

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

**HERR FOODS, INC. MANUFACTURING FACILITY
273 OLD BALTIMORE PIKE
WEST NOTTINGHAM TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA**

PREPARED FOR:

**Herr Foods, Inc.
20 Herr Drive
Nottingham, PA 19362**

PREPARED BY:

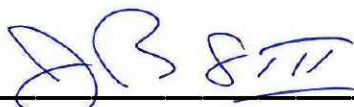
**RETTEW Associates, Inc.
3020 Columbia Avenue
Lancaster, Pennsylvania 17603**

RETTEW Project No. 101722001

November 17, 2014



*Edward Dziedzic, P.G.
Senior Geologist*



*John B. Stipe III, CPSS
Director of Geosciences*

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

**HERR FOODS, INC. MANUFACTURING FACILITY
273 OLD BALTIMORE PIKE
NOTTINGHAM, PENNSYLVANIA
RETTEW PROJECT NO. 101722001**

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	SITE DESCRIPTION AND BACKGROUND	1
2.1	PHASE I ESA SUMMARY.....	2
3.0	GEOLOGIC AND HYDROGEOLOGIC SETTING	2
4.0	SITE ASSESSMENT METHODS.....	3
4.1	GEOPHYSICAL SURVEY	3
4.2	SOIL BORING INSTALLATION AND SOIL SAMPLE ANALYSIS	4
4.3	GROUNDWATER SAMPLING AND ANALYSIS.....	5
5.0	SOIL QUALITY.....	5
6.0	GROUNDWATER QUALITY	6
7.0	CONCLUSIONS AND RECOMMENDATIONS.....	6

LIST OF FIGURES

Figure 1	Site Location Map
Figure 2	Site Schematic
Figure 3	Geology Map
Figure 4	Truck Garage Site Schematic

LIST OF TABLES

Table 1	Soil Sample Analytical Data Summary - Organics
Table 2	Soil Sample Analytical Data Summary - Inorganics

LIST OF ATTACHMENTS

Appendix A:	Soil Boring Logs
Appendix B:	Laboratory Analytical Reports

1.0 INTRODUCTION

This Limited Phase II Environmental Site Assessment Report (Report) has been prepared by RETTEW Associates, Inc. on behalf of Herr Foods, Inc. (Herr's), to document environmental assessment activities conducted at Herr's manufacturing facility (Site), located at 273 Old Baltimore Pike in West Nottingham Township, Chester County, Pennsylvania. A Site location map is included as **Figure 1**.

A previous Phase I Environmental Site Assessment (ESA) conducted at the Site by RETTEW in April 2014 identified several recognized environmental conditions (RECs) associated with both past and current land uses. The identified RECs include the following:

- A former 15,000-gallon heating oil underground storage tank (UST) known as Tank 001;
- Existing USTs - Tanks 002 (20,000-gallon caustic solution railcar), 008 (10,000-gallon gasoline) and 009 (10,000-gallon diesel);
- The floor drains and septic system associated with the Truck Garage;
- Five subgrade hydraulic lifts located in the Truck Garage and Visitor's Center; and
- The former on-lot septic disposal system located adjacent to the Visitor's Center.

The purpose of this Limited Phase II ESA was to investigate current soil quality at each REC and compare results to applicable remediation standards. The findings were used to develop recommendations for corrective action in accordance with Pennsylvania's Land Recycling and Remediation Standards Act (Act 2) standards, PA Code, Title 25, Chapter 250 titled *Administration of the Land Recycling Program*, and PA Code, Title 25, Chapter 245 titled *Administration of the Storage Tank Spill and Prevention Act*.

2.0 SITE DESCRIPTION AND BACKGROUND

The Site is a 13.8-acre property owned and operated by Herr's and historically for snack food manufacturing. The Site is improved with three permanent structures: the main manufacturing facility (known as Nottingham Plant 1), a wastewater treatment plant (WWTP) and a Truck Garage. Paved access drives, parking lots and grass lawn areas cover the remainder of the Site as shown on **Figure 2**.

Nottingham Plant 1 is a 312,000 square-foot manufacturing plant and originally began as a much smaller building in the early 1950's. Various additions/modifications occurred thereafter in 1963, 1967, 1977, 1979, 1980, 1983, 1986, 1989, 1998, and 1992. Nottingham Plant 1 contains a Visitor's Center on the northwest side of the facility, and office space in the middle of the facility. The southern portion of the facility is a truck washing/maintenance area, with the remainder of the facility being in production or warehouse. The facility is served by a water supply well operated by Herr's on an adjacent parcel south of the Site.

Sanitary and process wastewater generated at Nottingham Plant 1 is treated at the WWTP, which was constructed in 1978. The WWTP is located on the eastern side of the property adjacent to the truck washing/maintenance area. Treated wastewater is discharged off-site to a land application facility in accordance with a Pennsylvania Department of Environmental Protection (PADEP) Part II Water Quality Permit.

The Truck Garage was built in 1978 and is located on the southern end of the Site. This building is used for the maintenance of Herr's fleet vehicles and includes regulated UST systems, dispensers, and a gasoline and diesel fueling station. The UST systems include a 10,000-gallon gasoline tank (Tank 008) and a 10,000-gallon diesel tank (Tank 009). These tanks were installed in 1997 and replaced five USTs (Tank 003 through Tank 007). During the removal, petroleum impacted soil was encountered and

removed. A closure report submitted to the PADEP dated July 2, 1997 detailing the removal of Tank 003 through Tank 007. In correspondence dated November 17, 1997, PADEP indicated that they accepted the Closure Report, and that “no further action is required regarding the closure of the tanks”. Four sub-slab hydraulic lifts are located within the service bays of the Truck Garage for vehicle maintenance. The Truck Garage utilizes a well for water supply, and wastewater is discharged to an on-lot septic system and drainfield located on the south and east side of the garage.

2.1 PHASE I ESA SUMMARY

A Phase I Environmental Site Assessment (ESA) conducted at the Site by RETTEW in April 2014 to satisfy environmental due diligence as part of loan application package. The Phase I ESA identified several RECs associated with both past and current land uses that warranted further evaluation. These RECs were identified as follows.

Former Septic System – Nottingham Plant 1: According to Herr’s personnel, Nottingham Plant 1 was previously served by an on-lot septic system located in the northwest portion of the Site just south of the Visitor’s Center. The former septic system has since been abandoned.

Former Hydraulic Lift – Nottingham Plant 1: According to Herr’s personnel, Nottingham Plant 1 had a vehicle maintenance garage prior to facility expansion where the Visitor’s Center is currently located. It was reported that the garage contained a subgrade hydraulic lift.

Former 15,000-gallon heating oil UST (Tank 001) - Nottingham Plant 1: Herr’s personnel indicated this UST was removed, but no closure or location documentation was available.

Existing 20,000-gallon caustic UST (Tank 002) - Nottingham Plant 1: This UST was reported to be part of the wastewater treatment system. Herr’s personnel indicated that the UST is a buried railroad car that is no longer in service, but has not been removed. Tank 002 was replaced with a 4,500-gallon AST located inside the facility. According to Herr’s personnel, the UST is full of water.

Floor Drains and Septic System – Truck Garage: Several trench-style floor drains are located within the Truck Garage. According to Herr’s personnel, the floor drains previously discharged to the on-lot septic system.

Based on the identified RECs, RETTEW recommended a limited investigation of soil quality in the vicinity of the RECs to confirm the presence or absence of environmental impacts. In addition, RETTEW recommended the collection of a water sample from the supply well at the Truck Garage for laboratory analysis.

3.0 GEOLOGIC AND HYDROGEOLOGIC SETTING

According to publications of the Pennsylvania Bureau of Topographic and Geologic Survey¹, the Site is located in the Piedmont Upland Section of the Piedmont Physiographic Province of Pennsylvania, and is underlain by complexly folded and faulted schist, gneiss, quartzite and some saprolite. Local topography is characterized by broad, rounded to flat-topped hills and shallow valleys. According to the USGS 7.5-minute Rising Sun Quadrangle (**Figure 1**), the Site is situated at an approximate elevation of 540 feet. Surface topography slopes gently to the southeast. An unnamed tributary (UNT) of North East Creek is located approximately 1,000 feet southeast of the Site and flows generally to the south and southeast.

¹ W.D. Sevon, 2000, Map 13, *Physiographic Provinces of Pennsylvania*, Pennsylvania Bureau of Topographic and Geologic Survey, Harrisburg, Pennsylvania.

Soils mapped on-site by the U.S. Department of Agriculture (USDA) Soil Conservation Service's Web Soil Survey are described as the Glenelg silt loam, 3 to 8 percent slopes (GgB), the Glenville silt loam, 3 to 8 percent slopes (GIB), the Urban land, 0 to 8 percent slopes (UrB), and the Urban land-Glenelg complex, 0 to 8 percent slopes (UrmB)². The Urban land map units are comprised of highly disturbed or worked soils that show the effects of earth grading and compaction. Urban land is mapped over the majority of the Site.

The Glenelg soil series consists of very deep, well drained soils formed in residuum weathered from micaceous schist on uplands of the Blue Ridge and the Northern Piedmont. Depth to bedrock is six to 10 feet or more. Saturated hydraulic conductivity is moderately high in the subsoil and moderately high to high in the substratum.

The Glenville soil series consists of very deep moderately well drained or somewhat poorly drained soils formed primarily in colluvium or residuum affected by soil creep that is weathered from phyllite, micaceous schist, granitic gneiss and other acid crystalline rocks. Depth to bedrock is more than five feet. The profile contains a dense, restrictive horizon called a fragipan that restricts root and water movement. Saturated hydraulic conductivity is moderately low to moderately high.

The geology mapped by the Chester County Water Resources Authority, in cooperation with the USGS³, indicates that the Site is underlain by the Wissahickon Schist of the Glenarm Supergroup (see **Figure 3**). The Wissahickon Schist is described as light to medium gray schist and gneiss. The rocks of the Glenarm Supergroup surround massifs of older pre-Cambrian felsic and ultramafic gneiss basement rock. Ultramafic rock (i.e., serpentinite) associated with the Baltimore Mafic Complex is mapped approximately 1,000 feet south of the Site.

In the area of the Site, the fractured bedrock aquifers are characterized as crystalline rocks (Wissahickon Schist³). In the crystalline rocks, groundwater moves through the granular primary porosity of the weathered saprolite to a network of interconnected secondary fractures and joints in the bedrock aquifer. The groundwater flow systems are local and discharge to streams. Groundwater flows from areas of higher elevation to adjacent streams and flow paths tend to be short. Groundwater basins and surface water basins tend to coincide. Crystalline rock aquifers are generally under water-table (unconfined) conditions and the water table generally mimics surface topography.

4.0 SITE ASSESSMENT METHODS

4.1 GEOPHYSICAL SURVEY

RETTEW contracted Atlantic Leak Detection & Utility Locating of Boothwyn, Pennsylvania, to locate and markout underground utilities and metallic UST anomalies utilizing ground penetrating radar (GPR) and electromagnetic (EM) methods at the Site on October 9, 2014. The purpose of the survey was to locate potential subsurface utility conflicts in the area of the RECs prior to installing soil borings. During the GPR survey, no UST systems were detected in the area of Tank 001.

A discontinuous, linear anomaly was detected with GPR in the area of the former septic system. The anomaly was detected exiting the west side of Nottingham Plant 1, where it terminated abruptly. The anomaly was assumed to be decommissioned piping associated with the former septic system.

²Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/app/> accessed [November 3, 2014].

³Sloto, R., 1994, Geology, Hydrology, and Ground-Water Quality of Chester County, Pennsylvania, Chester County Water Resources Authority, Water Resource Report 2, West Chester, Pennsylvania.

The EM survey in the area of the Tank 002 (20,000-gallon buried railcar tank) confirmed the presence of multiple electrical conduits on both sides of the tank. Due to the presence of electrical utilities, the water line into Nottingham Plant 1, and the wastewater main on the south side of the tank to the WWTP, the proposed soil boring in the area of Tank 002 was not installed.

During the geophysical survey, the discharge of the Truck Garage shop floor drain was traced to a large sub-slab pit under the south garage bay (see **Figure 4**) using flowing water. The discharge line from the pit was traced to a septic tank on the south side of the Truck Garage using GPR. Flowing water was then added to the pit and observed to enter the on-lot septic system at the two septic lids (**Figure 4**). Flow was also observed at the two septic lids when the restroom toilet was flushed several times. Based on the observed flows, the restroom, floor drains, and pit discharge to the septic drainfield located east of the Truck Garage.

4.2 SOIL BORING INSTALLATION AND SOIL SAMPLE ANALYSIS

On October 16, 2014, 10 soil borings (identified as SB-1 through SB-10) were advanced at the Site to investigate soil quality using track-mounted, direct-push Geoprobe® tooling provided by Odyssey Environmental Services, Inc. of Harrisburg, Pennsylvania. Soil boring locations were selected based on the criteria listed in the following table.

Soil Boring	REC/Location	Rationale
SB-1	Former septic system	South (downgradient) side of former septic system.
SB-2	Former Tank 001	East side of former UST.
SB-3	Former Tank 001	North side of former UST.
SB-4	Former Tank 001	West side of former UST.
SB-5	Former hydraulic lift	East (downgradient) side of former hydraulic lift.
SB-6	Truck Garage hydraulic lift	North exterior side of eastern hydraulic lift.
SB-7	Truck Garage hydraulic lift	North exterior side of central hydraulic lift.
SB-8	Truck Garage hydraulic lift	North exterior side of western hydraulic lift.
SB-9	Truck Garage floor drains	West (upgradient) side of septic drainfield.
SB-10	Truck Garage floor drains	East (downgradient) side of septic drainfield.
SB-11	Tank 002	Boring not installed due to utility conflicts.

RETTEW personnel documented the lithology encountered in each soil boring and field-screened the soil using a photoionization detector (PID) to detect the presence of volatile organic petroleum compounds. The soil borings were advanced to a terminal depth of 20 feet, with the exception of SB-3, SB-4 and SB-5, which were terminated at equipment refusal. Equipment refusal ranged from 11 to 18 feet below grade. Lithology encountered consisted of asphalt, sub-base and gravel fill, and soils were generally classified by RETTEW as micaceous silt and sand overlying saprolitic schist and gneiss. Perched groundwater was noted in all borings except SB-1 and SB-3 at depths ranging from five feet (SB-10) to 16 feet (SB-2 and SB-5). Soil boring logs documenting field observations are provided in **Appendix A**.

The soil sample with the highest PID reading in each soil boring was submitted for laboratory analysis. A soil sample was collected at the terminal depth in the borings where PID readings were less than one part per million (ppm). The observed PID readings were generally less than 10 ppm, with the exception of SB-6 (234 ppm at 10 feet below grade), SB-7 (252 ppm at eight feet below grade) and SB-8 (214 ppm at seven feet below grade) at the Truck Garage. Each soil sample was preserved in the field, placed in a cooler with ice, and delivered to Lancaster Laboratories Environmental (LLE) of Lancaster, Pennsylvania, following standard chain-of-custody procedures. Soil samples collected at the Site were submitted for the following laboratory analyses.

Soil Boring	REC/Location	Sample Analyses
SB-1	Former septic system	Priority Pollutant List VOCs/SVOCs/metals
SB-2	Former Tank 001	PADEP Short List of Petroleum Products for fuel oil #2
SB-3	Former Tank 001	PADEP Short List of Petroleum Products for fuel oil #2
SB-4	Former Tank 001	PADEP Short List of Petroleum Products for fuel oil #2
SB-5	Former hydraulic lift	PADEP Short List of Petroleum Products for lubricating oils
SB-6	Truck Garage hydraulic lift	PADEP Short List of Petroleum Products for lubricating oils
SB-7	Truck Garage hydraulic lift	PADEP Short List of Petroleum Products for lubricating oils
SB-8	Truck Garage hydraulic lift	PADEP Short List of Petroleum Products for lubricating oils
SB-9	Truck Garage floor drains	Priority Pollutant List VOCs/SVOCs/metals
SB-10	Truck Garage floor drains	Priority Pollutant List VOCs/SVOCs/metals

Notes

VOCs = Volatile organic compounds

SVOCs = Semi-volatile organic compounds

Laboratory analytical reports are included as **Appendix B**. A soil sample analytical data summary for organic substances is presented as **Table 1**. A soil sample analytical data summary for inorganic substances is presented as **Table 2**.

