

REVISED LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

FOR

**1020 MANOR STREET
(MCGINNESS PROPERTIES)**

**BOROUGH OF COLUMBIA AND WEST HEMPFIELD TOWNSHIP, LANCASTER
COUNTY, PENNSYLVANIA**



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Prepared for:

BOROUGH OF COLUMBIA
308 Locust Street
Columbia, PA 17512

Prepared by:

RETTEW ASSOCIATES, INC.
3020 Columbia Avenue
Lancaster, PA 17603

RETTEW Project No. 026852001

REVISED LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

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1.0 INTRODUCTION

This Revised Limited Phase II Environmental Site Assessment Report (Report) has been prepared by RETTEW Associates, Inc. on behalf of the Borough of Columbia (the Borough), to document environmental assessment activities conducted at the McGinness Properties (the Site), located at 1020 Manor Street in the Borough of Columbia and West Hempfield Township, Lancaster County, Pennsylvania. The Site is known as the "McGinness Airport" and is currently owned by the George McGinness Revocable Trust of 2007 and the Dorothy McGinness Revocable Trust of 2007. The Site is currently used for crop production, an unoccupied dwelling and garage, and as vacant land. A Site Location Map is included as **Figure 1**.

A Phase I Environmental Site Assessment (ESA) conducted at the Site by RETTEW in June 2017 identified several recognized environmental conditions (RECs) associated with both past and current land uses. Based on the findings of the Phase I ESA, RETTEW recommended a limited investigation of soil quality in the vicinity of each REC to confirm the presence or absence of environmental impacts.

A Limited Phase II ESA was delivered to the Borough on June 30, 2017. A subsequent Site visit was performed that revealed two additional RECs. The purpose of this Revised Limited Phase II ESA was to provide updated investigative findings of current environmental quality at each REC and compare results to applicable Pennsylvania Department of Environmental Protection (PADEP) remediation standards. The findings were used to develop recommendations for remedial action in accordance with Pennsylvania's Land Recycling and Remediation Standards Act (Act 2) standards, and PA Code, Title 25, Chapter 250 titled *Administration of the Land Recycling Program*. The Limited Phase II ESA investigative methods, findings and recommendations are presented in the following sections of this report.

2.0 SITE DESCRIPTION AND BACKGROUND

The Site is approximately 58 acres and consists of eight tax parcels located within the Borough of Columbia, with the southern portion of one parcel (950 S. 13th Street) extending into West Hempfield Township. The former airport runway areas are now cultivated. Improvements at the Site include a 2 ½-story residential structure, a one-story masonry garage, and a 10'x12' frame shed. Three underground storage tanks (USTs) are present at the Site, as well as gravel access roads, overhead electric utilities, sanitary sewer and public water utilities. An Aerial Basemap is included as **Figure 2** showing improvements and other items of interest at the Site.

The Site is served by sanitary sewer and a public water supply. There are reportedly no water supply wells or septic systems on the Site. A former retirement home (Wilmac) and former dwelling were located on the 1015 Plane Street parcel. The Site was actively used as an airfield from 1945 to 2014 for small aircraft. The Site structures are currently unoccupied, and the open areas of the Site are cultivated with wheat crops. Residential, agricultural, commercial, and industrial properties surround the Site, which is also bordered by an active Norfolk Southern Railway corridor to the south.

Land use at the Site has historically been agricultural, with a quarry operation in the southern portion of the Site. The quarry was in operation prior to 1940, and the remainder of the site was developed by George McGinness thereafter. The airfield was constructed around 1945, and the residential structure at the Site was constructed around 1960. The former hangar buildings were built sometime after 1945, and were reportedly destroyed by fire and an ice storm approximately 15-20 years ago. The northernmost hangar was also used as a roller skating rink.

The Borough intends to purchase the Site for redevelopment. Although a redevelopment plan is not available as of the date of this report, the intended future use of the property will be for commercial and industrial (i.e., nonresidential) purposes according to the Borough. The Site property boundary survey

completed during June 2017 includes two conservation easements that would further restrict land use. It is not known which land use right(s) the Borough will retain within the conservation easements. It is assumed that the conservation easements will be open to public access for recreational use until otherwise specified. The PADEP typically applies the more stringent residential remediation standards for recreational land use. For the purpose of this report, it is assumed that residential remediation standards will apply within the conservation easements.

2.1 PHASE I ESA SUMMARY

A Phase I ESA was conducted at the Site by RETTEW in June 2017 to satisfy environmental due diligence as part of potential sale of the property. The Phase I ESA identified several RECs associated with both past and current land uses that warranted further evaluation. These RECs are shown on **Figure 2** and were identified as follows.

Underground Storage Tanks

Fill and vent pipes associated with two approximately 2,000-gallon aviation gasoline USTs and one approximately 3,000-gallon #2 fuel oil UST are located on the west and south sides of the existing one-story masonry garage. A pump dispenser mount was also noted adjacent to the aviation gasoline USTs. The aviation gasoline USTs were used to fuel aircraft at the Site. The fuel oil UST stored fuel for an oil-burning furnace used to heat the hangar buildings. The USTs have been out of service since the 1970s, although the fuel oil UST is known to contain a significant amount of fuel. The aviation gasoline USTs were reportedly "inspected" in 2014, and were found to be liquid empty and contain only a minor amount of condensation.

Western Fill Areas (S. 9th Street)

Fill areas are located on the western portion of the Site east of S. 9th Street. Access to the fill areas is provided via a locking gate at S. 9th Street and existing gravel road. The fill materials were reportedly transported to the Site by Miller Pipeline Company (a contractor for UGI) and were historically utilized to extend the end of the airfield south of S. 9th Street. Fill material was also placed in an adjacent wooded area. Miller Pipeline Company and Pennsy Supply had utilized the Site for the disposal of fill materials from local natural gas pipeline upgrade projects over the past 14 years. The fill materials reportedly consist of blacktop, aggregate, road base materials and concrete.

Eastern Fill Area (S. 13th Street)

A fill area is located on the eastern portion of the Site west of S. 13th Street on the 1020 Manor Street and 830 S. 13th Street parcels. According to interviews conducted during the Phase I ESA, foundry sand and "cores" from the former Grinnell foundry in Columbia (now Anvil International) were used as fill to extend the eastern end of the runway. Access to the fill area is provided via S. 12th Street and traversing the cultivated field.

Northern Fill Area (1020 Manor Street)

Although not specifically discussed in the Phase I ESA report, a northern fill area was identified in conjunction with the Phase II ESA. This area was formerly a depression which was backfilled with foundry sand in the 1950s and 1960s.

Former Quarry

The former quarry has been inactive since at least 1940. The area is overgrown with dense vegetation and underbrush. Portions of the quarry area are filled with water. No surficial debris or evidence of waste disposal was observed in the quarry area; however, according to interviews conducted during the Phase I ESA, machine oil from local machine shops had previously been "dumped" in the quarry to deter locals

from swimming in the quarry. One individual interviewed recalled seeing an "oil slick" in the quarry on several occasions.

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 Lowland Section of the Piedmont Physiographic Province of Pennsylvania, and is underlain by complexly folded and faulted limestone and dolomite. Local topography is characterized by broad, moderately dissected karst valleys separated by broad, low hills. According to the USGS 7.5-minute Columbia East Quadrangle (**Figure 1**), the Site is situated at an approximate elevation of 320 feet. Surface topography slopes toward the south and southwest. Strickler Run flows across the southeastern corner of the Site and discharges to the Susquehanna River, located approximately 700 feet southwest of the southern Site boundary.

