13-3(0.5-2), AOC-18-1(0.8-2.8), AOC-18-1(7-9), AOC-18-2(0.5-2.5), AOC-18-2(5.5-7.5), AOC-18-3(0.5-	AOC-1-2(8-10), AOC-1-1(8-10), AOC-2-1(0.5-2), AOC-2-2(0.5-	AOC-7-1(0.5-2), AOC-7-2(0.5-2), AOC-20-1(9-11), AOC-20-2(0.5-2), AOC-16-1(9.5-2), AOC-15-1(0.25-2), AOC-15-2(0.25-2), AOC15-3(0.5-2) and TB-033115		
Surrogates	Within Limits	Within Limits	Within Limits	Within Limits		
LCS	No Outliers	High recovery for VOC dichlorodifluoromethane.	Low recovery for SVOC benzoic acid	Within Limits		
LCSD	No Outliers	High recovery for VOC dichlorodifluoromethane.	Low recovery for SVOC benzoic acid	Within Limits		
Method Blanks	No blank contamination	No blank contamination	No blank contamination	No blank contamination		
Lab Contaminants	No blank contamination	No blank contamination	No blank contamination	No blank contamination		
Calibration	N/A	N/A	N/A	N/A		
Other	N/A	N/A	N/A	N/A		
Conclusion;	No significant quality issues apparent.	High bias does not affect the usability of the data for its intended purpose.	A slight low bias for SVOC benzoic acid. This was not reported in site samples. Therefore, the data is usable for its intended purpose.	No significant quality issues apparer		

Soil Analytical Data Usability Evaluation

Amerbelle Mills Rockville, Connecticut

Lab/Lab Report ID:	PEL GBJ06364	PEL GBJ04837	PEL GBJ04246	PEL GBJ03546	PEL GBJ03029	PEL GBJ02364	PEL GBJ00652	PEL GBH99838	PEL GBH92474	PEL GBH92148	PEL GBH89849	PEL GBH90379
Date:	5/5/2015	4/28/2015	4/24/2015	4/27/2015	4/22/2015	4/20/2015	4/15/2015	4/14/2015	4/14/2015	4/9/2015	4/7/2015	4/10/2015
Sample ID(s);	SED-1, SED-2, SED-3, SED-4, SED-5 and SED-6	AOC-5-4 (6-8) and AOC-5-6 (4,5-6,5)	AOC-5-3(2-3,3) and AOC-5-5 (4-5,5)	AOC-4-2(0.5-2), AOC-4- 3(0,-2), AOC-4-4(2-4), AOC 4-5(4-6) and TB041615	AOC-5-2(5-7)	AOC-6-1(0,5-2) and AOC-6-2(0,2-2)	AOC-19-8(0,5-2,5), AOC 19-9(0,5-2) and TB040915	AOC-4-1(4-6) and TB040815	AOC-18-5(0,5-2), AOC-18-5(14-16), AOC-17-1(2-4), AOC-19-1(0,5-2), AOC-19-1(8-10), AOC-19-2(0,5-2), AOC-19-2(6-7,5), AOC-19-3(0,5-2), AOC-19-3(5-7), AOC 19-4(0,5-2), AOC-19-4(10-12), AOC-19-5(8-10), AOC-19-5(13,5-15,5), AOC-19-6(0,5-2), AOC-19-6(4,5-6,5), AOC-19-7(2-4), AOC-19-7(6-8) and TB040615	7.5), AOC-18-3(0.5-2.5), AOC-18-3(8-10),	10), AOC-2-1(0.5-2), AOC-2 2(0.5-2), AOC-2-3(0.5-2),	AOC-20-3(0.5-2), AOC-16-1(0.5-2) AOC-16-1(9-11), AOC-15-1(0.25-2)
RCP Deliverables	OK	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Data Package Inspection	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Chain of Custody Evaluation	6 Sediment	2 Soil	2 Soil	4 Soil and 1 trip blank	1 Soil	2 soils	2 soils and 1 trip blank	1 soil and 1 trip blank	17 soils and 1 trip blank	12 soils and 1 trip blank	7 soils and 1 trip blank	10 soils and 1 trip blank
Preservation and Holding Time	ok	Ok	Ok	Ok	Ok	ОК	Ok	Ok	Ok	Ok	Ok	Ok
Trip and Field Blank Evaluations	Ok	N/A	N/A	Ok	Ok	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tentatively Identified Compounds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other QC Data	No issues noted	No issues noted	No issues noted.	No issues noted,	No issues noted	No issues noted	No issues noted	No issues noted	No issues noted	No issues noted	No issues noted	No issues noted
RL Evaluation: Criteria/RL	ok	Comparable to requested RSR criteria	Comparable to requested RSR criteria	Comparable to requested RSR criteria	Comparable to requested RSR criteria	Comparable to requested RSR criteria	Comparable to requested RSR criteria	Comparable to requested RSR criteria	Comparable to requested RSR criteria	Comparable to requested RSR criteria	Comparable to requested RSR criteria	Comparable to requested RSR criteria
Conclusion:	Data is usable as reported	Data is usable as reported.	Data is usable as reported.	Data is usable as reported	Data is usable as reported	Data is usable as reported.	Data is usable as reported	Data is usable as reported.	Data is usable as reported	Data is usable as reported	Data is usable as reported,	Data is usable as reported,

Notes:
1. PEL = Phoenix Environmental Laboratory, Manchester, CT

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