4.3 GROUNDWATER SAMPLING AND ANALYSIS

RETTEW collected a groundwater sample from the supply well at the Truck Garage on October 16, 2014. The sample was collected at the utility sink inside the Truck Garage. Prior to sample collection, the spigot was opened and allowed to flow for 15 minutes to purge standing water from the system. Following purging, groundwater samples were collected directly into laboratory bottleware, placed in a cooler with ice, and delivered following standard chain-of-custody procedures to LLE for laboratory analysis. The groundwater sample was analyzed for Priority Pollutant List VOCs, SVOCs and metals. The groundwater sample laboratory analytical report is included as **Appendix B**.

5.0 SOIL QUALITY

Soil sample analytical results for organic substances (**Table 1**) shows that benzene was detected in two borings (SB-7 and SB-8) at concentrations exceeding the Act 2 non-residential Statewide Health Standard of 0.5 milligrams per kilogram (mg/kg). Naphthalene was detected in SB-8 at a concentration exceeding the Act 2 non-residential Statewide Health Standard of 25 mg/kg. Generally, most of the Short List Products for lubricating oils were detected at SB-7 and SB-8 at concentrations below the non-residential Statewide Health Standards. Benzene, naphthalene, flourene, phenanthrene and pyrene were also detected at SB-6 at concentrations below the Act 2 non-residential Statewide Health Standards. It is noted that benzene was detected at a concentration below the non-residential Statewide Health Standard at SB-10. No organic substances were detected in the other soil borings.

The detected concentrations of benzene at SB-7 and SB-8 exceed their soil-to-groundwater Medium Specific Concentrations (MSCs) protective of groundwater. Similarly, the detected concentration of naphthalene at SB-8 exceeds its soil-to-groundwater MSC. This suggests that benzene and naphthalene could potentially leach from the soil to the groundwater at concentrations exceeding their respective groundwater MSCs. The occurrence of VOCs (i.e., benzene and naphthalene) downgradient of the UST system also suggests that the UST system could potentially be a source for the soil impacts. The detection of benzene at SB-10 suggests that VOCs may be entering the septic drainfield via the Truck Garage floor drains and pit.

Soil sample analytical results for inorganic substances (**Table 2**) shows that several metals were detected in samples collected from SB-1, SB-9, and SB-10; however, all detected concentrations are below their applicable Act 2 non-residential Statewide Health Standards. The concentrations of detected metals at SB-9 and SB-10 (near the Truck Garage septic drainfield) are generally higher compared to concentrations of detected metals at SB-1. This further suggests that metals may be entering the on-lot septic system via the Truck Garage floor drains and pit.

6.0 GROUNDWATER QUALITY

Groundwater analytical results for the water supply well indicate that organic substances were not detected in the sample collected. The only inorganic substances detected were copper and zinc, which were present at concentrations of 0.0053 mg/l and 0.0244 mg/l, respectively. These concentrations are below the Act 2 non-residential Statewide Health Standard for copper of 1.0 milligrams per liter (mg/l) and zinc (2.0 mg/l).

7.0 CONCLUSIONS AND RECOMMENDATIONS

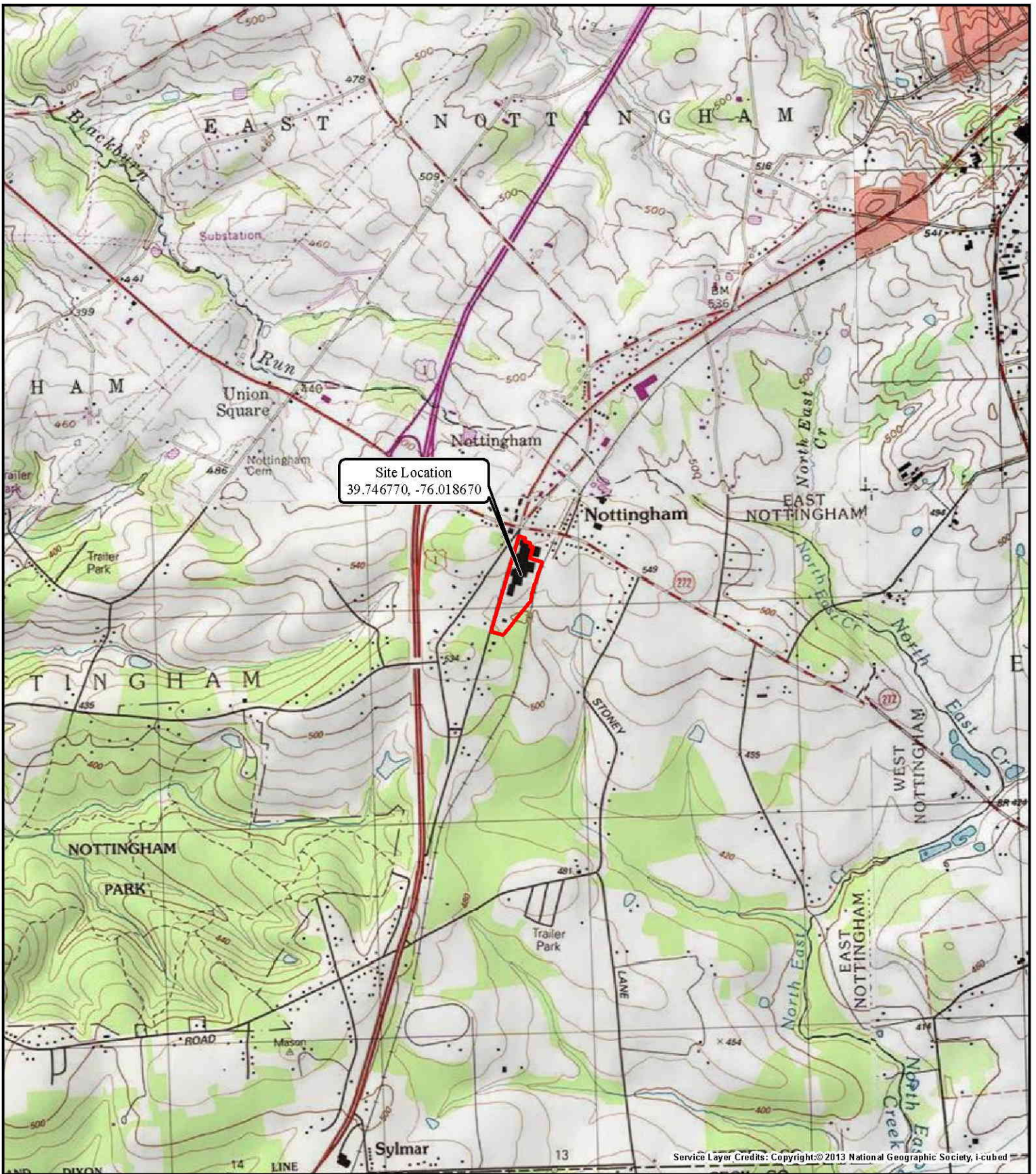
The findings of the Limited Phase II ESA performed by RETTEW at the Site indicate that current soil quality does not meet the Act 2 non-residential Statewide Health Standards for benzene and naphthalene on the north side of the Truck Garage. Benzene and naphthalene exceed their soil-to groundwater MSCs. This condition is reportable to the PADEP. RETTEW recommends that Herr's follow PADEP's release reporting protocols.

A horizontal and vertical soil quality assessment is also recommended to investigate the extent of petroleum impacts at the Truck Garage. This should include a sufficient number of soil borings upgradient (i.e., around the current UST system) and downgradient to determine the full extent of soil impacts. Although organic substances were not detected in the water supply well at the Truck Garage, a groundwater quality assessment is recommended to confirm groundwater quality and delineate the extent of dissolved-phase petroleum groundwater impacts. If the current regulated UST system is determined to be the source of the soil impacts, site characterization (i.e., soil and groundwater quality assessment) must follow the corrective action process of Chapter 245.

The findings of the Limited Phase II ESA also indicate that the Truck Garage floor drains and pit discharge to the on-lot septic system. This condition could potentially result in a discharge of regulated substances to the environment. RETTEW recommends that wastewater contained in the pit be recovered and disposed properly off-site, and that the floor drains and pit be grouted and permanently closed to prevent future discharges.

Tank 002 (20,000-gallon buried railcar tank) was not investigated during the Limited Phase II ESA due to potential conflicts with underground utilities surrounding the tank. RETTEW understands that Tank 002 is no longer in use and has been replaced with a 4,500-gallon AST located inside Nottingham Plant 1. Closure of Tank 002 is recommended in accordance with PADEP protocols for regulated tank systems.

FIGURES



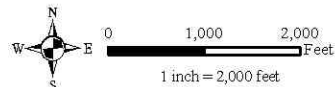
 Approximate Parcel Boundary

Herr Foods, Inc.

273 Old Baltimore Pike Site

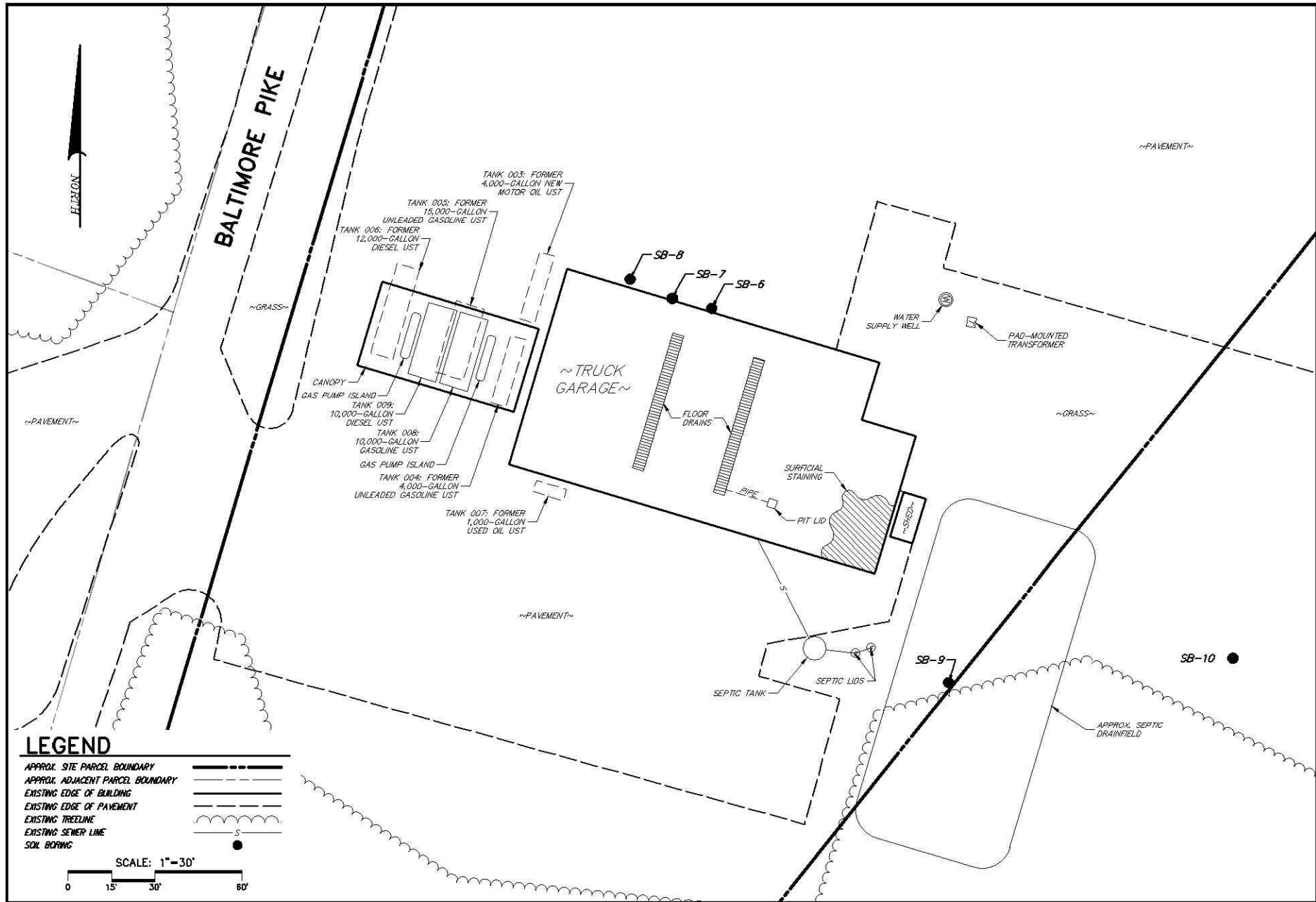
Figure 1 - Site Location Map

Project Number: 101722000



RETTEW





REVIEW

REVIEW Associates, Inc.
3020 Columbia Avenue, Lancaster, PA 17603
Phone (717) 394-3721 • Fax (717) 394-1063
Engineers • Planners • Surveyors • Landscape Architects
Environmental Consultants

FIGURE 4

TRUCK GARAGE SITE SCHEMATIC

273 OLD BALTIMORE PIKE

WEST NOTTINGHAM TOWNSHIP CHESTER COUNTY, PA

DRAWN BY: JME

DATE: NOVEMBER 12, 2014

SCALE: AS NOTED

DWG. NO.: 1 OF 1

© JETTERALINE 10/2004 - 2/2014 ALL RIGHTS RESERVED (S) 10/2004 - 10/2014

TABLES

Table 1
Soil Sample Analytical Data Summary - Organics
Herr Foods, Inc. - 273 Old Baltimore Pike, Nottingham, Pennsylvania
RETTEW Project No. 101722001

PADEP Short List Petroleum Products for Nos. 4, 5, and 6 Fuel Oil	Act 2 Statewide Health Standard Medium Specific Concentrations (MSCs)							Sample Identifications (Depth in feet below grade below sample I.D.)									
	Soil to Groundwater (Used Aquifers)				Direct Contact												
	TDS ≤ 2500				Residential	Non-Residential											
	Residential		Non-residential			Surface Soil	Subsurface Soil										
	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value													
	20 ft.	16 ft.	12 ft.	11 ft.				18 ft.	10 ft.	8 ft.	7 ft.	10 ft.	5 ft.				
BENZENE	0.5	0.13	0.5	0.13	57	290	330	< 0.0006	< 0.031	< 0.024	< 0.025	< 0.026	0.120	22	21	< 0.0006	0.008
ETHYLBENZENE	70	46	70	46	10,000	10,000	10,000	< 0.001	< 0.062	< 0.048	< 0.050	NA	NA	NA	NA	< 0.001	< 0.001
ISOPROPYLBENZENE	84	600	350	2500	7,700	10,000	10,000	NA	< 0.062	< 0.048	< 0.050	NA	NA	NA	NA	NA	NA
METHYL TERT BUTYL ETHER	2	0.28	2	0.28	620	3,200	3,700	NA	< 0.031	< 0.024	< 0.025	NA	NA	NA	NA	NA	NA
NAPHTHALENE	10	25	10	25	4,400	56,000	190,000	< 0.004	< 0.062	< 0.048	< 0.050	< 0.051	1,500	18	30	< 0.005	< 0.045
TOLUENE	100	44	100	44	10,000	10,000	10,000	< 0.001	< 0.062	< 0.048	< 0.050	NA	NA	NA	NA	< 0.001	< 0.001
1,2,4-TRIMETHYLBENZENE	1.5	8.4	6.2	35	130	560	640	NA	< 0.062	< 0.048	< 0.050	NA	NA	NA	NA	NA	NA
1,3,5-TRIMETHYLBENZENE	1.3	2.3	5.3	9.3	110	480	550	NA	< 0.062	< 0.048	< 0.050	NA	NA	NA	NA	NA	NA
ANTHRACENE	6.6	350	6.6	350	66,000	190,000	190,000	< 0.004	NA	NA	NA	< 0.004	< 0.004	0.029	0.029	< 0.005	< 0.045
BENZO(A)ANTHRACENE	0.029	25	0.36	320	5.7	110	190,000	< 0.004	NA	NA	NA	< 0.004	< 0.004	0.010	0.010	< 0.005	< 0.045
BENZO(A)PYRENE	0.02	46	0.02	46	0.57	11	190,000	< 0.004	NA	NA	NA	< 0.004	< 0.004	0.006	< 0.004	< 0.005	< 0.045
BENZO(B)FLUORANTHENE	0.029	40	0.12	170	5.7	110	190,000	< 0.004	NA	NA	NA	< 0.004	< 0.004	< 0.004	< 0.004	< 0.005	< 0.045
BENZO(G,H,I)PERYLENE	0.026	180	0.026	180	13,000	170,000	190,000	< 0.004	NA	NA	NA	< 0.004	< 0.004	0.008	< 0.004	< 0.005	< 0.045
CHRYSENE	0.19	230	0.19	230	570	11,000	190,000	< 0.004	NA	NA	NA	< 0.004	< 0.004	0.011	0.010	< 0.005	< 0.045
FLOURENE	150	3,000	190	3,800	8,800	110,000	190,000	< 0.004	NA	NA	NA	< 0.004	0.007	0.092	0.089	< 0.005	< 0.045
PHENANTHRENE	110	10,000	110	10,000	66,000	190,000	190,000	< 0.004	NA	NA	NA	< 0.004	0.011	0.150	0.150	< 0.005	< 0.045
PYRENE	13	2,200	13	2,200	6,600	84,000	190,000	< 0.004	NA	NA	NA	< 0.004	0.005	0.049	0.045	< 0.005	< 0.045

Notes:

- 1) All units in milligrams per kilogram (mg/kg)
- 2) Bold & shaded MSCs represent the applicable Act 2 non-residential Statewide Health Standard.
- 3) Shaded results represent an exceedance of the applicable non-residential Statewide Health Standard.
- 4) Soil samples were collected on February 12, 2014.
- 5) PADEP Short List petroleum products in *italics* are COPIACs.