According to the Pennsylvania Bureau of Topographic and Geologic Survey, most of the Site is underlain by the Conestoga Formation, with the southern property boundary underlain by the Vintage Formation². A Geology Map is included as **Figure 3**. The Conestoga Formation is described as a medium-gray, impure limestone having black, graphitic shale partings. It is conglomeratic at its base. This formation is crudely to poorly bedded, thin, and highly crumpled. Joints in this formation have an irregular pattern, are poorly formed, moderately abundant, widely spaced, and they have uneven regularity. Many joints are open but some are filled with quartz and calcite. This formation is moderately resistant to weathering. It is slightly weathered to a shallow depth. The resulting mantle thickness is highly variable and may be extremely thick. The interface between bedrock and mantle is pinnacled in most places³.

The Vintage Formation is described as dark gray, knotty, argillaceous dolomite having impure, light gray marble at the base. This formation is moderately well bedded and massive. Joints have a blocky pattern, are moderately to well developed, are moderately abundant, are irregularly spaced having a wide distance between fractures, and are open and steeply dipping. This formation is moderately resistant to weathering and is slightly to moderately weathered to a shallow depth. The overlying soil mantle is thin and pinnacles characterize the interface between mantle and bedrock³.

In the carbonate rocks that underlie the Site, groundwater occurs in fractures and voids of secondary porosity resulting from solution of the rock⁴. Groundwater moves through the network of interconnected secondary fractures and joints in the bedrock aquifer. When these water-bearing fractures and voids are penetrated by a well, the water level in the well will rise to the level within the aquifer. Because there are no sharply defined confining units in the carbonate rocks, the aquifer is characterized as one interconnected water-table aquifer. Groundwater typically flows from areas of higher elevation and discharges to perennial streams in lower topographic settings.

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

²Arthur Socolow, *Geologic Map of Pennsylvania*, Pennsylvania Department of Environmental Resources, Bureau of Topographic and Geologic Survey, 1980.

³A.R. Geyer and J.P. Wilshusen, *Engineering Characteristics of the Rocks of Pennsylvania*, Pennsylvania Department of Environmental Resources, Office of Resource Management, Bureau of Topographic and Geologic Survey, 1982.

⁴H. Meisler and A. Becher, *Hydrogeology of the Carbonate Rocks of the Lancaster 15-Minute Quadrangle, Southeastern Pennsylvania*, Pennsylvania Bureau of Topographic and Geologic Survey, Water Resource Report 26, Harrisburg, Pennsylvania, 1971.

4.0 SITE ASSESSMENT METHODS

4.1 SUBSURFACE UTILITY SURVEY

On May 10, 2017, a RETTEW geophysicist performed a subsurface utility survey near the USTs and garage areas. The survey was completed utilizing an M-Scope, electromagnetic (EM) and ground penetrating radar (GPR) equipment. The purpose of the survey was to identify the UST locations, trace subsurface anomalies, and resolve potential utility conflicts near proposed soil borings. The footprint of the USTs, as well as other anomalies and potential drilling conflicts, were marked on the ground with paint prior to staking soil boring locations in the field.

4.2 SOIL BORING INSTALLATION AND SOIL SAMPLE ANALYSIS

On June 1, 2017, 11 soil borings (identified as SB-1 through SB-11) were advanced at the Site to investigate soil quality surrounding the USTs using track-mounted, direct-push Geoprobe® tooling provided by VonNeida Environmental LLC, of Ephrata, Pennsylvania. Soil boring locations were placed around the perimeter of the USTs at a distance of approximately seven feet. Soil borings SB-1 through SB-6 were located around the perimeter of the two aviation gasoline USTs, and soil borings SB-7 through SB-11 were located around the perimeter of the fuel oil UST as shown on **Figure 4**.

Soil samples were collected continuously over the entire boring interval using the Geoprobe. 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 compounds (VOCs) and petroleum compounds. The soil borings were advanced to depths ranging from 12 to 14 feet below ground surface (bgs). Equipment refusal (i.e., the limestone bedrock surface) was encountered in each boring and drilling was terminated. Lithology was generally classified by RETTEW as lean silty clay and silt overlying gray sandy weathered limestone and competent limestone bedrock. Groundwater was encountered in four of the borings (SB-1, SB-3, SB-4 and SB-11) at depths ranging from nine to 11 feet bgs. Soil boring logs documenting field observations are provided in **Appendix A**.

During soil sampling at SB-1 through SB-6, PID field screening revealed the presence of VOCs in each boring, with maximum PID readings ranging from 92 parts per million (ppm) at SB-2 to 1,200 ppm at SB-3. Maximum PID readings generally occurred at the depth where groundwater was encountered in SB-1, SB-3 and SB-4. One soil sample was collected for laboratory analysis at the depth interval of the maximum PID reading. Due to the lack of detectable VOCs during field screening at SB-7 through SB-11, one soil sample was collected from each soil boring near the terminal depth above the bedrock surface. Each soil sample was preserved in the field using laboratory bottleware, placed in a cooler with ice, and delivered to Lancaster Laboratories Environmental (LLE) following standard chain-of-custody procedures for analysis of the PA DEP Short List of Petroleum Products for aviation gasoline and #2 fuel oil. Soil sample laboratory analytical reports are included as **Appendix B**. A soil sample analytical data summary for the USTs is included as **Table 1**.

4.3 WESTERN FILL AREAS TEST PIT EXCAVATION, SAMPLING AND ANALYSIS

On June 2 2017, six test pits (identified as TP-1 through TP-6) were excavated throughout the Western Fill Areas (see **Figure 2**). Sample locations were selected based on the Phase I ESA findings and a review of historical aerial photos, which show that most of the fill material was placed on the Site after 1990.

Test pit excavation was performed by Richard T. Wimer (RTW) of Quarryville, Pennsylvania, using a backhoe. Test pits were excavated to reach native soil, or to a depth of 14 feet bgs, the maximum reach of the backhoe. During the excavation of each test pit, fill materials were observed over the entire depth penetrated and consisted primarily of asphalt, concrete, brick, crushed stone, road millings and loose soil.

Test pits TP-1, TP-2 and TP-3 were excavated to 14 feet bgs and did not reach native soil. During the excavation of TP-1, TP-2 and TP-3, minor amounts of other fill materials (metal pipe, glass, ash, stone, etc.) were encountered. Test pits TP-4, TP-5 and TP-6 were excavated to nine, 10 and 10 feet bgs, respectively, where brown clayey silt native soil was encountered. The fill materials encountered in these test pits were predominantly asphalt, road millings and crushed stone. Based on the type of fill observed and the approximate time of placement (since 1990), the fill is characterized as construction and demolition waste that was used to bring areas of the Site up to present grade.

Samples of the fill material were collected from each of the test pit depths for laboratory analysis. All fill samples were collected with a hand trowel, which was decontaminated with an Alconox wash and fresh water rinse between sampling locations. Each fill sample was preserved in the field using laboratory bottleware, placed in a cooler with ice, and delivered to LLE following standard chain-of-custody procedures for analyses Priority Pollutant List (PPL) VOCs, PPL semi-volatile organic compounds (SVOCs), pesticides and herbicides, and PPL metals. Each sample of fill material was also analyzed using the Synthetic Precipitation Leaching Procedure (SPLP) to characterize the potential for regulated substances to leach from the fill and impact groundwater.

In addition to the fill samples, samples of the native soil were collected at TP-4, TP-5 and TP-6. The soil samples were preserved in the field using laboratory bottleware, placed in a cooler with ice, and delivered to LLE following standard chain-of-custody procedures for analyses PPL VOCs, PPL SVOCs, pesticides and herbicides, and PPL metals. Sample analytical results are summarized on **Table 2**. SPLP analytical results are summarized on **Table 3**. Laboratory analytical data reports are attached in **Appendix B**.