Table 2
Soil Sample Analytical Data Summary - Inorganics
Herr Foods, Inc. - 273 Old Baltimore Pike, Nottingham, Pennsylvania
RETTEW Project No. 101722001

PPL Metals	Act 2 Statewide Health Standard Medium Specific Concentrations (MSCs)							Sample Identifications (Depth in feet below grade below sample I.D.)		
	Soil to Groundwater (Used Aquifers)				Direct Contact					
	TDS ≤ 2500				Residential	Non-Residential				
	Residential		Non-residential			Surface Soil	Subsurface Soil			
	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value						
	0-15 feet	0-2 feet	2-15 feet	SB-1 20 ft.	SB-9 10 ft.	SB-10 5 ft.				
ANTIMONY, TOTAL	0.6	27	0.6	27	88	1,100	190,000	1.62	2.02	3.26
ARSENIC, TOTAL	1	29	1	29	12	53	190,000	< 0.675	< 0.861	2.45
BERYLLIUM, TOTAL	0.4	320	0.4	320	440	5,600	190,000	0.891	1.46	1.40
CADMIUM, TOTAL	0.5	38	0.5	38	110	1,400	190,000	< 0.0348	< 0.0444	< 0.0435
CHROMIUM, TOTAL	10	190,000	10	190,000	190,000	190,000	190,000	14.4	23.5	30.1
COPPER, TOTAL	100	43,000	100	43,000	8,100	100,000	190,000	20.2	7.75	25.7
LEAD, TOTAL	0.5	450	0.5	450	500	1,000	190,000	1.60	7.51	11.6
NICKEL, TOTAL	10	650	10	650	4,400	56,000	190,000	6.01	16.4	31.8
SELENIUM, TOTAL	5	26	5	26	1,100	14,000	190,000	< 0.464	< 0.592	< 0.580
SILVER, TOTAL	10	84	10	84	1,100	14,000	190,000	< 0.200	< 0.255	< 0.251
THALLIUM, TOTAL	0.2	14	0.2	14	15	200	190,000	< 0.843	1.37	1.77
ZINC, TOTAL	200	12,000	200	12,000	66,000	190,000	190,000	14.9	57.5	72.6
MERCURY, TOTAL	0.2	10	0.2	10	35	450	190,000	< 0.0101	< 0.0130	< 0.0135

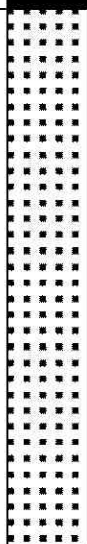
Notes:

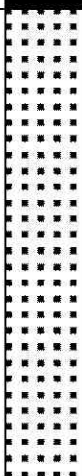
- 1) All units in milligrams per kilogram (mg/kg)
- 2) Bold & shaded MSCs represent the applicable Act 2 residential Statewide Health Standard.
- 3) Shaded results represent an exceedence of the applicable residential Statewide Health Standard.
- 4) Soil samples were collected on February 12, 2014.

APPENDIX A
Soil Boring Logs

Herr Foods, Inc. 273 Old Baltimore Pike Nottingham, Pennsylvania Project No: 101722001		Date Completed : 10/16/2014 Boring Diameter : 2-inch Drilling Method : Track Mounted Geoprobe Sampling Method : Direct Push, 5-Foot Interval RETTEW Rep. : E. Dziedzic		Surface Elev. : NA Datum : NA Groundwater Meas. : NA Groundwater Elev. : NA Groundwater Time : NA				
Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; TOPSOIL and turf grass						
1	-1	1.0-3.0'; Pea gravel stone fill, 20% recovery.						
2	-2							
3	-3	3.0-13.0'; Completely decomposed miscaceous GNEISS saprolite, brown and black with white banding, dry.						
4	-4							
5	-5						0.4	
6	-6							
7	-7						0.4	
8	-8						0.4	
9	-9						0.4	
10	-10						0.4	
11	-11						0.4	
12	-12						0.5	
13	-13	13.0-20.0'; Completely decomposed miscaceous GNEISS saprolite, green, black and white banding, dry.					0.5	
14	-14						0.5	
15	-15						1.2	
16	-16						3.6	
17	-17						2.2	
18	-18						3.4	
19	-19				SB-1 @ 20 ft.	15:55	5.5	
20	-20	20.0'; End of boring						
21								

Herr Foods, Inc. 273 Old Baltimore Pike Nottingham, Pennsylvania Project No: 101722001		Date Completed : 10/16/2014 Boring Diameter : 2-inch Drilling Method : Track Mounted Geoprobe Sampling Method : Direct Push, 5-Foot Interval RETTEW Rep. : E. Dziedzic		Surface Elev. : NA Datum : NA Groundwater Meas. : 16.0 ft. Groundwater Elev. : NA Groundwater Time : NA				
Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; ASPHALT and BALLAST STONE	FB					
1	-1	1.0-4.0'; Crushed stone FILL.					0.0	
2	-2						0.0	
3	-3		SM				0.2	
4	-4	4.0-6.0'; Silty SAND, brown, dry.					0.2	
5	-5						0.2	
6	-6	6.0-12.0'; Silty CLAY, brown and gray, mottled and banded, dry.	CH				0.3	
7	-7						0.1	
8	-8						0.1	
9	-9						0.1	
10	-10						0.2	
11	-11						0.2	
12	-12	12.0-15.0'; Completely weathered GNEISS, micaceous, brown, banded at 14', moist.					0.1	
13	-13						0.1	
14	-14						0.1	
15	-15	15.0-20.0'; Completely weathered SCHIST, micaceous, brown and black, wet at 16 feet.			SB-2 @ 16 ft.	11:00	0.2	
16	-16						0.2	
17	-17						0.2	
18	-18						0.2	
19	-19							
20	-20	20.0'; End of boring.						
21								

Herr Foods, Inc. 273 Old Baltimore Pike Nottingham, Pennsylvania Project No: 101722001		Date Completed : 10/16//2014 Boring Diameter : 2-inch Drilling Method : Track Mounted Geoprobe Sampling Method : Direct Push, 5-Foot Interval RETTEW Rep. : E. Dziedzic		Surface Elev. : NA Datum : NA Groundwater Meas. : NA Groundwater Elev. : NA Groundwater Time : NA				
Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; ASPHALT and BALLAST STONE						
1	-1	1.0-9.0'; Crushed stone FILL, dry.					0.0	50%
2	-2						0.0	
3	-3						0.2	
4	-4						0.2	
5	-5						0.3	
6	-6						0.2	
7	-7	9.0-12.0'; Silty SAND, gray, micaceous, dry.	SM				0.0	
10	-10						0.0	
11	-11						0.3	
12	-12	12.0-13'; Weathered SCHIST, light gray, dry.			SB-3 @ 12 ft..	10:15	0.3	
13	-13	13.0'; End of boring at geoprobe refusal						
14	-14							
15	-15							
16	-16							
17	-17							
18	-18							
19	-19							
20								

Herr Foods, Inc. 273 Old Baltimore Pike Nottingham, Pennsylvania Project No: 101722001		Date Completed : 10/16/2014 Boring Diameter : 2-inch Drilling Method : Track Mounted Geoprobe Sampling Method : Direct Push, 5-Foot Interval RETTEW Rep. : E. Dziedzic	Surface Elev. : NA Datum : NA Groundwater Meas. : 11.0 ft. Groundwater Elev. : NA Groundwater Time : NA					
Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; ASPHALT and BALLAST STONE						
1	-1	1.0-8.0'; Crushed stone FILL, dry.					0.2	
2	-2						0.2	
3	-3						0.3	
4	-4						0.2	
5	-5						0.2	
6	-6						0.0	
7	-7						0.0	
8	-8	8.0-10.0'; Clayey SILT, brown, micaceous, moist.	ML				0.0	
9	-9	0.1						
10	-10	10.0-11.0'; Weathered SCHIST, greenish gray, wet at 11 feet.			SB-4 @ 11 ft.	10:40	0.3	
11	-11	11.0'; End of boring at geoprobe refusal						
12	-12							
13	-13							
14	-14							
15	-15							
16	-16							
17	-17							
18	-18							
19	-19							
20								

Herr Foods, Inc. 273 Old Baltimore Pike Nottingham, Pennsylvania Project No: 101722001	Date Completed : 10/16/2014 Boring Diameter : 2-inch Drilling Method : Track Mounted Geoprobe Sampling Method : Direct Push, 5-Foot Interval RETTEW Rep. : E. Dziedzic	Surface Elev. : NA Datum : NA Groundwater Meas. : 16.0 ft. Groundwater Elev. : NA Groundwater Time : NA
---	--	---

Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; ASPHALT and BALLAST STONE						
1	-1	1.0-9.0'; Silty SAND, micaceous, brown, dry.					0.0	
2	-2						0.0	
3	-3						0.0	
4	-4						0.0	
5	-5		SM				0.0	
6	-6						0.2	
7	-7						0.2	
8	-8						0.2	
9	-9	9.0-16.0'; Completely decomposed miscaceous GNEISS saprolite, brown, black, and reddish brown banding, dry.					0.2	
10	-10						0.4	
11	-11						0.2	
12	-12						0.3	
13	-13						0.3	
14	-14						0.3	
15	-15						0.3	
16	-16	16.0-18.5'; Completely decomposed miscaceous GNEISS saprolite, banded, slight petroleum odor, wet at 16 feet.					0.2	
17	-17						3.8	
18	-18				SB-5 @18 ft.	9:30	11.4	
19	-19	18.5'; End of boring at geoprobe refusal						
20								

Herr Foods, Inc. 273 Old Baltimore Pike Nottingham, Pennsylvania Project No: 101722001		Date Completed : 10/16/2014 Boring Diameter : 2-inch Drilling Method : Track Mounted Geoprobe Sampling Method : Direct Push, 5-Foot Interval RETTEW Rep. : E. Dziedzic		Surface Elev. : NA Datum : NA Groundwater Meas. : 10.0 ft. Groundwater Elev. : NA Groundwater Time : NA				
Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; ASPHALT and BALLAST STONE						
1	-1	1.0-5.0'; No recovery, very soft.	SM				0.0	
2	-2							
3	-3							
4	-4							
5	-5	5.0-10.0'; SILTY SAND, micaceous, grayish-brown, very soft, 30% recovery.	SM				62	
6	-6							
7	-7							
8	-8							
9	-9	10.0-20.0'; Completely decomposed micaceous SCHIST, brown, gray and black, petroleum odor, wet at 10 feet.			SB-6 @ 10 ft.	13:30	234	
11	-11						215	
12	-12						59	
13	-13						154	
14	-14						71	
15	-15						77	
16	-16						28	
17	-17							
18	-18						7.5	
19	-19							
20	-20						20.0'; End of boring.	
21								

Herr Foods, Inc. 273 Old Baltimore Pike Nottingham, Pennsylvania Project No: 101722001	Date Completed : 10/16/2014 Boring Diameter : 2-inch Drilling Method : Track Mounted Geoprobe Sampling Method : Direct Push, 5-Foot Interval RETTEW Rep. : E. Dziedzic	Surface Elev. : NA Datum : NA Groundwater Meas. : 11.0 ft. Groundwater Elev. : NA Groundwater Time : NA
---	--	---

Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; ASPHALT and BALLAST STONE						
1	-1	1.0-7.0'; SILTY CLAY, brown, micaceous, petroleum odor, moist.	CL				0.0	
2	-2						0.4	
3	-3						0.6	
4	-4						4	
5	-5						239	
6	-6						127	
7	-7	7.0-10.0'; SAND, micaceous, light brown, petroleum odor.					205	
8	-8		SM		SB-7 @ 8 ft.	13:00	252	
9	-9						215	
10	-10	10.0-14.0'; Completely decomposed micaceous SCHIST saprolite, light brown, petroleum odor, wet at 11 feet.					205	
11	-11							
12	-12						164	
13	-13							
14	-14	14.0-20.0'; Completely decomposed micaceous SCHIST saprolite, grayish brown, wet at 11 feet..					58	
15	-15						57	
16	-16						45	
17	-17						106	
18	-18						12	
19	-19							
20	-20	20.0'; End of boring.						
21								

Herr Foods, Inc. 273 Old Baltimore Pike Nottingham, Pennsylvania Project No: 101722001		Date Completed : 10/16/2014 Boring Diameter : 2-inch Drilling Method : Track Mounted Geoprobe Sampling Method : Direct Push, 5-Foot Interval RETTEW Rep. : E. Dziedzic		Surface Elev. : NA Datum : NA Groundwater Meas. : 15.0 ft. Groundwater Elev. : NA Groundwater Time : NA				
Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; ASPHALT and BALLAST STONE						
1	-1	1.0-5.0'; CLAYEY SILT, grayish brown, micaceous, petroleum odor, dry.	ML				0.0	
2	-2						2.0	
3	-3						11.5	
4	-4						61.7	
5	-5	5.0-7.0'; SANDY SILT, micaceous, light brown, petroleum odors, moist.	ML				154	
6	-6						161	
7	-7	7.0-11.0'; SAND, micaceous, light brown with weathered schist fragments, moist.	SM		SB-8 @ 7 ft.	11:55	214	
8	-8						192	
9	-9						130	
10	-10						164	
11	-11	11.0-20.0'; Completely decomposed micaceous SCHIST, grayish brown, wet at 15 feet.					56	
12	-12						28	
13	-13						19	
14	-14						11	
15	-15						8.8	
16	-16						4.0	
17	-17						4.5	
18	-18						2.1	
19	-19						2.9	
20	-20	20.0'; End of boring.						
21	-21							

Herr Foods, Inc.
273 Old Baltimore Pike
Nottingham, Pennsylvania
Project No: 101722001

Date Completed : 10/16/2014
Boring Diameter : 2-inch
Drilling Method : Track Mounted Geoprobe
Sampling Method : Direct Push, 5-Foot Interval
RETTEW Rep. : E. Dziedzic

Surface Elev. : NA
Datum : NA
Groundwater Meas. : 10.0 ft.
Groundwater Elev. : NA
Groundwater Time : NA

Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; TOPSOIL, dark brown.						
1	-1	1.0-5.0'; SILTY CLAY, light brown, micaceous, moist.	CL				0.2	
2	-2						0.2	
3	-3						0.5	
4	-4						0.5	
5	-5	5.0-13.0'; Completely decomposed micaceous SCHIST saprolite, light brown and gray, wet at 10 feet.					0.6	
6	-6						0.5	
7	-7						0.5	
8	-8						0.5	
9	-9						0.8	
10	-10						1.0	
11	-11				SB-9 @ 10 ft.	14:05		
12	-12						0.5	
13	-13	13.0-18.0'; Micaceous SCHIST saprolite, greenish-gray, moist.					0.5	
14	-14						0.4	
15	-15						0.7	
16	-16						0.4	
17	-17						0.6	
18	-18	11.0-20.0'; Micaceous SCHIST saprolite, brown, moist.					0.6	
19	-19						0.4	
20	-20	20.0'; End of boring.						
21								

Herr Foods, Inc.
273 Old Baltimore Pike
Nottingham, Pennsylvania
Project No: 101722001

Date Completed : 10/16/2014
Boring Diameter : 2-inch
Drilling Method : Track Mounted Geoprobe
Sampling Method : Direct Push, 5-Foot Interval
RETTEW Rep. : E. Dziedzic

Surface Elev. : NA
Datum : NA
Groundwater Meas. : 5.0 ft.
Groundwater Elev. : NA
Groundwater Time : NA

Depth in Feet	Surf. Elev. 0	DESCRIPTION	USCS	GRAPHIC	Sample Name	Sample Time	PID (ppm)	Recovery (%)
0	0	0.0-1.0'; TOPSOIL, dark brown.						
1	-1	1.0-5.0'; CLAYEY SILT, brown, micaceous, moist, very soft, 20% recovery.	ML					
2	-2						0.4	
3	-3							
4	-4							
5	-5	5.0-10.0'; Completely decomposed micaceous GNEISS saprolite, brown and gray, soft, 50% recovery, wet at 5 feet.			SB-10 @ 5 ft.	14:40	0.4	
6	-6							
7	-7							
8	-8						0.3	
9	-9							
10	-10	10.0-15.0'; Micaceous GNEISS saprolite, gray.					0.3	
11	-11						0.4	
12	-12						0.4	
13	-13						0.4	
14	-14						0.4	
15	-15	15.0'; End of boring.					0.4	
16	-16							
17	-17							
18	-18							
19	-19							
20	-20							
21								

APPENDIX B
Laboratory Analytical Reports

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

October 27, 2014

Project: Project 101722001

Submittal Date: 10/16/2014

Group Number: 1511613

PO Number: 101722001

State of Sample Origin: PA

Client Sample DescriptionSB-5 @ 18 Ft Soil
SB-6 @ 10 Ft Soil
SB-7 @ 8 Ft Soil
SB-8 @ 7 Ft Soil
SB-2 @ 16 Ft Soil
SB-3 @ 12 Ft Soil
SB-4 @ 11 Ft Soil
SB-9 @ 10 Ft Soil
SB-10 @ 5 Ft Soil
SB-1 Soil
Supply Well Water
Trip Blank WaterLancaster Labs (LL) #7640183
7640184
7640185
7640186
7640187
7640188
7640189
7640190
7640191
7640192
7640193
7640194

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC
COPY TO

Rettew Associates

Attn: Ed Dziedzic

Respectfully Submitted,


Luz I. Garcia
Specialist

(717) 556-7262

Sample Description: SB-5 @ 18 Ft Soil
101722001

LL Sample # SW 7640183
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 09:30 by ED

Rettew Associates

Submitted: 10/16/2014 18:05

3020 Columbia Avenue

Reported: 10/27/2014 12:36

Lancaster PA 17603-4011

20015

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles SW-846 8260B					
10237	Benzene	71-43-2	N.D.	26	46.9
10237	Naphthalene	91-20-3	N.D.	51	46.9
GC/MS Semivolatiles SW-846 8270C					
10724	Anthracene	120-12-7	N.D.	4	1
10724	Benzo(a)anthracene	56-55-3	N.D.	4	1
10724	Benzo(a)pyrene	50-32-8	N.D.	4	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	4	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	4	1
10724	Chrysene	218-01-9	N.D.	4	1
10724	Fluorene	86-73-7	N.D.	4	1
10724	Phenanthrene	85-01-8	N.D.	4	1
10724	Pyrene	129-00-0	N.D.	4	1
Wet Chemistry SM 2540 G-1997					
00111	Moisture	n.a.	8.2	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Benzene, Naphthalene	SW-846 8260B	1	Q142941AA	10/21/2014 19:31	Sarah A Guill	46.9
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 09:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	14293SLF026	10/22/2014 11:52	Joseph M Gambler	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	14293SLF026	10/21/2014 09:30	David S Schrum	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: SB-6 @ 10 Ft Soil
101722001

LL Sample # SW 7640184
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 13:30 by ED

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

20016

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles SW-846 8260B					
10237	Benzene	71-43-2	120 J	25	41.88
10237	Naphthalene	91-20-3	1,500	51	41.88
GC/MS Semivolatiles SW-846 8270C					
10724	Anthracene	120-12-7	N.D.	4	1
10724	Benzo(a)anthracene	56-55-3	N.D.	4	1
10724	Benzo(a)pyrene	50-32-8	N.D.	4	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	4	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	4	1
10724	Chrysene	218-01-9	N.D.	4	1
10724	Fluorene	86-73-7	7 J	4	1
10724	Phenanthrene	85-01-8	11 J	4	1
10724	Pyrene	129-00-0	5 J	4	1
Wet Chemistry SM 2540 G-1997					
00111	Moisture	n.a.	17.1	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Benzene, Naphthalene	SW-846 8260B	1	Q142941AA	10/21/2014 19:54	Sarah A Guill	41.88
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 13:30	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	14293SLF026	10/22/2014 13:11	Joseph M Gambler	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	14293SLF026	10/21/2014 09:30	David S Schrum	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: SB-7 @ 8 Ft Soil
101722001

LL Sample # SW 7640185
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 13:00 by ED

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

20017

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles SW-846 8260B					
10237	Benzene	71-43-2	22,000	110	168.92
10237	Naphthalene	91-20-3	18,000	210	168.92
GC/MS Semivolatiles SW-846 8270C					
10724	Anthracene	120-12-7	29	4	1
10724	Benzo(a)anthracene	56-55-3	10 J	4	1
10724	Benzo(a)pyrene	50-32-8	6 J	4	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	4	1
10724	Benzo(g,h,i)perylene	191-24-2	8 J	4	1
10724	Chrysene	218-01-9	11 J	4	1
10724	Fluorene	86-73-7	92	4	1
10724	Phenanthrene	85-01-8	150	4	1
10724	Pyrene	129-00-0	49	4	1
Wet Chemistry SM 2540 G-1997					
00111	Moisture	n.a.	20.7	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Benzene, Naphthalene	SW-846 8260B	1	Q142951AA	10/22/2014 17:25	Sarah A Guill	168.92
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 13:00	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	14293SLF026	10/22/2014 13:37	Joseph M Gambler	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	14293SLF026	10/21/2014 09:30	David S Schrum	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: SB-8 @ 7 Ft Soil
101722001

LL Sample # SW 7640186
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 11:55 by ED

Rettew Associates

Submitted: 10/16/2014 18:05

3020 Columbia Avenue

Reported: 10/27/2014 12:36

Lancaster PA 17603-4011

20018

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles SW-846 8260B					
10237	Benzene	71-43-2	21,000	290	460.41
10237	Naphthalene	91-20-3	30,000	570	460.41
GC/MS Semivolatiles SW-846 8270C					
10724	Anthracene	120-12-7	29	4	1
10724	Benzo(a)anthracene	56-55-3	10 J	4	1
10724	Benzo(a)pyrene	50-32-8	N.D.	4	1
10724	Benzo(b)fluoranthene	205-99-2	N.D.	4	1
10724	Benzo(g,h,i)perylene	191-24-2	N.D.	4	1
10724	Chrysene	218-01-9	10 J	4	1
10724	Fluorene	86-73-7	89	4	1
10724	Phenanthrene	85-01-8	150	4	1
10724	Pyrene	129-00-0	45	4	1
Wet Chemistry SM 2540 G-1997					
00111	Moisture	n.a.	19.5	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Benzene, Naphthalene	SW-846 8260B	1	Q142951AA	10/22/2014 17:48	Sarah A Guill	460.41
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 11:55	Client Supplied	1
10724	PAH 8270 (microwave)	SW-846 8270C	1	14293SLF026	10/22/2014 14:03	Joseph M Gambler	1
10814	BNA Soil Microwave PAH	SW-846 3546	1	14293SLF026	10/21/2014 09:30	David S Schrum	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: SB-2 @ 16 Ft Soil
101722001

LL Sample # SW 7640187
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 11:00 by ED

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

22001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	
10237	Benzene	71-43-2	N.D.	31	44.8
10237	Ethylbenzene	100-41-4	N.D.	62	44.8
10237	Isopropylbenzene	98-82-8	N.D.	62	44.8
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	31	44.8
10237	Naphthalene	91-20-3	N.D.	62	44.8
10237	Toluene	108-88-3	N.D.	62	44.8
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	62	44.8
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	62	44.8

Wet Chemistry	SM 2540 G-1997	%	%	
00111	Moisture	n.a.	27.8	0.50
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTE/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	Q142941AA	10/21/2014 15:35	Sarah A Guill	44.8
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 11:00	Client Supplied	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: SB-3 @ 12 Ft Soil
101722001

LL Sample # SW 7640188
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 10:15 by ED

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

32001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	
10237	Benzene	71-43-2	N.D.	24	39
10237	Ethylbenzene	100-41-4	N.D.	48	39
10237	Isopropylbenzene	98-82-8	N.D.	48	39
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	24	39
10237	Naphthalene	91-20-3	N.D.	48	39
10237	Toluene	108-88-3	N.D.	48	39
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	48	39
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	48	39

Wet Chemistry	SM 2540 G-1997	%	%	
00111	Moisture	n.a.	19.0	0.50
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTE/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	Q142941AA	10/21/2014 15:58	Sarah A Guill	39
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 10:15	Client Supplied	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: SB-4 @ 11 Ft Soil
101722001

LL Sample # SW 7640189
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 10:40 by ED

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

42001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	
10237	Benzene	71-43-2	N.D.	25	42.16
10237	Ethylbenzene	100-41-4	N.D.	50	42.16
10237	Isopropylbenzene	98-82-8	N.D.	50	42.16
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	25	42.16
10237	Naphthalene	91-20-3	N.D.	50	42.16
10237	Toluene	108-88-3	N.D.	50	42.16
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	50	42.16
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	50	42.16

Wet Chemistry	SM 2540 G-1997	%	%	
00111	Moisture	n.a.	15.2	0.50
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	BTE/MTBE/Cumene/Naph/TMBs	SW-846 8260B	1	Q142941AA	10/21/2014 16:21	Sarah A Guill	42.16
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 10:40	Client Supplied	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: SB-9 @ 10 Ft Soil
101722001

LL Sample # SW 7640190
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 14:05 by ED

Rettew Associates

Submitted: 10/16/2014 18:05

3020 Columbia Avenue

Reported: 10/27/2014 12:36

Lancaster PA 17603-4011

92001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	
10237	Acrolein	107-02-8	N.D.	25	0.88
10237	Acrylonitrile	107-13-1	N.D.	5	0.88
10237	Benzene	71-43-2	N.D.	0.6	0.88
10237	Bromodichloromethane	75-27-4	N.D.	1	0.88
10237	Bromoform	75-25-2	N.D.	1	0.88
10237	Bromomethane	74-83-9	N.D.	2	0.88
10237	Carbon Tetrachloride	56-23-5	N.D.	1	0.88
10237	Chlorobenzene	108-90-7	N.D.	1	0.88
10237	Chloroethane	75-00-3	N.D.	2	0.88
10237	Chloroform	67-66-3	N.D.	1	0.88
10237	Chloromethane	74-87-3	N.D.	2	0.88
10237	Dibromochloromethane	124-48-1	N.D.	1	0.88
10237	1,1-Dichloroethane	75-34-3	N.D.	1	0.88
10237	1,2-Dichloroethane	107-06-2	N.D.	1	0.88
10237	1,1-Dichloroethene	75-35-4	N.D.	1	0.88
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	0.88
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	0.88
10237	1,2-Dichloropropane	78-87-5	N.D.	1	0.88
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	0.88
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	0.88
10237	Ethylbenzene	100-41-4	N.D.	1	0.88
10237	Methylene Chloride	75-09-2	N.D.	2	0.88
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	0.88
10237	Tetrachloroethene	127-18-4	N.D.	1	0.88
10237	Toluene	108-88-3	N.D.	1	0.88
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	0.88
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	0.88
10237	Trichloroethene	79-01-6	N.D.	1	0.88
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.88
10237	Vinyl Chloride	75-01-4	N.D.	1	0.88
10237	Xylene (Total)	1330-20-7	N.D.	1	0.88
2-Chloroethyl vinyl ether is an acid labile compound and cannot be reported due to acid preservation of the samples and standards in this method.					
GC/MS	Semivolatiles	SW-846 8270C	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	N.D.	5	1
10727	Acenaphthylene	208-96-8	N.D.	5	1
10727	Anthracene	120-12-7	N.D.	5	1
10727	Benzidine	92-87-5	N.D.	950	1
10727	Benzo(a)anthracene	56-55-3	N.D.	5	1
10727	Benzo(a)pyrene	50-32-8	N.D.	5	1
10727	Benzo(b)fluoranthene	205-99-2	N.D.	5	1
10727	Benzo(g,h,i)perylene	191-24-2	N.D.	5	1
10727	Benzo(k)fluoranthene	207-08-9	N.D.	5	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	23	1
10727	Butylbenzylphthalate	85-68-7	N.D.	91	1
10727	Di-n-butylphthalate	84-74-2	N.D.	91	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	23	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	23	1
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	23	1

Sample Description: SB-9 @ 10 Ft Soil
101722001

LL Sample # SW 7640190
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 14:05 by ED

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

92001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/kg	ug/kg	
10727	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	23	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
10727	2-Chloronaphthalene	91-58-7	N.D.	10	1
10727	2-Chlorophenol	95-57-8	N.D.	23	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	23	1
10727	Chrysene	218-01-9	N.D.	5	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	5	1
10727	1,2-Dichlorobenzene	95-50-1	N.D.	23	1
10727	1,3-Dichlorobenzene	541-73-1	N.D.	23	1
10727	1,4-Dichlorobenzene	106-46-7	N.D.	23	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	140	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	23	1
10727	Diethylphthalate	84-66-2	N.D.	91	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	23	1
10727	Dimethylphthalate	131-11-3	N.D.	91	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	230	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	410	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	91	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	23	1
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	23	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	91	1
10727	Fluoranthene	206-44-0	N.D.	5	1
10727	Fluorene	86-73-7	N.D.	5	1
10727	Hexachlorobenzene	118-74-1	N.D.	5	1
10727	Hexachlorobutadiene	87-68-3	N.D.	23	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	230	1
10727	Hexachloroethane	67-72-1	N.D.	45	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	5	1
10727	Isophorone	78-59-1	N.D.	23	1
10727	Naphthalene	91-20-3	N.D.	5	1
10727	Nitrobenzene	98-95-3	N.D.	23	1
10727	2-Nitrophenol	88-75-5	N.D.	23	1
10727	4-Nitrophenol	100-02-7	N.D.	230	1
10727	N-Nitrosodimethylamine	62-75-9	N.D.	91	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	23	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	23	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
10727	Di-n-octylphthalate	117-84-0	N.D.	91	1
10727	Pentachlorophenol	87-86-5	N.D.	45	1
10727	Phenanthrene	85-01-8	N.D.	5	1
10727	Phenol	108-95-2	N.D.	23	1
10727	Pyrene	129-00-0	N.D.	5	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	23	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	23	1

Metals

SW-846 6010B

mg/kg

mg/kg

Sample Description: SB-9 @ 10 Ft Soil
101722001

LL Sample # SW 7640190
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 14:05 by ED

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

92001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	2.02 J	0.444	1
06935	Arsenic	7440-38-2	N.D.	0.861	1
06947	Beryllium	7440-41-7	1.46	0.0901	1
06949	Cadmium	7440-43-9	N.D.	0.0444	1
06951	Chromium	7440-47-3	23.5	0.148	1
06953	Copper	7440-50-8	7.75	0.444	1
06955	Lead	7439-92-1	7.51	0.672	1
06961	Nickel	7440-02-0	16.4	0.202	1
06936	Selenium	7782-49-2	N.D.	0.592	1
06966	Silver	7440-22-4	N.D.	0.255	1
06925	Thallium	7440-28-0	1.37 J	1.08	1
06972	Zinc	7440-66-6	57.5	0.350	1
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0130	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	27.8	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PPL/TCL Volatiles in Soil	SW-846 8260B	1	X142941AA	10/21/2014 16:40	Chelsea B Stong	0.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201428935895	10/16/2014 14:05	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201428935895	10/16/2014 14:05	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 14:05	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	14290SLB026	10/20/2014 15:53	Joseph M Gambler	1
10809	BNA Soil Microwave	SW-846 3546	1	14290SLB026	10/17/2014 07:30	Olivia Arosemena	1
06944	Antimony	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06935	Arsenic	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06947	Beryllium	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1