4.4 EASTERN FILL AREA TEST PIT EXCAVATION, SAMPLING AND ANALYSIS

On July 5, 2017, five test pits (identified as TP-1 through TP-5) were excavated throughout the Eastern Fill Area (see **Figure 2**). Sample locations were selected based on the Phase I ESA interview information. Historical aerial photos do not show evidence of fill placement on the eastern portion of the Site.

Test pit excavation was performed by RTW using a backhoe. Test pits were excavated to reach native soil, or to a depth of 15 feet bgs, the maximum reach of the backhoe. During the excavation of each test pit, fill materials were observed, which consisted primarily of a black granular matrix with minor amounts of other fill materials such as slag, metal fragments, brick, stone and rock. Test pit TP-1 was excavated to 15 feet bgs and did not reach native soil. The remaining test pits were excavated to depths ranging from four to eight feet bgs. Native soil was observed in test pits TP-2 and TP-4 at depths of 4.5 and eight feet bgs, respectively. Based on the type of fill observed and the approximate time of placement (prior to 1980), the fill is characterized as residual industrial process waste that was used to bring areas of the Site up to present grade.

Samples of the fill material were collected from each of the test pit depths for laboratory analysis. All fill samples were collected with a hand trowel, which was decontaminated with an Alconox wash and fresh water rinse between sampling locations. Each fill sample was preserved in the field using laboratory bottleware, placed in a cooler with ice, and delivered to LLE following standard chain-of-custody procedures for analyses Priority Pollutant List (PPL) VOCs, PPL semi-volatile organic compounds (SVOCs), pesticides and herbicides, and PPL metals. Each sample of fill material was also analyzed using the Synthetic Precipitation Leaching Procedure (SPLP) to characterize the potential for regulated substances to leach from the fill and impact groundwater.

In addition to the fill samples, samples of the native soil were collected at TP-2 and TP-4. The soil samples were preserved in the field using laboratory bottleware, placed in a cooler with ice, and delivered to LLE following standard chain-of-custody procedures for analysis of PPL VOCs, PPL SVOCs, pesticides and

herbicides, and PPL metals. Sample analytical results are summarized on **Table 4**. Laboratory analytical data reports are attached in **Appendix B**.

4.5 FORMER QUARRY SAMPLING AND ANALYSIS

One surface water sample (WS-1) was collected from the existing quarry on July 5, 2017. The surface water sample was collected based on the Phase I ESA interview information. The water sample was collected with a clean, disposable Teflon bailer, preserved in the field using laboratory bottleware, placed in a cooler with ice, and delivered to LLE following standard chain-of-custody procedures for analysis of PPL VOCs, PPL SVOCs and PPL metals. Sample analytical results indicate that none of the VOCs or SVOCs were detected except for toluene at a concentration of 1.0 microgram per liter ($\mu\text{g/L}$). Several metals were detected in the surface water sample, including copper, lead, nickel and zinc at concentrations of 12.2, 11.8, 8.0 and 101 $\mu\text{g/L}$, respectively. Of the regulated substances detected, only lead exceeds its Act 2 nonresidential Statewide Health Standard Medium Specific Concentrations (MSCs) of 5 $\mu\text{g/L}$; however, groundwater remediation standards do not apply to surface water. Assuming that the former quarry discharges to Strickler Run, additional sampling and instream flow modeling would be necessary to determine applicable surface water standards for the regulated substances detected in the surface water sample. Laboratory analytical data reports are attached in **Appendix B**.

4.6 GEOPHYSICAL SURVEY

On July 18, 2017, a RETTEW geophysicist performed an EM-31 survey of the runway areas in an attempt to estimate the aerial extent of foundry sand containing metallic materials placed in the Eastern Fill Area. The EM-31 survey was initiated in the Eastern Fill Area using a grid on 10-foot centers, followed by an exploratory traverse of each runway centerline to detect the potential presence of conductive materials (i.e., in-phase response indicative of metal). The EM-31 survey results are shown on **Figure 5**. The EM-31 survey showed an area of conductive material correlating to the foundry sand that was observed in TP-1 through TP-6. The exploratory traverses also showed an area of in-phase response in the northern portion of the Site consistent with foundry sand (Northern Fill Area).

4.7 CONFIRMATORY TEST PIT EXCAVATION

The findings of the July 5, 2017 test pits and the EM-31 survey conducted on July 18, 2017 were used to identify areas where foundry sand fill material was most likely to be present. On July 19, 2017, RETTEW retained RTW to excavate 10 additional test pits (TP-7 through TP-16) across the Site utilizing a back hoe to observe and confirm the presence or absence of foundry sand fill materials. Test pit locations and the estimated extent of this "Northern Fill Area" are shown on **Figure 5**. Black granular foundry sand fill materials were observed in test pits TP-7 (0.5 to seven feet bgs), TP-8 (two to 10 feet bgs) and TP-10 (one to four feet bgs). Foundry sand was not observed in the remaining test pits.

5.0 FILL AND SOIL QUALITY

RETTEW understands that the Site is planned for commercial (i.e., nonresidential) redevelopment with the exception of the conservation easements shown on **Figure 5**. Fill and soil sample analytical results were reviewed and compared to applicable Act 2 nonresidential Statewide Health Standard Medium Specific Concentrations (MSCs) to determine if fill and soil quality met PADEP remediation standards. The findings are described below for each REC identified in the Phase I ESA.

Underground Storage Tanks

Soil sample analytical results were compared to applicable Act 2 MSCs listed in **Table 1** for nonresidential used aquifers. The results show that 1,2,4-trimethylbenzene (TMB) does not meet its Statewide Health Standard MSCs at SB-3, SB-4 and SB-5. It is noted that these samples were collected at or below the

highest observed water table (nine feet bgs). Per the Act 2 *Technical Guidance Manual*, 1/10 of the Generic Value is used to calculate the applicable Act 2 Soil to Groundwater MSC in the “zone of groundwater saturation”, or the vertical interval of water table fluctuation. For this assessment, it is assumed that the seasonal high water table near the USTs is nine feet bgs, although properly constructed groundwater monitoring wells would be needed to verify seasonal water table fluctuations over a full hydrologic cycle of approximately one year. The exceedance of the Act 2 Soil to Groundwater MSCs at SB-3, SB-4 and SB-5 indicates that the soil has been impacted by regulated substances released from the aviation gasoline USTs, and the regulated substances have the potential to leach out of the soil and impact groundwater.

Western Fill Areas

Analytical results for the fill samples collected at TP-1 through TP-6 were compared to the Act 2 MSCs listed in **Table 2** for nonresidential used aquifers. The results show that multiple regulated substances, including VOCs, SVOCs, pesticides and herbicides, and metals were detected in the fill. Most of the regulated substances were detected at concentrations below their nonresidential MSCs; however, benzo(a)pyrene was detected above the surface soil Direct Contact nonresidential MSC at TP-2. Benzo(a)pyrene was also detected at a concentration above its residential surface soil Direct Contact MSC at TP-4 and TP-5. It is noted that TP-4 and TP-5 are located in a conservation easement, where the residential MSCs are assumed to apply. Although benzo(a)pyrene was detected at depths below the interval where the surface soil Direct Contact MSC applies (zero to two feet bgs), the fill material was observed to have the same composition throughout the depth interval investigated, and it is assumed to be similar within two feet of the surface where the surface soil Direct Contact MSCs apply.

Analytical results for the soil samples collected at TP-4 through TP-6 below the fill were compared to the Act 2 MSCs listed in **Table 2** for nonresidential used aquifers. The results show that the sample results meet their applicable nonresidential MSCs at the depth intervals sampled.

The SPLP analytical results for the fill samples collected at TP-1 through TP-6 were compared to the Act 2 groundwater MSCs listed in **Table 3** for nonresidential used aquifers. The results show that the fill produced a leachate that exceeded the groundwater MSCs for multiple SVOCs in each sample. In addition, lead was detected at a concentration above the groundwater MSC in the leachate from the fill sample collected at TP-2.