Sample Description: SB-9 @ 10 Ft Soil
101722001

LL Sample # SW 7640190
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 14:05 by ED

Retnew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

92001

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06949	Cadmium	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06925	Thallium	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	142905708001	10/21/2014 23:49	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	142905711001	10/20/2014 11:20	Damary Valentin	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	142905708001	10/20/2014 08:45	Christopher M Klumpp	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	142905711001	10/20/2014 08:36	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: SB-10 @ 5 Ft Soil
101722001

LL Sample # SW 7640191
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 14:40 by ED

Rettew Associates

Submitted: 10/16/2014 18:05

3020 Columbia Avenue

Reported: 10/27/2014 12:36

Lancaster PA 17603-4011

10001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	
10237	Acrolein	107-02-8	N.D.	28	1.02
10237	Acrylonitrile	107-13-1	N.D.	6	1.02
10237	Benzene	71-43-2	0.8 J	0.7	1.02
10237	Bromodichloromethane	75-27-4	N.D.	1	1.02
10237	Bromoform	75-25-2	N.D.	1	1.02
10237	Bromomethane	74-83-9	N.D.	3	1.02
10237	Carbon Tetrachloride	56-23-5	N.D.	1	1.02
10237	Chlorobenzene	108-90-7	N.D.	1	1.02
10237	Chloroethane	75-00-3	N.D.	3	1.02
10237	Chloroform	67-66-3	N.D.	1	1.02
10237	Chloromethane	74-87-3	N.D.	3	1.02
10237	Dibromochloromethane	124-48-1	N.D.	1	1.02
10237	1,1-Dichloroethane	75-34-3	N.D.	1	1.02
10237	1,2-Dichloroethane	107-06-2	N.D.	1	1.02
10237	1,1-Dichloroethene	75-35-4	N.D.	1	1.02
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	1.02
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	1.02
10237	1,2-Dichloropropane	78-87-5	N.D.	1	1.02
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	1.02
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	1.02
10237	Ethylbenzene	100-41-4	N.D.	1	1.02
10237	Methylene Chloride	75-09-2	N.D.	3	1.02
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	1.02
10237	Tetrachloroethene	127-18-4	N.D.	1	1.02
10237	Toluene	108-88-3	N.D.	1	1.02
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	1.02
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	1.02
10237	Trichloroethene	79-01-6	N.D.	1	1.02
10237	Trichlorofluoromethane	75-69-4	N.D.	3	1.02
10237	Vinyl Chloride	75-01-4	N.D.	1	1.02
10237	Xylene (Total)	1330-20-7	N.D.	1	1.02

2-Chloroethyl vinyl ether is an acid labile compound and cannot be reported due to acid preservation of the samples and standards in this method.

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.

GC/MS	Semivolatiles	SW-846 8270C	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	N.D.	45	10
10727	Acenaphthylene	208-96-8	N.D.	45	10
10727	Anthracene	120-12-7	N.D.	45	10
10727	Benzidine	92-87-5	N.D.	9,400	10
10727	Benzo(a)anthracene	56-55-3	N.D.	45	10
10727	Benzo(a)pyrene	50-32-8	46 J	45	10
10727	Benzo(b)fluoranthene	205-99-2	54 J	45	10
10727	Benzo(g,h,i)perylene	191-24-2	N.D.	45	10
10727	Benzo(k)fluoranthene	207-08-9	N.D.	45	10

Sample Description: SB-10 @ 5 Ft Soil
101722001

LL Sample # SW 7640191
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 14:40 by ED

Rettew Associates

Submitted: 10/16/2014 18:05

3020 Columbia Avenue

Reported: 10/27/2014 12:36

Lancaster PA 17603-4011

10001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/kg	ug/kg	
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	220	10
10727	Butylbenzylphthalate	85-68-7	N.D.	900	10
10727	Di-n-butylphthalate	84-74-2	N.D.	900	10
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	220	10
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	220	10
10727	bis(2-Chloroethyl) ether	111-44-4	N.D.	220	10
10727	bis(2-Chloroisopropyl) ether	39638-32-9	N.D.	220	10
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
10727	2-Chloronaphthalene	91-58-7	N.D.	94	10
10727	2-Chlorophenol	95-57-8	N.D.	220	10
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	220	10
10727	Chrysene	218-01-9	N.D.	45	10
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	45	10
10727	1,2-Dichlorobenzene	95-50-1	N.D.	220	10
10727	1,3-Dichlorobenzene	541-73-1	N.D.	220	10
10727	1,4-Dichlorobenzene	106-46-7	N.D.	220	10
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	1,300	10
10727	2,4-Dichlorophenol	120-83-2	N.D.	220	10
10727	Diethylphthalate	84-66-2	N.D.	900	10
10727	2,4-Dimethylphenol	105-67-9	N.D.	220	10
10727	Dimethylphthalate	131-11-3	N.D.	900	10
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	2,200	10
10727	2,4-Dinitrophenol	51-28-5	N.D.	4,000	10
10727	2,4-Dinitrotoluene	121-14-2	N.D.	900	10
10727	2,6-Dinitrotoluene	606-20-2	N.D.	220	10
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	220	10
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	900	10
10727	Fluoranthene	206-44-0	N.D.	45	10
10727	Fluorene	86-73-7	N.D.	45	10
10727	Hexachlorobenzene	118-74-1	N.D.	45	10
10727	Hexachlorobutadiene	87-68-3	N.D.	220	10
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	2,200	10
10727	Hexachloroethane	67-72-1	N.D.	450	10
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	45	10
10727	Isophorone	78-59-1	N.D.	220	10
10727	Naphthalene	91-20-3	N.D.	45	10
10727	Nitrobenzene	98-95-3	N.D.	220	10
10727	2-Nitrophenol	88-75-5	N.D.	220	10
10727	4-Nitrophenol	100-02-7	N.D.	2,200	10
10727	N-Nitrosodimethylamine	62-75-9	N.D.	900	10
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	220	10
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	220	10
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
10727	Di-n-octylphthalate	117-84-0	N.D.	900	10
10727	Pentachlorophenol	87-86-5	N.D.	450	10
10727	Phenanthrene	85-01-8	N.D.	45	10

Sample Description: SB-10 @ 5 Ft Soil
101722001

LL Sample # SW 7640191
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 14:40 by ED

Rettew Associates

3020 Columbia Avenue

Submitted: 10/16/2014 18:05

Lancaster PA 17603-4011

Reported: 10/27/2014 12:36

10001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/kg	ug/kg	
10727	Phenol	108-95-2	N.D.	220	10
10727	Pyrene	129-00-0	N.D.	45	10
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	220	10
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	220	10

Reporting limits were raised due to interference from the sample matrix.

Metals		SW-846 6010B	mg/kg		mg/kg	
06944	Antimony	7440-36-0	3.26		0.435	1
06935	Arsenic	7440-38-2	2.45	J	0.844	1
06947	Beryllium	7440-41-7	1.40		0.0884	1
06949	Cadmium	7440-43-9	N.D.		0.0435	1
06951	Chromium	7440-47-3	30.1		0.145	1
06953	Copper	7440-50-8	25.7		0.435	1
06955	Lead	7439-92-1	11.6		0.659	1
06961	Nickel	7440-02-0	31.8		0.198	1
06936	Selenium	7782-49-2	N.D.		0.580	1
06966	Silver	7440-22-4	N.D.		0.251	1
06925	Thallium	7440-28-0	1.77	J	1.06	1
06972	Zinc	7440-66-6	72.6		0.343	1

		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0135	1

Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	27.1	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PPL/TCL Volatiles in Soil	SW-846 8260B	1	X142941AA	10/21/2014 17:04	Chelsea B Stong	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201428935895	10/16/2014 14:40	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201428935895	10/16/2014 14:40	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 14:40	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	14290SLB026	10/20/2014 16:16	Joseph M Gambler	10

Sample Description: SB-10 @ 5 Ft Soil
101722001

LL Sample # SW 7640191
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 14:40 by ED

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

10001

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10809	BNA Soil Microwave	SW-846 3546	1	14290SLB026	10/17/2014 07:30	Olivia Arosemena	1
06944	Antimony	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06935	Arsenic	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06947	Beryllium	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06949	Cadmium	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06925	Thallium	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	142905708001	10/21/2014 23:53	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	142935711002	10/22/2014 07:05	Damary Valentin	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	142905708001	10/20/2014 08:45	Christopher M Klumpp	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	142905711001	10/20/2014 08:36	Christopher M Klumpp	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	2	142935711002	10/21/2014 11:08	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: SB-1 Soil
101722001

LL Sample # SW 7640192
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 15:55 by ED

Rettew Associates

Submitted: 10/16/2014 18:05

3020 Columbia Avenue

Reported: 10/27/2014 12:36

Lancaster PA 17603-4011

12001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/kg	ug/kg	
10237	Acrolein	107-02-8	N.D.	23	1.08
10237	Acrylonitrile	107-13-1	N.D.	5	1.08
10237	Benzene	71-43-2	N.D.	0.6	1.08
10237	Bromodichloromethane	75-27-4	N.D.	1	1.08
10237	Bromoform	75-25-2	N.D.	1	1.08
10237	Bromomethane	74-83-9	N.D.	2	1.08
10237	Carbon Tetrachloride	56-23-5	N.D.	1	1.08
10237	Chlorobenzene	108-90-7	N.D.	1	1.08
10237	Chloroethane	75-00-3	N.D.	2	1.08
10237	Chloroform	67-66-3	N.D.	1	1.08
10237	Chloromethane	74-87-3	N.D.	2	1.08
10237	Dibromochloromethane	124-48-1	N.D.	1	1.08
10237	1,1-Dichloroethane	75-34-3	N.D.	1	1.08
10237	1,2-Dichloroethane	107-06-2	N.D.	1	1.08
10237	1,1-Dichloroethene	75-35-4	N.D.	1	1.08
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	1.08
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	1.08
10237	1,2-Dichloropropane	78-87-5	N.D.	1	1.08
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	1.08
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	1.08
10237	Ethylbenzene	100-41-4	N.D.	1	1.08
10237	Methylene Chloride	75-09-2	N.D.	2	1.08
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	1.08
10237	Tetrachloroethene	127-18-4	N.D.	1	1.08
10237	Toluene	108-88-3	N.D.	1	1.08
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	1.08
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	1.08
10237	Trichloroethene	79-01-6	N.D.	1	1.08
10237	Trichlorofluoromethane	75-69-4	N.D.	2	1.08
10237	Vinyl Chloride	75-01-4	N.D.	1	1.08
10237	Xylene (Total)	1330-20-7	N.D.	1	1.08
2-Chloroethyl vinyl ether is an acid labile compound and cannot be reported due to acid preservation of the samples and standards in this method.					
GC/MS	Semivolatiles	SW-846 8270C	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	N.D.	4	1
10727	Acenaphthylene	208-96-8	N.D.	4	1
10727	Anthracene	120-12-7	N.D.	4	1
10727	Benzidine	92-87-5	N.D.	750	1
10727	Benzo(a)anthracene	56-55-3	N.D.	4	1
10727	Benzo(a)pyrene	50-32-8	N.D.	4	1
10727	Benzo(b)fluoranthene	205-99-2	N.D.	4	1
10727	Benzo(g,h,i)perylene	191-24-2	N.D.	4	1
10727	Benzo(k)fluoranthene	207-08-9	N.D.	4	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	18	1
10727	Butylbenzylphthalate	85-68-7	N.D.	72	1
10727	Di-n-butylphthalate	84-74-2	N.D.	72	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	18	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	18	1
10727	bis(2-Chloroethyl) ether	111-44-4	N.D.	18	1

Sample Description: SB-1 Soil
101722001

LL Sample # SW 7640192
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 15:55 by ED

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

12001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/kg	ug/kg	
10727	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	18	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
10727	2-Chloronaphthalene	91-58-7	N.D.	8	1
10727	2-Chlorophenol	95-57-8	N.D.	18	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	18	1
10727	Chrysene	218-01-9	N.D.	4	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	4	1
10727	1,2-Dichlorobenzene	95-50-1	N.D.	18	1
10727	1,3-Dichlorobenzene	541-73-1	N.D.	18	1
10727	1,4-Dichlorobenzene	106-46-7	N.D.	18	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	110	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	18	1
10727	Diethylphthalate	84-66-2	N.D.	72	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	18	1
10727	Dimethylphthalate	131-11-3	N.D.	72	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	180	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	320	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	72	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	18	1
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	18	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	72	1
10727	Fluoranthene	206-44-0	N.D.	4	1
10727	Fluorene	86-73-7	N.D.	4	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	1
10727	Hexachlorobutadiene	87-68-3	N.D.	18	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	180	1
10727	Hexachloroethane	67-72-1	N.D.	36	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	4	1
10727	Isophorone	78-59-1	N.D.	18	1
10727	Naphthalene	91-20-3	N.D.	4	1
10727	Nitrobenzene	98-95-3	N.D.	18	1
10727	2-Nitrophenol	88-75-5	N.D.	18	1
10727	4-Nitrophenol	100-02-7	N.D.	180	1
10727	N-Nitrosodimethylamine	62-75-9	N.D.	72	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	18	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	18	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
10727	Di-n-octylphthalate	117-84-0	N.D.	72	1
10727	Pentachlorophenol	87-86-5	N.D.	36	1
10727	Phenanthrene	85-01-8	N.D.	4	1
10727	Phenol	108-95-2	N.D.	18	1
10727	Pyrene	129-00-0	N.D.	4	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	18	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	18	1

Metals

SW-846 6010B

mg/kg

mg/kg

Sample Description: SB-1 Soil
101722001

LL Sample # SW 7640192
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 15:55 by ED

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

12001

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals					
		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	1.62 J	0.348	1
06935	Arsenic	7440-38-2	N.D.	0.675	1
06947	Beryllium	7440-41-7	0.891	0.0706	1
06949	Cadmium	7440-43-9	N.D.	0.0348	1
06951	Chromium	7440-47-3	14.4	0.116	1
06953	Copper	7440-50-8	20.2	0.348	1
06955	Lead	7439-92-1	1.60	0.527	1
06961	Nickel	7440-02-0	6.01	0.158	1
06936	Selenium	7782-49-2	N.D.	0.464	1
06966	Silver	7440-22-4	N.D.	0.200	1
06925	Thallium	7440-28-0	N.D.	0.843	1
06972	Zinc	7440-66-6	14.9	0.274	1
SW-846 7471A					
			mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0101	1
Wet Chemistry					
		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	7.0	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	PPL/TCL Volatiles in Soil	SW-846 8260B	1	X142941AA	10/21/2014 17:27	Chelsea B Stong	1.08
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201428935895	10/16/2014 15:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201428935895	10/16/2014 15:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201428935895	10/16/2014 15:55	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	14294SLC026	10/22/2014 10:33	Joseph M Gambler	1
10809	BNA Soil Microwave	SW-846 3546	2	14294SLC026	10/21/2014 18:40	Sally L Appleyard	1
06944	Antimony	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06935	Arsenic	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06947	Beryllium	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1

Sample Description: SB-1 Soil
101722001

LL Sample # SW 7640192
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 15:55 by ED

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

12001

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06949	Cadmium	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06951	Chromium	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06953	Copper	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06955	Lead	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06961	Nickel	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06936	Selenium	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06966	Silver	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06925	Thallium	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
06972	Zinc	SW-846 6010B	1	142905708001	10/21/2014 23:57	Elaine F Stoltzfus	1
00159	Mercury	SW-846 7471A	1	142905711001	10/20/2014 11:24	Damary Valentin	1
05708	SW SW846 ICP/ICP MS Digest	SW-846 3050B	1	142905708001	10/20/2014 08:45	Christopher M Klumpp	1
05711	SW SW846 Hg Digest	SW-846 7471A modified	1	142905711001	10/20/2014 08:36	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	14294820005A	10/21/2014 20:12	Scott W Freisher	1

Sample Description: Supply Well Water
101722001

LL Sample # WW 7640193
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 11:30 by ED