Eastern Fill Area

Analytical results for the fill samples (foundry sand) collected at TP-1 through TP-5 were compared to the Act 2 MSCs listed in **Table 4** for nonresidential used aquifers. The results show that multiple regulated substances, including VOCs, SVOCs, pesticides and herbicides, and metals, were detected in the fill. All of the regulated substances were detected at concentrations below their applicable MSCs.

Analytical results for the soil samples collected at TP-2 and TP-4 below the fill were compared to the Act 2 MSCs listed in **Table 4** for nonresidential used aquifers. The results show that the sample results meet their applicable nonresidential MSCs at the depth intervals sampled.

The SPLP analytical results for the fill samples collected at TP-1 through TP-6 were compared to the Act 2 groundwater MSCs. As of the date of this report, only SPLP for metals have been reported. The only regulated substance detected in the leachate was barium at concentrations well below the applicable Act 2 groundwater MSC. SPLP results for VOCs and SVOCs will be provided under separate cover as they become available. It is noted that the detected concentrations of SVOCs in the fill at TP-5 were similar to the detected concentrations of SVOCs in the Western Fill Areas, which produced a leachate that exceeded the Act 2 groundwater MSCs for several regulated substances.

It should also be noted that fill samples were not collected in the Northern Fill Area due to time and budgetary constraints. However, the foundry sand materials observed in the Northern Fill Area were very similar to those observed in the Eastern Fill Area.

6.0 SURFACE WATER QUALITY

Analytical results for the surface water sample collected at the former quarry (WS-1) indicated that toluene, copper, lead, nickel and zinc were detected. Assuming that the former quarry (elevation 262 feet) discharges to Strickler Run (elevation 254 feet) located approximately 200 feet south of the former quarry, further assessment of surface water quality is needed, including the collection and analysis of water samples from Strickler Run upstream and downstream of the former quarry, and instream flow modeling to calculate applicable Water Quality Based Effluent Limits (WQBELs) for the regulated substances detected. The source for the regulated substances in WS-1 is unknown, but could possibly be from the discharge of groundwater into the quarry from upgradient areas of the Site, or the result of abandoned materials within the quarry.

7.0 GROUNDWATER QUALITY

A groundwater assessment was not performed during this Phase II ESA; however, the results of soil sample analysis at UST soil borings SB-3, SB-4 and SB-5 indicate that soil has been impacted by regulated substances released from the aviation gasoline USTs, and some of these regulated substances have the potential to leach out of the soil and threaten groundwater. Fill leachate containing regulated substances at concentrations above the groundwater MSCs for nonresidential used aquifers suggests that there is potential for groundwater impact below the Western Fill Areas; however, soil sample analytical results at TP-4, TP-5 and TP-6 meet the Soil to Groundwater MSCs protective of groundwater.

8.0 CONCLUSIONS

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 nonresidential Statewide Health Standards. This section summarizes the investigative findings at each REC identified during the Phase I and II ESA, and provides recommendations to bring the Site into compliance with PADEP regulations based upon the Borough's plan to redevelop the Site for commercial and nonresidential land use.

Underground Storage Tanks

Soil sample analytical results show that several regulated substances (naphthalene, 1,2,4-trimethylbenzene (TMB) and 1,3,5-TMB) do not meet their applicable Act 2 nonresidential Soil to Groundwater MSCs at SB-3, SB-4 and SB-5. Groundwater was encountered in the borings between nine and 12 feet bgs, and bedrock was encountered between 12 and 14 feet bgs. Due to the presence of shallow groundwater and exceedances of the Soil to Groundwater MSCs, groundwater was likely impacted by regulated substances released from the aviation gasoline USTs. Further, the soil sample analytical results for 1,2,4-TMB do not meet the PADEP vapor intrusion screening values for soil, indicating the potential for impacts to indoor air.

The aviation gasoline USTs were reportedly "inspected" in 2014, and were found to be liquid empty and contained a minor amount of condensation. If the USTs are empty, they are not considered regulated tanks by the PADEP. USTs containing heating oil are also not regulated by the PADEP. If a release is confirmed from the aviation gasoline USTs and remediation is required, the methods and standards of Act 2 will apply during site characterization, remediation, and attainment demonstration. In addition, the soil sample analytical results for 1,2,4-TMB do not meet the PADEP vapor intrusion screening values;

therefore, a vapor intrusion assessment will be required after the full extent of soil and groundwater impacts are defined.

Due to the presence of TMB exceeding the Act 2 nonresidential MSCs, there is evidence of a release of petroleum at the Site. At a minimum, the release must be investigated. Closure by removal is recommended for all USTs at the Site. The aviation gasoline tanks are reported to be empty and the fuel oil UST is an unregulated tank; therefore, the remediation of a release from any of the UST systems should follow Act 2 protocols for unregulated tanks.

Western Fill Areas

The fill materials observed were predominantly asphalt, road millings and crushed stone characterized as construction and demolition waste. The fill materials do not meet the nonresidential Act 2 surface soil Direct Contact MSCs for benzo(a)pyrene at TP-2, indicating that the fill could pose a health risk to humans that come in contact with it. Benzo(a)pyrene also exceeded its residential surface soil Direct Contact MSC at TP-4 and TP-5 located within a conservation easement where the residential MSCs are assumed to apply. Although benzo(a)pyrene was detected at depths below the interval where the surface soil Direct Contact MSC applies (zero to two feet bgs), the fill material was observed to have the same composition throughout the depth interval investigated, and it is assumed to be similar within two feet of the surface where the surface soil Direct Contact MSCs apply. Surface fill quality (upper two feet) of the of the fill material should be investigated further to evaluate the direct contact exposure pathway for humans.

Samples of the fill that were analyzed using SPLP methods produced leachate that exceeds Act 2 groundwater MSCs for nonresidential used aquifers. It is noted that soil samples collected from below the fill at TP-4, TP-5 and TP-6 meet the Act 2 Soil to Groundwater MSCs, which are protective of groundwater. Although the potential exists for the leachate to impact Site groundwater, it has not adversely impacted the soil below the fill at TP-4, TP-5 and TP-6.

Most of the fill materials in the Western Fill Areas were placed on the Site sometime after 1990, and is generally characterized as construction/demolition waste that would have been considered "clean fill" under PADEP waste regulations at the time of placement. However, fill leachate contains concentrations of regulated substances (SVOCs) that exceed applicable Act 2 groundwater MSCs and have potential to impact groundwater. Due to the extent, depth and volume of fill materials present, removal of the fill material is not feasible. Further evaluation and on-site management of the fill is recommended prior to Site redevelopment.

Eastern and Northern Fill Areas

The fill materials observed (foundry sand) consisted primarily of a black granular matrix with minor amounts of other fill materials such as slag, metal fragments, brick, stone and rock. The fill materials sampled meet the nonresidential MSCs.

Complete SPLP results for the fill material were not available as of the date of this report and will be provided under separate cover as they become available. It is noted that the detected concentrations of SVOCs in the fill at TP-5 were similar to the detected concentrations of SVOCs in the Western Fill Areas, which produced a leachate that exceeded the Act 2 groundwater MSCs for several regulated substances.

The findings of the EM-31 survey and the confirmatory test excavations revealed a separate area of foundry sand placed on the northern portion of the Site as shown on **Figure 5**. This area is referred to as the "Northern Fill Area". It appears that the foundry sand was placed on the Site in the 1950s and 1960s based on a review of historic aerial photographs. Foundry sand is a waste of an industrial process and is considered a residual waste by PADEP definition; therefore, it cannot be managed as "clean fill". Due to

the extent, depth and volume of the foundry sand present, removal of it is not feasible. Further evaluation and on-site management of the fill is recommended prior to Site redevelopment.

Former Quarry

Due to the presence of elevated concentrations of lead in surface water within the former quarry, additional investigation is recommended. The hydrology of the Site and characterization of the flow between the former quarry and Strickler Run is needed. Surface water samples of Strickler Run and instream flow modeling is needed to calculate applicable Water Quality Based Effluent Limits (WQBELs) and assess the impacts of the former quarry. The source for the regulated substances in the former quarry is unknown and may be related to either the discharge of groundwater into the quarry from upgradient areas, or the presence of abandoned materials within the quarry. An investigation of the former quarry should be coupled with a groundwater investigation of the above RECs, is needed.

9.0 RECOMMENDATIONS

Underground Storage Tank Closure and Remediation

RETTEW recommends the permanent closure of the UST systems by removal. Following the removal of the USTs, confirmatory soil and groundwater samples are recommended to assess soil and groundwater quality remaining at the Site and determine an appropriate path forward toward Act 2 liability protection. It is likely that full site characterization and remediation will be needed to delineate the extent of the soil and groundwater impacts, and mitigate the release. The following corrective action is recommended:

- Removal of all USTs;
- Excavation and off-site disposal of obviously-contaminated soil (i.e., petroleum-stained soil, separate-phase product, etc.);
- Collection and laboratory analysis of soil samples to demonstrate attainment of an Act 2 remediation standard;
- Installation of a groundwater monitoring well network and assessment of groundwater quality;
- Remediation of groundwater and soil, if necessary;
- Assessment of the vapor intrusion exposure pathway; and
- Demonstration of attainment of an Act 2 remediation standard for groundwater.

The appropriate level of soil and groundwater remediation needed to attain an Act 2 remediation will depend on the delineated extent of petroleum impacts and affected receptors based upon future land use.

On-Site Management of Fill Materials

Compliant, in-place management of fill materials, or “non-media solids”, can be achieved by attaining Act 2 remediation standards. According to the Act 2 *Technical Guidance Manual* and PADEP waste regulations, the non-media solids must be closed in-place by using pathway elimination under the Act 2 Site-Specific Standard. Any one or a combination of Act 2 standards may be applied to soil and groundwater outside the perimeter of the fill areas. Closure in-place and pathway elimination could involve a combination of impermeable capping, covering, grading and revegetation of the non-media solids to prevent infiltration, erosion and the entrainment of regulated substances in groundwater recharge and runoff. An assessment of soil and groundwater quality outside the perimeter of the fill areas will require soil sampling and laboratory analysis, as well as groundwater sampling and analysis using properly constructed monitoring wells.

Sampling and analysis of the surface material is also recommended to further evaluate the direct contact exposure pathway. This is particularly important within the conservation easements, if public access for recreational purposes is planned.

If non-media solids are cut during Site grading activities and relocated to other areas of the Site, attainment of an Act 2 standard will be required for the placement of the relocated material. If the foundry sand is removed from the Site, it must be handled, transported and disposed as residual waste at a PADEP-approved disposal facility.

If redevelopment of the Site involves the design and construction of stormwater BMPs over non-media solids, special attention should be given to minimize disturbance of capped or covered areas required to attain an Act 2 standard. Utility line excavations and grading activities should also be avoided in capped or covered areas. Structural stormwater infiltration best management practices (BMPs) should be avoided in areas where regulated substances are known to leach from the non-media solids. Site redevelopment plans can be designed to achieve closure in-place of non-media solids using pathway elimination under the Act 2 Site-Specific Standard as follows:

- Placement of building slabs, parking areas and paved driveways over areas of non-media solids;
- Use of impermeable geotextile liners or compacted clay liners to prevent infiltration of stormwater over areas of non-media solids; and
- Placement of a minimum of two feet of clean topsoil cover over areas of non-media solids to eliminate the direct contact exposure pathway, particularly within recreational areas.

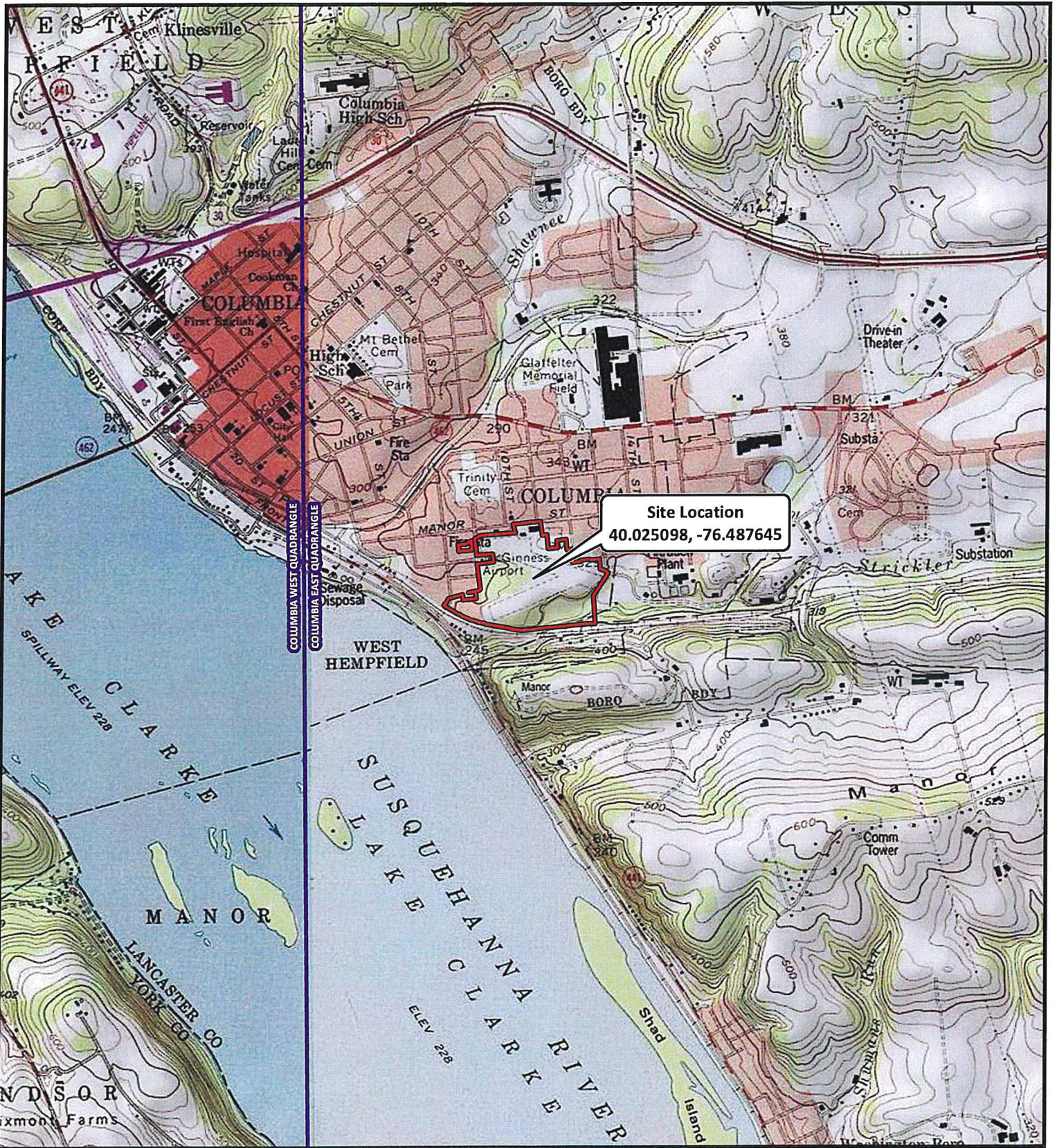
It is noted that an environmental covenant is not required for nonresidential land use if the nonresidential MSCs can be attained without the use of engineering controls. Because the Site will require impermeable capping of fill materials in places, an environmental covenant will be needed to control land use, provide for inspection and maintenance of capped areas, and may potentially include postremediation care provisions for compliance groundwater monitoring. It is strongly recommended to enter the Act 2 process and present a remediation plan to the PADEP that will attain Act 2 remediation standards for soil and groundwater prior to Site redevelopment. The following Site characterization activities are recommended prior to planning Site redevelopment:

- A geophysical survey of the entire Site to delineate the extent of non-media solids;
- Additional test pits along the perimeter of the delineated areas of non-media solids to confirm and refine the findings of the geophysical survey;
- Collection of surface samples (upper two feet) and laboratory analysis to further evaluate the direct contact exposure pathway where non-media solids are identified;
- Soil borings and soil sample collection for laboratory analysis to evaluate soil quality outside the areas of delineated non-media solids; and
- Installation of properly constructed groundwater monitoring wells outside the perimeter of the non-media solids to assess groundwater flow direction and groundwater quality, if needed.