Rettew Associates

Submitted: 10/16/2014 18:05

3020 Columbia Avenue

Reported: 10/27/2014 12:36

Lancaster PA 17603-4011

2001W

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
10335	Acrolein	107-02-8	N.D.	40	1
10335	Acrylonitrile	107-13-1	N.D.	4	1
10335	Benzene	71-43-2	N.D.	0.5	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1
10335	Bromoform	75-25-2	N.D.	0.5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1
10335	Chloroethane	75-00-3	N.D.	0.5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	2	1
2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.					
10335	Chloroform	67-66-3	N.D.	0.5	1
10335	Chloromethane	74-87-3	N.D.	0.5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1
10335	Methylene Chloride	75-09-2	N.D.	2	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1
10335	Toluene	108-88-3	N.D.	0.5	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	
04678	Acenaphthene	83-32-9	N.D.	0.1	1
04678	Acenaphthylene	208-96-8	N.D.	0.1	1
04678	Anthracene	120-12-7	N.D.	0.1	1
04678	Benzidine	92-87-5	N.D.	21	1
04678	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
04678	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
04678	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
04678	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
04678	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
04678	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1
04678	Butylbenzylphthalate	85-68-7	N.D.	2	1
04678	Di-n-butylphthalate	84-74-2	N.D.	2	1
04678	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1
04678	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1
04678	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	1

Sample Description: Supply Well Water
101722001

LL Sample # WW 7640193

LL Group # 1511613

Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 11:30 by ED

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

2001W

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	
04678	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.5	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.				
04678	2-Chloronaphthalene	91-58-7	N.D.	0.4	1
04678	2-Chlorophenol	95-57-8	N.D.	0.5	1
04678	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1
04678	Chrysene	218-01-9	N.D.	0.1	1
04678	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
04678	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1
04678	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1
04678	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1
04678	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	1
04678	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1
04678	Diethylphthalate	84-66-2	N.D.	2	1
04678	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1
04678	Dimethylphthalate	131-11-3	N.D.	2	1
04678	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	1
04678	2,4-Dinitrophenol	51-28-5	N.D.	11	1
04678	2,4-Dinitrotoluene	121-14-2	N.D.	1	1
04678	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1
04678	1,2-Diphenylhydrazine	122-66-7	N.D.	0.5	1
04678	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	1
04678	Fluoranthene	206-44-0	N.D.	0.1	1
04678	Fluorene	86-73-7	N.D.	0.1	1
04678	Hexachlorobenzene	118-74-1	N.D.	0.1	1
04678	Hexachlorobutadiene	87-68-3	N.D.	0.5	1
04678	Hexachlorocyclopentadiene	77-47-4	N.D.	5	1
04678	Hexachloroethane	67-72-1	N.D.	1	1
04678	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
04678	Isophorone	78-59-1	N.D.	0.5	1
04678	Naphthalene	91-20-3	N.D.	0.1	1
04678	Nitrobenzene	98-95-3	N.D.	0.5	1
04678	2-Nitrophenol	88-75-5	N.D.	0.5	1
04678	4-Nitrophenol	100-02-7	N.D.	11	1
04678	N-Nitrosodimethylamine	62-75-9	N.D.	2	1
04678	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1
04678	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.				
04678	Di-n-octylphthalate	117-84-0	N.D.	2	1
04678	Pentachlorophenol	87-86-5	N.D.	1	1
04678	Phenanthrene	85-01-8	N.D.	0.1	1
04678	Phenol	108-95-2	N.D.	0.5	1
04678	Pyrene	129-00-0	N.D.	0.1	1
04678	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.5	1
04678	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1

Metals

SW-846 6010B

mg/l

mg/l

Sample Description: Supply Well Water
101722001

LL Sample # WW 7640193
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 11:30 by ED

Rettew Associates

3020 Columbia Avenue

Submitted: 10/16/2014 18:05

Lancaster PA 17603-4011

Reported: 10/27/2014 12:36

2001W

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals			mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0051	1
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07047	Beryllium	7440-41-7	N.D.	0.00067	1
07049	Cadmium	7440-43-9	N.D.	0.00033	1
07051	Chromium	7440-47-3	N.D.	0.0013	1
07053	Copper	7440-50-8	0.0053 J	0.0028	1
07055	Lead	7439-92-1	N.D.	0.0047	1
07061	Nickel	7440-02-0	N.D.	0.0016	1
07036	Selenium	7782-49-2	N.D.	0.0048	1
07066	Silver	7440-22-4	N.D.	0.0018	1
07022	Thallium	7440-28-0	N.D.	0.0051	1
07072	Zinc	7440-66-6	0.0244	0.0020	1
SW-846 6010B			mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	1
SW-846 7470A			mg/l	mg/l	

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	Y142941AA	10/21/2014 15:42	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y142941AA	10/21/2014 15:42	Angela D Sneeringer	1
04678	TCL SW846 Semivolatiles/Waters	SW-846 8270C	1	14294WAG026	10/24/2014 01:32	William H Saadeh	1
00813	BNA Water Extraction	SW-846 3510C	1	14294WAG026	10/21/2014 22:10	Karen L Beyer	1
07044	Antimony	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07035	Arsenic	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07047	Beryllium	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07053	Copper	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
07022	Thallium	SW-846 6010B	1	142901848005	10/24/2014 05:23	Tara L Snyder	1
07072	Zinc	SW-846 6010B	1	142901848005	10/22/2014 19:00	Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	142905713006	10/21/2014 11:48	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	142901848005	10/20/2014 11:20	Micaela L Dishong	1

Sample Description: Supply Well Water
101722001

LL Sample # WW 7640193
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014 11:30 by ED

Retnew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 10/16/2014 18:05

Reported: 10/27/2014 12:36

2001W

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	142905713006	10/20/2014 11:51	Micaela L Dishong	1
05713	WW SW846 Hg Digest	SW-846 7470A	2	142945713004	10/22/2014 00:30	Annamaria Kuhns	1

Sample Description: Trip Blank Water
101722001

LL Sample # WW 7640194
LL Group # 1511613
Account # 00721

Project Name: Project 101722001

Collected: 10/16/2014

Rettew Associates

Submitted: 10/16/2014 18:05

3020 Columbia Avenue

Reported: 10/27/2014 12:36

Lancaster PA 17603-4011

2001T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
10335	Acrolein	107-02-8	N.D.	40	1
10335	Acrylonitrile	107-13-1	N.D.	4	1
10335	Benzene	71-43-2	N.D.	0.5	1
10335	Bromodichloromethane	75-27-4	N.D.	0.5	1
10335	Bromoform	75-25-2	N.D.	0.5	1
10335	Bromomethane	74-83-9	N.D.	0.5	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.5	1
10335	Chlorobenzene	108-90-7	N.D.	0.5	1
10335	Chloroethane	75-00-3	N.D.	0.5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	2	1
2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.					
10335	Chloroform	67-66-3	N.D.	0.5	1
10335	Chloromethane	74-87-3	N.D.	0.5	1
10335	Dibromochloromethane	124-48-1	N.D.	0.5	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.5	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.5	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.5	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.5	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.5	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.5	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.5	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1
10335	Methylene Chloride	75-09-2	N.D.	2	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.5	1
10335	Tetrachloroethene	127-18-4	N.D.	0.5	1
10335	Toluene	108-88-3	N.D.	0.5	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.5	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.5	1
10335	Trichloroethene	79-01-6	N.D.	0.5	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.5	1
10335	Vinyl Chloride	75-01-4	N.D.	0.5	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/15.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	PPL/TCL Volatiles in Water	SW-846 8260B	1	Y142941AA	10/21/2014 15:21	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y142941AA	10/21/2014 15:21	Angela D Sneeringer	1

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: Q142941AA	Sample number(s): 7640183-7640184, 7640187-7640189							
Benzene	N.D.	25.	ug/kg	91	87	80-120	4	30
Ethylbenzene	N.D.	50.	ug/kg	89	87	80-120	2	30
Isopropylbenzene	N.D.	50.	ug/kg	87	85	76-120	2	30
Methyl Tertiary Butyl Ether	N.D.	25.	ug/kg	92	89	76-122	4	30
Naphthalene	N.D.	50.	ug/kg	82	80	64-120	3	30
Toluene	N.D.	50.	ug/kg	92	88	80-120	4	30
1,2,4-Trimethylbenzene	N.D.	50.	ug/kg	91	87	79-120	4	30
1,3,5-Trimethylbenzene	N.D.	50.	ug/kg	91	85	78-120	6	30
Batch number: Q142951AA	Sample number(s): 7640185-7640186							
Benzene	N.D.	25.	ug/kg	82	82	80-120	1	30
Naphthalene	N.D.	50.	ug/kg	74	75	64-120	1	30
Batch number: X142941AA	Sample number(s): 7640190-7640192							
Acrolein	N.D.	20.	ug/kg	128*	116	58-122	9	30
Acrylonitrile	N.D.	4.	ug/kg	101	99	58-123	2	30
Benzene	N.D.	0.5	ug/kg	105	100	80-120	5	30
Bromodichloromethane	N.D.	1.	ug/kg	96	93	75-120	3	30
Bromoform	N.D.	1.	ug/kg	90	87	70-126	4	30
Bromomethane	N.D.	2.	ug/kg	85	78	32-162	9	30
Carbon Tetrachloride	N.D.	1.	ug/kg	103	96	69-130	7	30
Chlorobenzene	N.D.	1.	ug/kg	97	92	80-120	6	30
Chloroethane	N.D.	2.	ug/kg	92	85	17-171	8	30
Chloroform	N.D.	1.	ug/kg	105	100	80-125	5	30
Chloromethane	N.D.	2.	ug/kg	95	88	56-120	8	30
Dibromochloromethane	N.D.	1.	ug/kg	93	89	77-120	4	30
1,1-Dichloroethane	N.D.	1.	ug/kg	104	101	80-122	3	30
1,2-Dichloroethane	N.D.	1.	ug/kg	104	101	77-130	3	30
1,1-Dichloroethene	N.D.	1.	ug/kg	103	98	73-129	5	30
cis-1,2-Dichloroethene	N.D.	1.	ug/kg	99	96	80-120	3	30
trans-1,2-Dichloroethene	N.D.	1.	ug/kg	103	98	80-129	4	30
1,2-Dichloropropane	N.D.	1.	ug/kg	104	99	80-120	5	30
cis-1,3-Dichloropropene	N.D.	1.	ug/kg	95	92	74-120	3	30
trans-1,3-Dichloropropene	N.D.	1.	ug/kg	99	95	76-120	3	30
Ethylbenzene	N.D.	1.	ug/kg	98	92	80-120	7	30
Methylene Chloride	N.D.	2.	ug/kg	105	101	80-124	4	30
1,1,2,2-Tetrachloroethane	N.D.	1.	ug/kg	99	93	71-123	6	30
Tetrachloroethene	N.D.	1.	ug/kg	96	89	78-120	7	30
Toluene	N.D.	1.	ug/kg	99	94	80-120	5	30
1,1,1-Trichloroethane	N.D.	1.	ug/kg	95	89	63-135	7	30
1,1,2-Trichloroethane	N.D.	1.	ug/kg	97	92	80-120	5	30
Trichloroethene	N.D.	1.	ug/kg	102	97	80-125	4	30
Trichlorofluoromethane	N.D.	2.	ug/kg	93	86	58-133	8	30

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Vinyl Chloride	N.D.	1.	ug/kg	93	86	59-120	8	30
Xylene (Total)	N.D.	1.	ug/kg	93	88	80-120	5	30

Batch number: Y142941AA	Sample number(s): 7640193-7640194							
Acrolein	N.D.	40.	ug/l	82	81	59-120	1	30
Acrylonitrile	N.D.	4.	ug/l	83	83	62-120	0	30
Benzene	N.D.	0.5	ug/l	106	108	78-120	2	30
Bromodichloromethane	N.D.	0.5	ug/l	97	98	73-120	1	30
Bromoform	N.D.	0.5	ug/l	90	88	61-120	2	30
Bromomethane	N.D.	0.5	ug/l	59	62	53-130	6	30
Carbon Tetrachloride	N.D.	0.5	ug/l	103	104	74-130	1	30
Chlorobenzene	N.D.	0.5	ug/l	100	102	80-120	1	30
Chloroethane	N.D.	0.5	ug/l	59	62	56-120	5	30
2-Chloroethyl Vinyl Ether	N.D.	2.	ug/l	82	83	62-128	2	30
Chloroform	N.D.	0.5	ug/l	103	105	80-122	2	30
Chloromethane	N.D.	0.5	ug/l	91	94	63-120	3	30
Dibromochloromethane	N.D.	0.5	ug/l	99	100	72-120	1	30
1,1-Dichloroethane	N.D.	0.5	ug/l	103	113	80-120	9	30
1,2-Dichloroethane	N.D.	0.5	ug/l	103	105	65-135	2	30
1,1-Dichloroethene	N.D.	0.5	ug/l	103	100	76-124	3	30
cis-1,2-Dichloroethene	N.D.	0.5	ug/l	105	108	80-120	3	30
trans-1,2-Dichloroethene	N.D.	0.5	ug/l	104	106	80-120	2	30
1,2-Dichloropropane	N.D.	0.5	ug/l	105	108	80-120	3	30
cis-1,3-Dichloropropene	N.D.	0.5	ug/l	99	101	80-120	2	30
trans-1,3-Dichloropropene	N.D.	0.5	ug/l	99	101	76-120	2	30
Ethylbenzene	N.D.	0.5	ug/l	98	101	79-120	2	30
Methylene Chloride	N.D.	2.	ug/l	103	103	80-120	0	30
1,1,2,2-Tetrachloroethane	N.D.	0.5	ug/l	89	91	70-120	3	30
Tetrachloroethene	N.D.	0.5	ug/l	103	104	80-120	1	30
Toluene	N.D.	0.5	ug/l	103	106	80-120	3	30
1,1,1-Trichloroethane	N.D.	0.5	ug/l	82	85	66-126	4	30
1,1,2-Trichloroethane	N.D.	0.5	ug/l	97	99	80-120	2	30
Trichloroethene	N.D.	0.5	ug/l	103	105	80-120	2	30
Trichlorofluoromethane	N.D.	0.5	ug/l	81	77	58-135	4	30
Vinyl Chloride	N.D.	0.5	ug/l	87	87	63-120	0	30
Xylene (Total)	N.D.	0.5	ug/l	99	101	80-120	2	30

Batch number: 14290SLB026	Sample number(s): 7640190-7640191							
Acenaphthene	N.D.	3.	ug/kg	97		83-111		
Acenaphthylene	N.D.	3.	ug/kg	109		83-127		
Anthracene	N.D.	3.	ug/kg	100		82-118		
Benzidine	N.D.	700.	ug/kg	47		21-78		
Benzo(a)anthracene	N.D.	3.	ug/kg	98		76-119		
Benzo(a)pyrene	N.D.	3.	ug/kg	101		84-122		
Benzo(b)fluoranthene	N.D.	3.	ug/kg	101		78-129		
Benzo(g,h,i)perylene	N.D.	3.	ug/kg	98		77-121		
Benzo(k)fluoranthene	N.D.	3.	ug/kg	106		79-120		
4-Bromophenyl-phenylether	N.D.	17.	ug/kg	98		84-120		
Butylbenzylphthalate	N.D.	67.	ug/kg	95		80-118		
Di-n-butylphthalate	N.D.	67.	ug/kg	97		84-120		
4-Chloro-3-methylphenol	N.D.	17.	ug/kg	99		79-127		
bis(2-Chloroethoxy)methane	N.D.	17.	ug/kg	102		65-123		
bis(2-Chloroethyl)ether	N.D.	17.	ug/kg	94		77-115		
bis(2-Chloroisopropyl)ether	N.D.	17.	ug/kg	96		73-114		
2-Chloronaphthalene	N.D.	7.	ug/kg	87		63-146		
2-Chlorophenol	N.D.	17.	ug/kg	94		80-122		