The appropriate level of soil and groundwater characterization needed to attain an Act 2 remediation standard will depend on the delineated extent of non-media solids and potential receptors based upon future land use.

FIGURES

FIGURES



Site Location
40.025098, -76.487645

 Site Boundary

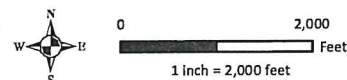
Borough of Columbia

1020 Manor Street

Figure 1 - Site Location Map

Columbia Borough & West Hempfield Township, Lancaster County, PA

Project No. 026852001



Map ID	Property Address	Acreage
1	750 S. 9 th Street	0.55
2	1015 Plane Street	4.10
3	1020 Manor Street	13.20
4	1020 Manor Street	37.00
5	740 S. 12 th Street	0.32
6	830 S. 13 th Street	1.39
7	950 S. 13 th Street	1.10
8	1132 Manor Street	0.55



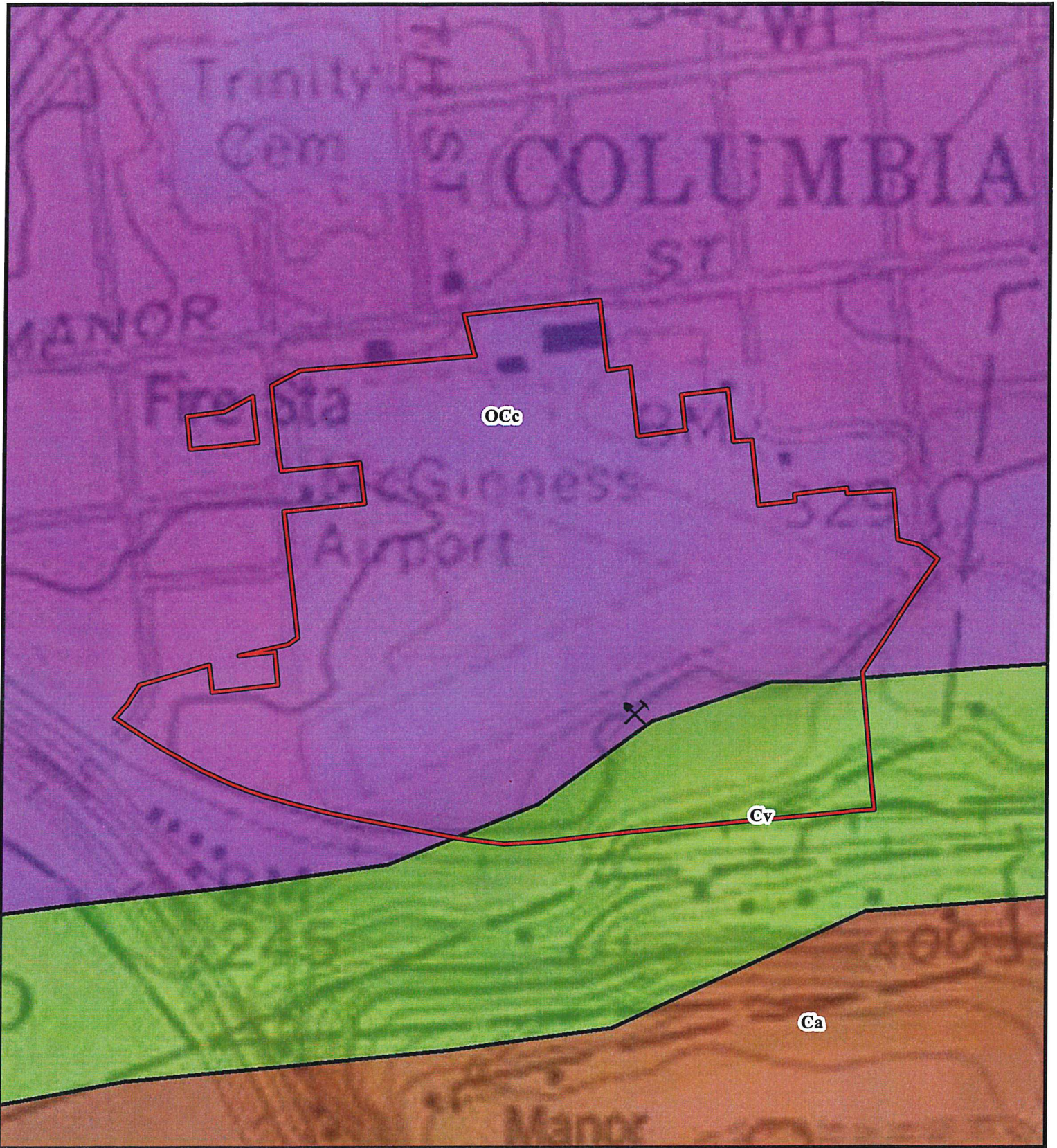
Borough of Columbia
1020 Manor Street
Figure 2 - Aerial Basemap
 Columbia Borough & West Hempfield Township, Lancaster County, PA
 Project No. 026852001






- Eastern Fill Area Test Pit
- Western Fill Area Test Pit
- Av Gas USTs
- NO. 2 Fuel Oil UST
- Former Quarry
- Estimated Eastern Fill Area
- Estimated Northern Fill Area
- Estimated Western Fill Area
- Site Boundary
- Parcel Boundary
- Municipal Boundary

0 200 Feet
 1 inch = 200 feet

7/24/2017
 Drawn By: jneisenbach

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-  Surface Mine (Kochanov)
-  Site Boundary
- Geologic Formation**
-  Ca - Antietam Formation
-  Cv - Vintage Formation
-  OCc - Conestoga Formation