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
4-Chlorophenyl-phenylether	N.D.	17.	ug/kg	98		83-115		
Chrysene	N.D.	3.	ug/kg	100		77-116		
Dibenz(a,h)anthracene	N.D.	3.	ug/kg	96		81-123		
1,2-Dichlorobenzene	N.D.	17.	ug/kg	94		79-112		
1,3-Dichlorobenzene	N.D.	17.	ug/kg	91		79-113		
1,4-Dichlorobenzene	N.D.	17.	ug/kg	90		79-112		
3,3'-Dichlorobenzidine	N.D.	100.	ug/kg	62		10-125		
2,4-Dichlorophenol	N.D.	17.	ug/kg	101		81-123		
Diethylphthalate	N.D.	67.	ug/kg	96		81-118		
2,4-Dimethylphenol	N.D.	17.	ug/kg	95		83-120		
Dimethylphthalate	N.D.	67.	ug/kg	96		82-113		
4,6-Dinitro-2-methylphenol	N.D.	170.	ug/kg	93		67-131		
2,4-Dinitrophenol	N.D.	300.	ug/kg	91		42-131		
2,4-Dinitrotoluene	N.D.	67.	ug/kg	98		81-122		
2,6-Dinitrotoluene	N.D.	17.	ug/kg	100		83-120		
1,2-Diphenylhydrazine	N.D.	17.	ug/kg	99		78-122		
bis(2-Ethylhexyl)phthalate	N.D.	67.	ug/kg	96		81-121		
Fluoranthene	N.D.	3.	ug/kg	98		75-118		
Fluorene	N.D.	3.	ug/kg	103		86-118		
Hexachlorobenzene	N.D.	3.	ug/kg	89		80-121		
Hexachlorobutadiene	N.D.	17.	ug/kg	93		78-121		
Hexachlorocyclopentadiene	N.D.	170.	ug/kg	117		60-157		
Hexachloroethane	N.D.	33.	ug/kg	89		78-114		
Indeno(1,2,3-cd)pyrene	N.D.	3.	ug/kg	93		76-122		
Isophorone	N.D.	17.	ug/kg	109		83-119		
Naphthalene	N.D.	3.	ug/kg	98		83-112		
Nitrobenzene	N.D.	17.	ug/kg	99		80-115		
2-Nitrophenol	N.D.	17.	ug/kg	98		83-120		
4-Nitrophenol	N.D.	170.	ug/kg	75		64-121		
N-Nitroso-di-n-propylamine	N.D.	17.	ug/kg	90		70-119		
N-Nitrosodimethylamine	N.D.	67.	ug/kg	99		72-110		
N-Nitrosodiphenylamine	N.D.	17.	ug/kg	96		83-118		
Di-n-octylphthalate	N.D.	67.	ug/kg	107		82-134		
Pentachlorophenol	N.D.	33.	ug/kg	85		46-133		
Phenanthrene	N.D.	3.	ug/kg	97		80-114		
Phenol	N.D.	17.	ug/kg	101		75-117		
Pyrene	N.D.	3.	ug/kg	101		81-114		
1,2,4-Trichlorobenzene	N.D.	17.	ug/kg	98		83-113		
2,4,6-Trichlorophenol	N.D.	17.	ug/kg	99		81-123		
Batch number: 14293SLF026 Sample number(s): 7640183-7640186								
Anthracene	N.D.	3.	ug/kg	99		82-118		
Benzo(a)anthracene	N.D.	3.	ug/kg	97		76-119		
Benzo(a)pyrene	N.D.	3.	ug/kg	100		84-122		
Benzo(b)fluoranthene	N.D.	3.	ug/kg	103		78-129		
Benzo(g,h,i)perylene	N.D.	3.	ug/kg	98		77-121		
Chrysene	N.D.	3.	ug/kg	102		77-116		
Fluorene	N.D.	3.	ug/kg	97		86-118		
Phenanthrene	N.D.	3.	ug/kg	95		80-114		
Pyrene	N.D.	3.	ug/kg	94		81-114		
Batch number: 14294SLC026 Sample number(s): 7640192								
Acenaphthene	N.D.	3.	ug/kg	98		83-111		
Acenaphthylene	N.D.	3.	ug/kg	114		83-127		
Anthracene	N.D.	3.	ug/kg	102		82-118		
Benzidine	N.D.	700.	ug/kg	45		21-78		

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Benzo (a) anthracene	N.D.	3.	ug/kg	104		76-119		
Benzo (a) pyrene	N.D.	3.	ug/kg	105		84-122		
Benzo (b) fluoranthene	N.D.	3.	ug/kg	111		78-129		
Benzo (g, h, i) perylene	N.D.	3.	ug/kg	103		77-121		
Benzo (k) fluoranthene	N.D.	3.	ug/kg	105		79-120		
4-Bromophenyl-phenylether	N.D.	17.	ug/kg	102		84-120		
Butylbenzylphthalate	N.D.	67.	ug/kg	105		80-118		
Di-n-butylphthalate	N.D.	67.	ug/kg	101		84-120		
4-Chloro-3-methylphenol	N.D.	17.	ug/kg	104		79-127		
bis(2-Chloroethoxy)methane	N.D.	17.	ug/kg	101		65-123		
bis(2-Chloroethyl) ether	N.D.	17.	ug/kg	93		77-115		
bis(2-Chloroisopropyl) ether	N.D.	17.	ug/kg	94		73-114		
2-Chloronaphthalene	N.D.	7.	ug/kg	93		63-146		
2-Chlorophenol	N.D.	17.	ug/kg	96		80-122		
4-Chlorophenyl-phenylether	N.D.	17.	ug/kg	102		83-115		
Chrysene	N.D.	3.	ug/kg	108		77-116		
Dibenz (a, h) anthracene	N.D.	3.	ug/kg	105		81-123		
1,2-Dichlorobenzene	N.D.	17.	ug/kg	94		79-112		
1,3-Dichlorobenzene	N.D.	17.	ug/kg	90		79-113		
1,4-Dichlorobenzene	N.D.	17.	ug/kg	92		79-112		
3,3'-Dichlorobenzidine	N.D.	100.	ug/kg	64		10-125		
2,4-Dichlorophenol	N.D.	17.	ug/kg	106		81-123		
Diethylphthalate	N.D.	67.	ug/kg	102		81-118		
2,4-Dimethylphenol	N.D.	17.	ug/kg	100		83-120		
Dimethylphthalate	N.D.	67.	ug/kg	99		82-113		
4,6-Dinitro-2-methylphenol	N.D.	170.	ug/kg	99		67-131		
2,4-Dinitrophenol	N.D.	300.	ug/kg	82		42-131		
2,4-Dinitrotoluene	N.D.	67.	ug/kg	102		81-122		
2,6-Dinitrotoluene	N.D.	17.	ug/kg	107		83-120		
1,2-Diphenylhydrazine	N.D.	17.	ug/kg	103		78-122		
bis(2-Ethylhexyl)phthalate	N.D.	67.	ug/kg	105		81-121		
Fluoranthene	N.D.	3.	ug/kg	99		75-118		
Fluorene	N.D.	3.	ug/kg	103		86-118		
Hexachlorobenzene	N.D.	3.	ug/kg	96		80-121		
Hexachlorobutadiene	N.D.	17.	ug/kg	103		78-121		
Hexachlorocyclopentadiene	N.D.	170.	ug/kg	134		60-157		
Hexachloroethane	N.D.	33.	ug/kg	93		78-114		
Indeno(1,2,3-cd)pyrene	N.D.	3.	ug/kg	102		76-122		
Isophorone	N.D.	17.	ug/kg	110		83-119		
Naphthalene	N.D.	3.	ug/kg	101		83-112		
Nitrobenzene	N.D.	17.	ug/kg	105		80-115		
2-Nitrophenol	N.D.	17.	ug/kg	102		83-120		
4-Nitrophenol	N.D.	170.	ug/kg	96		64-121		
N-Nitroso-di-n-propylamine	N.D.	17.	ug/kg	89		70-119		
N-Nitrosodimethylamine	N.D.	67.	ug/kg	90		72-110		
N-Nitrosodiphenylamine	N.D.	17.	ug/kg	101		83-118		
Di-n-octylphthalate	N.D.	67.	ug/kg	114		82-134		
Pentachlorophenol	N.D.	33.	ug/kg	92		46-133		
Phenanthrene	N.D.	3.	ug/kg	98		80-114		
Phenol	N.D.	17.	ug/kg	93		75-117		
Pyrene	N.D.	3.	ug/kg	99		81-114		
1,2,4-Trichlorobenzene	N.D.	17.	ug/kg	105		83-113		
2,4,6-Trichlorophenol	N.D.	17.	ug/kg	101		81-123		
Batch number: 14294WAG026	Sample number(s): 7640193							
Acenaphthene	N.D.	0.1	ug/l	104	103	80-112	1	30

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Acenaphthylene	N.D.	0.1	ug/l	111	109	84-125	2	30
Anthracene	N.D.	0.1	ug/l	109	106	82-116	3	30
Benzidine	N.D.	20.	ug/l	63	59	20-94	6	30
Benzo (a) anthracene	N.D.	0.1	ug/l	113	111	81-126	1	30
Benzo (a) pyrene	N.D.	0.1	ug/l	115	113	82-116	2	30
Benzo (b) fluoranthene	N.D.	0.1	ug/l	110	108	82-121	1	30
Benzo (g,h,i) perylene	N.D.	0.1	ug/l	104	101	76-128	3	30
Benzo (k) fluoranthene	N.D.	0.1	ug/l	114	112	81-122	2	30
4-Bromophenyl-phenylether	N.D.	0.5	ug/l	101	98	82-118	3	30
Butylbenzylphthalate	N.D.	2.	ug/l	110	110	73-122	0	30
Di-n-butylphthalate	N.D.	2.	ug/l	102	100	80-119	2	30
4-Chloro-3-methylphenol	N.D.	0.5	ug/l	108	108	78-118	0	30
bis(2-Chloroethoxy)methane	N.D.	0.5	ug/l	105	103	77-115	2	30
bis(2-Chloroethyl) ether	N.D.	0.5	ug/l	105	103	78-112	2	30
bis(2-Chloroisopropyl) ether	N.D.	0.5	ug/l	128	127	54-128	1	30
2-Chloronaphthalene	N.D.	0.4	ug/l	102	100	66-125	1	30
2-Chlorophenol	N.D.	0.5	ug/l	104	103	76-111	1	30
4-Chlorophenyl-phenylether	N.D.	0.5	ug/l	100	98	78-119	2	30
Chrysene	N.D.	0.1	ug/l	117	117	81-120	0	30
Dibenz (a,h) anthracene	N.D.	0.1	ug/l	105	103	80-130	2	30
1,2-Dichlorobenzene	N.D.	0.5	ug/l	99	98	62-116	2	30
1,3-Dichlorobenzene	N.D.	0.5	ug/l	94	93	57-115	1	30
1,4-Dichlorobenzene	N.D.	0.5	ug/l	95	95	60-115	0	30
3,3'-Dichlorobenzidine	N.D.	2.	ug/l	78	74	39-111	5	30
2,4-Dichlorophenol	N.D.	0.5	ug/l	104	104	84-119	0	30
Diethylphthalate	N.D.	2.	ug/l	93	91	70-118	2	30
2,4-Dimethylphenol	N.D.	0.5	ug/l	104	102	75-110	1	30
Dimethylphthalate	N.D.	2.	ug/l	79	77	43-128	2	30
4,6-Dinitro-2-methylphenol	N.D.	5.	ug/l	90	92	63-131	3	30
2,4-Dinitrophenol	N.D.	10.	ug/l	54	60	39-130	11	30
2,4-Dinitrotoluene	N.D.	1.	ug/l	111	110	84-126	1	30
2,6-Dinitrotoluene	N.D.	0.5	ug/l	111	111	81-124	0	30
1,2-Diphenylhydrazine	N.D.	0.5	ug/l	107	105	74-124	2	30
bis(2-Ethylhexyl)phthalate	N.D.	2.	ug/l	115	115	78-124	0	30
Fluoranthene	N.D.	0.1	ug/l	108	106	82-121	2	30
Fluorene	N.D.	0.1	ug/l	104	104	80-117	0	30
Hexachlorobenzene	N.D.	0.1	ug/l	94	92	80-119	2	30
Hexachlorobutadiene	N.D.	0.5	ug/l	83	82	55-124	1	30
Hexachlorocyclopentadiene	N.D.	5.	ug/l	77	85	18-130	10	30
Hexachloroethane	N.D.	1.	ug/l	84	84	55-109	1	30
Indeno(1,2,3-cd)pyrene	N.D.	0.1	ug/l	100	98	80-126	2	30
Isophorone	N.D.	0.5	ug/l	116	116	81-124	1	30
Naphthalene	N.D.	0.1	ug/l	100	99	75-108	1	30
Nitrobenzene	N.D.	0.5	ug/l	115	115	77-119	1	30
2-Nitrophenol	N.D.	0.5	ug/l	112	111	82-121	1	30
4-Nitrophenol	N.D.	10.	ug/l	53	52	20-89	2	30
N-Nitroso-di-n-propylamine	N.D.	0.5	ug/l	108	106	71-117	2	30
N-Nitrosodimethylamine	N.D.	2.	ug/l	85	84	38-98	2	30
N-Nitrosodiphenylamine	N.D.	0.5	ug/l	100	98	80-115	2	30
Di-n-octylphthalate	N.D.	2.	ug/l	113	112	78-129	1	30
Pentachlorophenol	N.D.	1.	ug/l	76	75	60-130	1	30
Phenanthrene	N.D.	0.1	ug/l	105	103	81-114	2	30
Phenol	N.D.	0.5	ug/l	63	62	25-80	2	30
Pyrene	N.D.	0.1	ug/l	106	105	81-112	1	30
1,2,4-Trichlorobenzene	N.D.	0.5	ug/l	100	99	68-116	1	30
2,4,6-Trichlorophenol	N.D.	0.5	ug/l	103	103	84-119	0	30

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 142901848005	Sample number(s): 7640193							
Antimony	N.D.	0.0051	mg/l	101		88-111		
Arsenic	N.D.	0.0072	mg/l	105		90-116		
Beryllium	N.D.	0.00067	mg/l	102		90-111		
Cadmium	N.D.	0.00033	mg/l	100		90-112		
Chromium	N.D.	0.0013	mg/l	99		90-110		
Copper	N.D.	0.0028	mg/l	102		90-112		
Lead	N.D.	0.0047	mg/l	98		88-116		
Nickel	N.D.	0.0016	mg/l	103		90-117		
Selenium	N.D.	0.0048	mg/l	99		89-113		
Silver	N.D.	0.0018	mg/l	96		80-120		
Thallium	N.D.	0.0051	mg/l	106		85-120		
Zinc	0.0041 J	0.0020	mg/l	101		90-110		
Batch number: 142905708001	Sample number(s): 7640190-7640192							
Antimony	N.D.	0.330	mg/kg	108		80-120		
Arsenic	N.D.	0.640	mg/kg	107		80-120		
Beryllium	N.D.	0.0670	mg/kg	102		80-120		
Cadmium	0.0370 J	0.0330	mg/kg	105		80-120		
Chromium	N.D.	0.110	mg/kg	102		80-120		
Copper	N.D.	0.330	mg/kg	105		80-120		
Lead	N.D.	0.500	mg/kg	107		80-120		
Nickel	N.D.	0.150	mg/kg	107		80-120		
Selenium	0.448 J	0.440	mg/kg	109		80-120		
Silver	N.D.	0.190	mg/kg	89		80-120		
Thallium	N.D.	0.800	mg/kg	111		80-120		
Zinc	1.35 J	0.260	mg/kg	108		80-120		
Batch number: 142905711001	Sample number(s): 7640190,7640192							
Mercury	0.0622 J	0.0100	mg/kg	98		80-120		
Batch number: 142905713006	Sample number(s): 7640193							
Mercury	N.D.	0.00006	mg/l	82		80-120		
		0						
Batch number: 142935711002	Sample number(s): 7640191							
Mercury	N.D.	0.0100	mg/kg	92		80-120		
Batch number: 14294820005A	Sample number(s): 7640183-7640192							
Moisture				100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 14290SLB026	Sample number(s): 7640190-7640191 UNSPK: P637266								
Acenaphthene	74	71	55-132	3	30				
Acenaphthylene	109	110	53-143	1	30				
Anthracene	98	95	42-147	3	30				