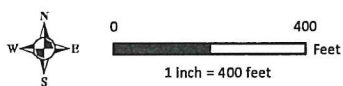
Borough of Columbia

1020 Manor Street

Figure 3 - Geology Map

Columbia Borough & West Hempfield Township, Lancaster County, PA

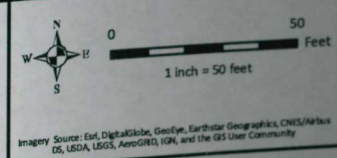
Project No. 026852001





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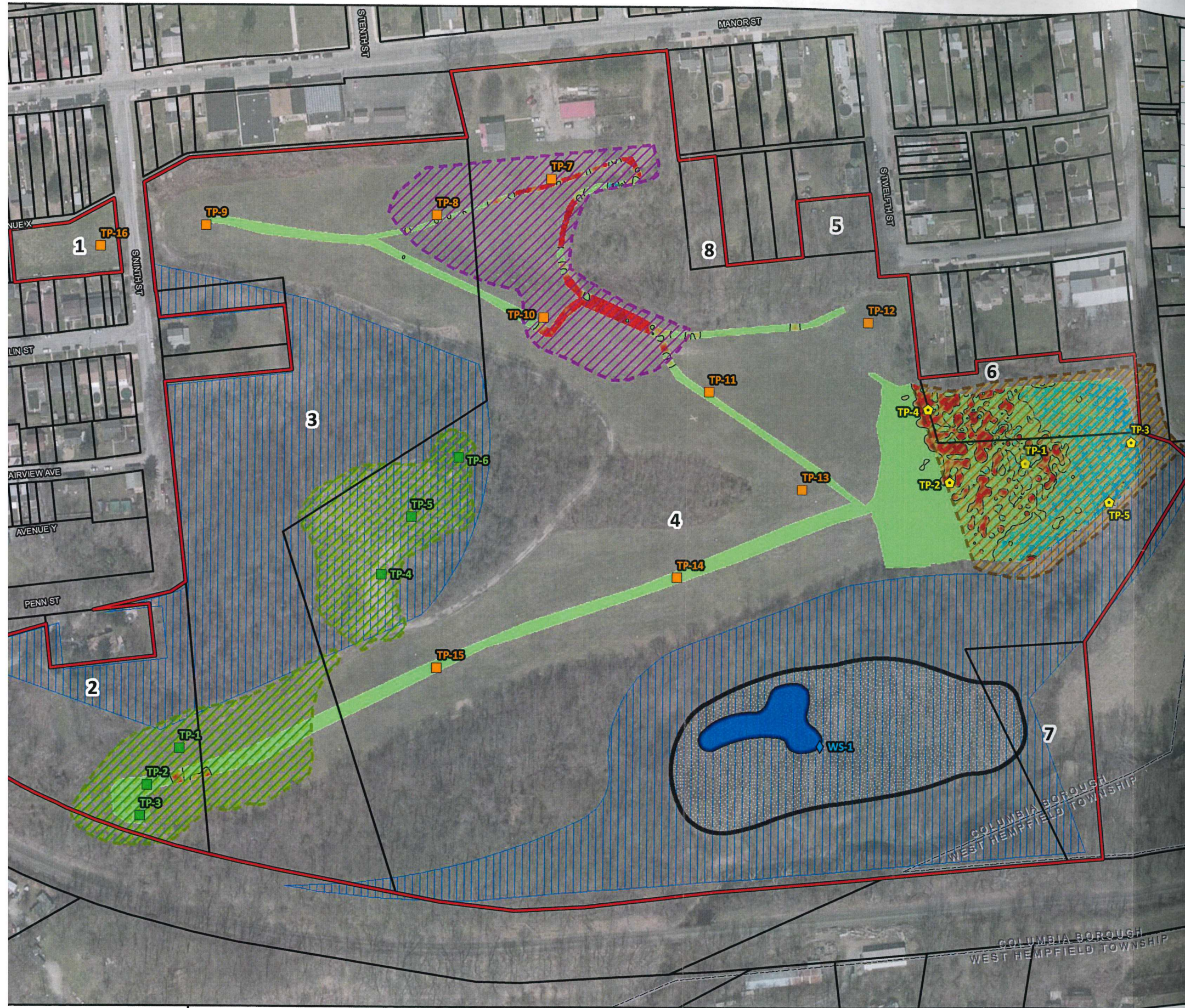
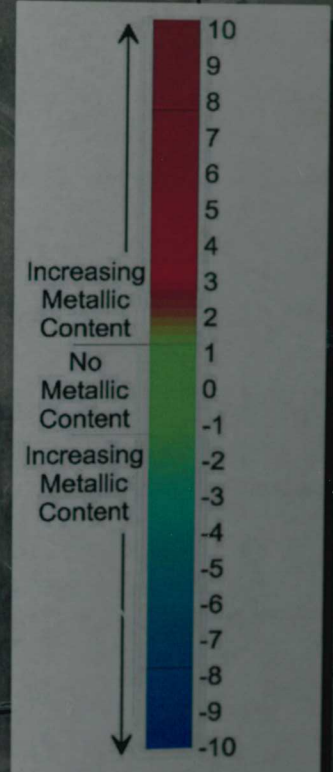
- ⊗ Soil Boring
- NO. 2 Fuel Oil UST
- Parcel Boundary
- Av Gas USTs
- Site Boundary



RETTEW
 7/20/2017
 Drawn By: john.deloretta

Map ID	Property Address	Acreage
1	750 S. 9 th Street	0.55
2	1015 Plane Street	4.10
3	1020 Manor Street	13.20
4	1020 Manor Street	37.00
5	740 S. 12 th Street	0.32
6	830 S. 13 th Street	1.39
7	950 S. 13 th Street	1.10
8	1132 Manor Street	0.55

EM-31 Inphase Data Key



Columbia
or Street
ated Fill Areas
d Township, Lancaster County, PA
26852001
SA\026852001_1020_Manor_Street_Fig5_EstimatedFillAreas_11x17.mxd

- Eastern Fill Area Test Pit
- Western Fill Area Test Pit
- Water Sample
- Test Pit
- Pond
- Former Quarry
- Estimated Eastern Fill Area
- Estimated Northern Fill Area
- Estimated Western Fill Area
- Conservation Easement
- Site Boundary
- Parcel Boundary
- Municipal Boundary

Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

7/24/2017
Drawn By: jmeisenbach

TABLES

TABLES

Table 1
Soil Sample Analytical Data Summary
McGinness Property - UST Borings
RETTEW Project No. 026852001

PADEP Short List Petroleum Products for Aviation Gasoline and #2 Fuel Oil	Act 2 Statewide Health Standard Medium Specific Concentrations (MSCs)										Soil Sample Identifications (Depth in feet below grade below sample I.D.)										
	Soil to Groundwater (Used Aquifers)					Direct Contact					Residential					Non-Residential					
	TDS ≤ 2500					Non-residential					Surface					Subsurface					
	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	Value	0-15 feet	Surface Soil	0-2 feet	2-15 feet	Soil	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10	SB-11
BENZENE	500	130	500	130	130	5,700	290,000	330,000	330,000	<27	<21	<25	<22	25 J	<25	<0.5	<0.4	<0.5	<0.5	<0.5	<0.5
1,2-DIBROMOETHANE	5	1.2	5	1.2	1.2	740	3,700	4,300	4,300	<54	<43	<51	<45	<48	<51	<1	<0.9	<0.9	<0.9	<0.9	<0.9
1,2-DICHLOROETHANE	500	100	500	100	100	3,800,000	10,000,000	10,000,000	10,000,000	<54	<43	<51	<45	<48	<51	<1	<0.9	<0.9	<0.9	<0.9	<0.9
ETHYLBENZENE	70,000	46,000	70,000	46,000	46,000	180,000	890,000	1,000,000	1,000,000	87 J	<43	4,100	2,000	8,300	<51	1 J	<0.9	1 J	1 J	<0.9	<0.9
ISOPROPYLBENZENE	84,000	600,000	350,000	2,500,000	2,500,000	7,700,000	10,000,000	10,000,000	10,000,000	140 J	230	1,100	470	3,400	<51	<1	<0.9	1 J	<0.9	<0.9	<0.9
METHYL TERT BUTYL ETHER	2,000	280	2,000	280	280	1,700,000	6,600,000	9,900,000	9,900,000	<27	<21	<25	<22	<24	<25	<0.5	<0.4	<0.5	<0.5	<0.5	<0.5
METHYLBENZENE	10,000	25,000	10,000	25,000	25,000	160,000	760,000	190,000,000	190,000,000	130 J	90 J	5,000	2,000	8,200	200 J	1 J	<0.9	3 J	1 J	<0.9	<0.9
NAPHTHALENE	100,000	44,000	100,000	44,000	44,000	10,000,000	10,000,000	10,000,000	10,000,000	<54	<43	<51	<45	<48	<51	<1	<0.9	<0.9	<0.9	<0.9	<0.9
TOLUENE	1,500	8,400	6,200	35,000	35,000	130,000	560,000	640,000	640,000	490	<43	11,000	10,000	55,000	500	4 J	2 J	7	2 J	<0.9	<0.9
1,2,4-TRIMETHYLBENZENE	42,000	74,000	120,000	210,000	210,000	2,200,000	10,000,000	10,000,000	10,000,000	1,600	<43	8,900	3,700	20,000	190 J	1 J	<0.9	<0.9	<0.9	<0.9	<0.9
1,3,5-TRIMETHYLBENZENE	1,000,000	990,000	1,000,000	990,000	990,000	1,900,000	8,000,000	190,000,000	190,000,000	<54	<43	1,800	1,700	2,800	<51	<1	<0.9	<0.9	<0.9	<0.9	<0.9
XYLENES	500	450,000	500	450,000	450,000	500,000	1,000,000	190,000,000	190,000,000	14,800	30,500	10,500	8,090	16,800	6,290	13,300	28,200	42,400	18,500	8,200	8,200
LEAD										16.6	14.5	23.2	18.7	21	20.7	22.6	18.7	20	16.8	19.2	19.2
MOISTURE (%)					No Standard																