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Benzidine	49	50	21-64	3	30				
Benzo (a) anthracene	97	86	32-150	10	30				
Benzo (a) pyrene	100	98	36-151	2	30				
Benzo (b) fluoranthene	97	85	29-150	12	30				
Benzo (g, h, i) perylene	99	92	41-147	8	30				
Benzo (k) fluoranthene	107	104	35-146	3	30				
4-Bromophenyl-phenylether	95	95	58-142	0	30				
Butylbenzylphthalate	93	95	50-137	1	30				
Di-n-butylphthalate	95	95	57-130	0	30				
4-Chloro-3-methylphenol	99	100	39-150	1	30				
bis(2-Chloroethoxy)methane	101	101	54-128	0	30				
bis(2-Chloroethyl) ether	100	92	69-114	9	30				
bis(2-Chloroisopropyl) ether	101	93	62-120	9	30				
2-Chloronaphthalene	84	88	40-156	4	30				
2-Chlorophenol	100	91	35-152	10	30				
4-Chlorophenyl-phenylether	97	97	56-130	0	30				
Chrysene	97	88	28-146	9	30				
Dibenz (a, h) anthracene	93	91	54-142	2	30				
1,2-Dichlorobenzene	-927 (2)	-1012 (2)	45-133	64*	30				
1,3-Dichlorobenzene	99	87	45-129	12	30				
1,4-Dichlorobenzene	89	77	44-132	13	30				
3,3'-Dichlorobenzidine	54	53	10-143	2	30				
2,4-Dichlorophenol	105	102	39-153	3	30				
Diethylphthalate	94	96	54-127	3	30				
2,4-Dimethylphenol	93	92	38-140	1	30				
Dimethylphthalate	93	97	45-135	4	30				
4,6-Dinitro-2-methylphenol	83	76	10-148	9	30				
2,4-Dinitrophenol	72	58	20-143	22	30				
2,4-Dinitrotoluene	96	98	39-144	2	30				
2,6-Dinitrotoluene	99	103	54-134	4	30				
1,2-Diphenylhydrazine	97	97	67-128	0	30				
bis(2-Ethylhexyl)phthalate	95	94	52-138	1	30				
Fluoranthene	74	45	41-135	26	30				
Fluorene	81	76	55-128	5	30				
Hexachlorobenzene	89	88	46-132	1	30				
Hexachlorobutadiene	95	93	65-125	2	30				
Hexachlorocyclopentadiene	75	92	10-153	20	30				
Hexachloroethane	94	84	24-138	11	30				
Indeno (1,2,3-cd) pyrene	93	85	44-147	9	30				
Isophorone	110	107	68-119	3	30				
Naphthalene	27*	20*	44-142	7	30				
Nitrobenzene	100	96	41-141	4	30				
2-Nitrophenol	96	96	45-146	0	30				
4-Nitrophenol	71	73	25-142	2	30				
N-Nitroso-di-n-propylamine	93	87	58-126	8	30				
N-Nitrosodimethylamine	102	84	61-110	19	30				
N-Nitrosodiphenylamine	97	97	59-135	1	30				
Di-n-octylphthalate	107	104	54-151	3	30				
Pentachlorophenol	82	80	23-145	3	30				
Phenanthrene	32*	4*	42-141	25	30				
Phenol	108	99	61-130	9	30				

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Pyrene	85	65	37-140	18	30				
1,2,4-Trichlorobenzene	102	99	50-139	2	30				
2,4,6-Trichlorophenol	97	95	60-136	2	30				
Batch number: 14293SLF026 Sample number(s): 7640183-7640186 UNSPK: 7640183									
Anthracene	94	99	42-147	5	30				
Benzo(a)anthracene	94	95	32-150	1	30				
Benzo(a)pyrene	97	97	36-151	0	30				
Benzo(b)fluoranthene	102	99	29-150	3	30				
Benzo(g,h,i)perylene	95	96	41-147	2	30				
Chrysene	98	101	28-146	3	30				
Fluorene	94	97	55-128	2	30				
Phenanthrene	91	96	42-141	5	30				
Pyrene	91	93	37-140	2	30				
Batch number: 14294SLC026 Sample number(s): 7640192 UNSPK: 7640192									
Acenaphthene	92	99	55-132	7	30				
Acenaphthylene	104	115	53-143	10	30				
Anthracene	96	104	42-147	8	30				
Benzidine	0*	0*	21-64	0	30				
Benzo(a)anthracene	95	100	32-150	6	30				
Benzo(a)pyrene	100	103	36-151	4	30				
Benzo(b)fluoranthene	106	108	29-150	1	30				
Benzo(g,h,i)perylene	97	100	41-147	2	30				
Benzo(k)fluoranthene	100	105	35-146	5	30				
4-Bromophenyl-phenylether	96	101	58-142	6	30				
Butylbenzylphthalate	99	103	50-137	5	30				
Di-n-butylphthalate	94	102	57-130	7	30				
4-Chloro-3-methylphenol	96	103	39-150	7	30				
bis(2-Chloroethoxy)methane	94	97	54-128	4	30				
bis(2-Chloroethyl)ether	87	97	69-114	11	30				
bis(2-Chloroisopropyl)ether	89	96	62-120	7	30				
2-Chloronaphthalene	88	93	40-156	5	30				
2-Chlorophenol	93	100	35-152	7	30				
4-Chlorophenyl-phenylether	92	102	56-130	10	30				
Chrysene	100	106	28-146	6	30				
Dibenz(a,h)anthracene	97	102	54-142	5	30				
1,2-Dichlorobenzene	91	96	45-133	6	30				
1,3-Dichlorobenzene	88	97	45-129	10	30				
1,4-Dichlorobenzene	88	96	44-132	9	30				
3,3'-Dichlorobenzidine	56	67	10-143	17	30				
2,4-Dichlorophenol	96	104	39-153	8	30				
Diethylphthalate	94	102	54-127	8	30				
2,4-Dimethylphenol	75	88	38-140	16	30				
Dimethylphthalate	94	100	45-135	7	30				
4,6-Dinitro-2-methylphenol	93	105	10-148	13	30				
2,4-Dinitrophenol	80	87	20-143	8	30				
2,4-Dinitrotoluene	94	104	39-144	10	30				
2,6-Dinitrotoluene	99	109	54-134	10	30				
1,2-Diphenylhydrazine	98	106	67-128	8	30				
bis(2-Ethylhexyl)phthalate	97	103	52-138	7	30				
Fluoranthene	92	99	41-135	7	30				

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Fluorene	94	104	55-128	9	30				
Hexachlorobenzene	91	96	46-132	5	30				
Hexachlorobutadiene	94	100	65-125	6	30				
Hexachlorocyclopentadiene	117	132	10-153	12	30				
Hexachloroethane	91	99	24-138	8	30				
Indeno(1,2,3-cd)pyrene	97	99	44-147	2	30				
Isophorone	103	107	68-119	4	30				
Naphthalene	94	98	44-142	4	30				
Nitrobenzene	95	101	41-141	6	30				
2-Nitrophenol	94	100	45-146	6	30				
4-Nitrophenol	89	97	25-142	8	30				
N-Nitroso-di-n-propylamine	85	94	58-126	10	30				
N-Nitrosodimethylamine	89	95	61-110	7	30				
N-Nitrosodiphenylamine	89	100	59-135	12	30				
Di-n-octylphthalate	106	112	54-151	6	30				
Pentachlorophenol	38	49	23-145	26	30				
Phenanthrene	93	101	42-141	8	30				
Phenol	89	95	61-130	7	30				
Pyrene	94	98	37-140	5	30				
1,2,4-Trichlorobenzene	96	101	50-139	5	30				
2,4,6-Trichlorophenol	80	93	60-136	15	30				

Batch number: 142901848005	Sample number(s): 7640193 UNSPK: P639712 BKG: P639712								
Antimony	104	103	81-122	0	20	N.D.	N.D.	0 (1)	20
Arsenic	105	106	81-123	1	20	N.D.	N.D.	0 (1)	20
Beryllium	104	103	87-114	1	20	N.D.	N.D.	0 (1)	20
Cadmium	102	102	75-122	0	20	N.D.	N.D.	0 (1)	20
Chromium	102	100	76-120	1	20	N.D.	N.D.	0 (1)	20
Copper	104	103	86-122	1	20	N.D.	N.D.	0 (1)	20
Lead	101	99	75-125	2	20	N.D.	N.D.	0 (1)	20
Nickel	104	104	79-123	0	20	N.D.	N.D.	0 (1)	20
Selenium	99	96	75-125	3	20	0.0054 J	N.D.	200* (1)	20
Silver	98	97	75-125	0	20	N.D.	N.D.	0 (1)	20
Thallium	106	106	75-125	0	20	N.D.	N.D.	0 (1)	20
Zinc	107	100	80-125	6	20	0.0062 J	0.0046 J	31* (1)	20

Batch number: 142905708001	Sample number(s): 7640190-7640192 UNSPK: P640361 BKG: P640361								
Antimony	68*	84	75-125	15	20	9.91	5.55	56* (1)	20
Arsenic	99	103	75-125	1	20	8.70	7.10	20 (1)	20
Beryllium	104	105	83-119	1	20	0.312 J	0.264 J	16 (1)	20
Cadmium	129*	95	75-120	32*	20	N.D.	0.241 J	200* (1)	20
Chromium	58*	102	75-125	16	20	34.9	47.4	30*	20
Copper	934 (2)	-9 (2)	75-125	93*	20	136	80.8	51*	20
Lead	-2386 (2)	-4241 (2)	75-125	14	20	2,410	1,620	39*	20
Nickel	96	109	75-125	8	20	22.3	16.3	31*	20
Selenium	78	50*	75-125	46*	20	N.D.	N.D.	0 (1)	20
Silver	95	91	75-125	6	20	0.194 J	0.216 J	11 (1)	20
Thallium	90	91	78-125	1	20	2.11 J	1.45 J	37* (1)	20
Zinc	233*	61*	75-125	41*	20	137	115	18	20

Batch number: 142905711001	Sample number(s): 7640190,7640192 UNSPK: P641098 BKG: P641098								
----------------------------	---	--	--	--	--	--	--	--	--

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Mercury	202021 (2)	845884 (2)	80-120	54*	20	1,040	1,190	14	20
Batch number: 142905713006 Mercury	Sample number(s): 7640193 UNSPK: P639702 BKG: P639702 79* 82 80-120 4 20 N.D. N.D. 0 (1) 20								
Batch number: 142935711002 Mercury	Sample number(s): 7640191 UNSPK: P640361 BKG: P640361 183* 120 80-120 17 20 0.354 0.502 35* (1) 20								
Batch number: 14294820005A Moisture	Sample number(s): 7640183-7640192 BKG: 7640187 27.8 29.0 4 5								

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTE/MTBE/Cumene/Naph/TMBs
Batch number: Q142941AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7640183	66	73	72	70
7640184	73	82	82	82
7640187	56	61	63	69
7640188	61	68	69	66
7640189	74	82	83	80
Blank	85	97	93	88
LCS	92	95	97	92
LCSD	87	92	92	89
Limits:	50-141	54-135	52-141	50-131

Analysis Name: Benzene, Naphthalene
Batch number: Q142951AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7640185	72	79	85	94
7640186	60	70	69	86
Blank	79	86	84	81
LCS	83	87	87	83
LCSD	84	88	87	83
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PPL/TCL Volatiles in Soil
Batch number: X142941AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7640190	100	99	100	98
7640191	103	104	109	84
7640192	104	106	99	98
Blank	102	101	100	98
LCS	100	97	102	104

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

Surrogate Quality Control

LCS	100	97	101	103
Limits:	50-141	54-135	52-141	50-131

Analysis Name: PPL/TCL Volatiles in Water
Batch number: Y142941AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7640193	99	100	99	91
7640194	98	100	99	91
Blank	98	99	99	91
LCS	97	101	102	97
LCS	96	101	101	106
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PPL/TCL SVOCs in Soil
Batch number: 14290SLB026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7640190	88	90	82	87	88	101
7640191	88	87	67	85	86	94
Blank	90	96	89	94	96	108
LCS	93	95	88	94	93	106
MS	97	100	81	93	91	104
MSD	88	91	78	91	93	104
Limits:	44-129	40-141	36-142	54-123	63-124	61-142

Analysis Name: PAH 8270 (microwave)
Batch number: 14293SLF026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7640183	89	88	99
7640184	90	92	101
7640185	90	92	99
7640186	84	88	93
Blank	91	93	105
LCS	91	90	100
MS	88	87	96
MSD	89	89	98
Limits:	54-123	63-124	61-142

Analysis Name: PPL/TCL SVOCs in Soil
Batch number: 14294SLC026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7640192	92	97	92	96	99	110
Blank	91	98	95	96	99	109
LCS	89	94	94	97	95	105
MS	87	88	71	90	87	101
MSD	93	96	81	93	94	106
Limits:	44-129	40-141	36-142	54-123	63-124	61-142

Analysis Name: TCL SW846 Semivolatiles/Waters
Batch number: 14294WAG026

	2-Fluorophenol	Phenol-d6	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7640193	68	47	82	104	96	110
Blank	61	41	69	90	81	82
LCS	79	54	87	107	96	106
LCS	79	54	86	108	96	105
Limits:	10-107	10-83	22-150	60-123	67-116	40-147

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Rettew Associates
Reported: 10/27/14 at 12:36 PM

Group Number: 1511613

Surrogate Quality Control

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

Acct. # 721

For Eurofins Lancaster Laboratories Environmental use only
Group # 1511613 Sample # 7640183-94
Instructions on reverse side correspond with circled numbers.

362914

1 Client Information				4 Matrix				5 Analysis Requested				6 Preservation Codes				7 Turnaround Time (TAT) Requested				8 Data Package Options			
Client:				Matrix:				Analysis Requested:				Preservation Codes:				Turnaround Time (TAT) Requested:				Data Package Options:			
Project Name/ID:				Sediment				Total # of Containers				Preservation Codes				Standard				Type VI (Raw Data Only)			
Project Manager:				Water				Other:				FSC:				Rush				Type III (Reduced non-CLP)			
Sampler:				Soil				Composite				Remarks				Date				Type IV (CLP SOW)			
Name of state where samples were collected:				Grab				PAH 8220 / Moisture				H=HCl T=Thiosulfate				Date				Temperature upon receipt			
Sample Identification				Collected				BTEX / MTBE / CUM / NAPH / TMB				N=HNO ₃ B=NaOH				Date				°C			
Date				Time				BTEX / MTBE / CUM / NAPH / TMB				S=H ₂ SO ₄ O=Other				Date				°C			
SB-5 @ 18 ft				10/16 9:30				X				PPL VOC				10/16 15:00				10/16 15:00			
SB-6 @ 10 ft				10/16 13:30				X				PPL VOC				10/16 15:00				10/16 15:00			
SB-7 @ 8 ft				10/16 13:00				X				PPL VOC				10/16 15:00				10/16 15:00			
SB-8 @ 7 ft				10/16 11:55				X				PPL VOC				10/16 15:00				10/16 15:00			
SB-2 @ 16 ft				10/16 11:00				X				PPL VOC				10/16 15:00				10/16 15:00			
SB-3 @ 12 ft				10/16 10:15				X				PPL VOC				10/16 15:00				10/16 15:00			
SB-4 @ 11 ft				10/16 10:40				X				PPL VOC				10/16 15:00				10/16 15:00			
SB-9 @ 10 ft				10/16 14:05				X				PPL VOC				10/16 15:00				10/16 15:00			
SB-10 @ 5 ft				10/16 14:40				X				PPL VOC				10/16 15:00				10/16 15:00			
SB-1				10/16				X				PPL VOC				10/16 15:00				10/16 15:00			

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

Acct. # 721

For Eurofins Lancaster Laboratories Environmental use only
Group # 151613 Sample # 7040183-94
Instructions on reverse side correspond with circled numbers.

Client Information

Client: RETTEW ASSOCIATES INC
Project Name/ID: 101722001
Project Manager: ED DZFE DZFC
Sampler: ED DZFE DZFC
Name of state where samples were collected: PA

Sample Identification

Collected
Date Time
10/16 11:30
10/16

Grab
Composite

Matrix

☐ Sediment ☐ Soil
☐ Ground ☐ Potable ☐ NPDES ☐ Surface
Water

Analysis Requested

Preservation Codes
N H NONE
Total # of Containers
1 3 2
2 2
PRL METALS
PRL VOC
TCL SVOC

For Lab Use Only

FSC:
SCR#:
Preservation Codes
H=HCl T=Thiosulfate
N=HNO₃ B=NaOH
S=H₂SO₄ O=Other
Remarks
6

Turnaround Time (TAT) Requested (please circle)

Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:
E-mail address:

Data Package Options (circle if required)

Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
Type IV (CLP SOW) MA MCP CT RCP

Relinquished by Date 10/16/14 Time 18:05
Relinquished by Date Time
Relinquished by Date Time
Relinquished by Date Time
Relinquished by Date Time
Relinquished by Date Time

EDD Required? Yes No
If yes, format:
Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS FedEx Other
Temperature upon receipt 81 °C

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns $>25\%$
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is $<CRDL$, but $\geq IDL$
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.