- Notes:
- 1) All units in milligrams per kilogram (µg/kg)
 - 2) Bold & shaded MSC represent the applicable Act 2 non-residential Statewide Health Standard.
 - 3) Shaded results represent an exceedence of the applicable non-residential Statewide Health Standard.
 - 4) Soil samples were collected on June 1, 2017.
 - 5) 1/10 of the Soil to Groundwater Generic Value used for soil in the zone of groundwater saturation between nine and 14 feet below ground surface.

Table 2
Fill and Soil Sample Analytical Data Summary
McGinness Property - Western Fill Areas
RETTEW Project No. 026852001

Detected Regulated Substances	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					Fill Samples				Soil Samples				
	Residential		Nonresidential			Residential		Nonresidential			TP-1	TP-2	TP-3	TP-4	TP-5	TP-6	TP-4	TP-5	TP-6
	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	0-15 feet	Surface Soil 0-2 feet	Subsurface Soil 2-15 feet	TP-1 10 ft.	TP-2 14 ft.	TP-3 14 ft.	TP-4 4 ft.	TP-5 5 ft.	TP-6 5 ft.	TP-4 9 ft.	TP-5 10 ft.	TP-6 10 ft.			
PPL VOCs and SVOCs																			
Benzene	500	130	500	130	57,000	290,000	330,000	0.6 J	2 J	<0.5	<0.5	1 J	0.6 J	<0.4	<0.5	<0.5	<0.5	<0.5	
Methylene Chloride	500	76	500	76	250,000	1,200,000	1,400,000	<2	<2	38	<2	<2	<2	<2	<2	<2	<2	<2	
Toluene	100,000	44,000	100,000	44,000	10,000,000	10,000,000	10,000,000	1 J	<1	<1	<0.9	<0.9	<1	<0.8	<0.9	<0.9	<0.9	<0.9	
Acenaphthene	250,000	3,100,000	380,000	4,700,000	13,000,000	190,000,000	190,000,000	4 J	4,400	30 J	430	80 J	<19	<4	<4	11 J	<4	11 J	
Acenaphthylene	250,000	2,800,000	700,000	8,000,000	13,000,000	190,000,000	190,000,000	60	150	230	88 J	750	49 J	5 J	<4	15 J	<4	15 J	
Anthracene	6,600	350,000	6,600	350,000	66,000,000	190,000,000	190,000,000	44	8,500	160	870	500	38 J	<4	<4	9 J	<4	9 J	
Benz(a)anthracene	32	28,000	490	430,000	6,000	130,000	190,000,000	220	18,000	620	3,700	1,800	96 J	6 J	5 J	17 J	<4	17 J	
Benz(a)pyrene	20	46,000	20	46,000	580	12,000	190,000,000	220	14,000	760	2,400	2,400	150	7 J	<4	33	<4	33	
Benz(b)fluoranthene	19	26,000	120	170,000	3,500	76,000	190,000,000	290	20,000	970	3,300	3,100	170	8 J	5 J	39	<4	31	
Benz(g,h,i)perylene	26	180,000	26	180,000	13,000,000	190,000,000	190,000,000	170	9,900	590	1,400	1,800	120	8 J	<4	31	<4	31	
Benz(k)fluoranthene	19	210,000	55	610,000	4,000	76,000	190,000,000	130	8,200	360	1,800	1,100	99	5 J	<4	17 J	<4	17 J	
Chrysene	190	230,000	190	230,000	35,000	760,000	190,000,000	240	18,000	680	2,900	1,800	130	5 J	<4	17 J	<4	17 J	
Dibenz(a,h)anthracene	5.5	25,000	60	270,000	1,000	22,000	190,000,000	45	2,400	140	330	420	40 J	<4	<4	10 J	<4	10 J	
Fluoranthene	26,000	3,200,000	26,000	3,200,000	8,800,000	130,000,000	190,000,000	340	51,000	930	9,600	3,200	100	10 J	4 J	22	<4	6 J	
Fluorene	170,000	3,400,000	190,000	3,800,000	8,800,000	130,000,000	190,000,000	11 J	4,200	45 J	160	220	<19	<4	<4	6 J	<4	6 J	
Indeno(1,2,3-cd)pyrene	19	1,500,000	280	22,000,000	3,500	76,000	190,000,000	140	9,200	500	1,400	1,600	120	6 J	<4	21	<4	21	
Naphthalene	10,000	25,000	10,000	25,000	160,000	760,000	190,000,000	34	720	49 J	24 J	100	59 J	<4	<4	32	<4	32	
Phenanthrene	110,000	10,000,000	110,000	10,000,000	66,000,000	190,000,000	190,000,000	130	47,000	320	2,400	1,800	52 J	6 J	<4	17 J	<4	17 J	
Pyrene	13,000	2,200,000	13,000	2,200,000	6,600,000	96,000,000	190,000,000	370	38,000	1,000	8,000	3,400	150	12 J	5 J	28	<4	28	
Pesticides and Herbicides																			
Alpha BHC	12	55	54	250	3,000	14,000	190,000,000	<0.20	0.47 J	0.21 J	<0.21	0.39 J	0.24 J	<0.20	<0.20	<0.21	<0.20	<0.21	
P,p-DDD	300	33,000	1,400	150,000	78,000	380,000	190,000,000	<0.39	1.6 J	<0.38	<0.40	<0.37	<0.38	0.54 J	0.52 J	<0.62	<0.38	<0.62	
P,p-DDE	210	46,000	1,000	220,000	55,000	270,000	190,000,000	2.1	1.0 J	1.6 J	<0.40	1.6 J	1.2 J	<0.38	<0.39	<0.58	<0.38	<0.58	
P,p-DDT	210	130,000	550	350,000	55,000	270,000	190,000,000	2.4	1.4 J	3.2	3.6 P	3.6	1.9 J	<0.40	<0.41	0.83 J	<0.40	0.83 J	
Endosulfan II	25,000	150,000	45,000	260,000	1,300,000	19,000,000	190,000,000	1.1 J	<0.63	<1.7	<0.97	<1.0	0.61 J	<0.38	<0.39	<0.40	<0.38	<0.40	
Endosulfan Sulfate	12,000	70,000	12,000	70,000	1,300,000	19,000,000	190,000,000	<7.8	<8.2	<7.6	<8.0	<8.0	<0.38	<0.38	<0.39	<0.40	<0.38	<0.40	
Heptachlor	40	680	40	680	4,000	20,000	190,000,000	<0.20	0.26 J	<0.20	<0.21	2.2	7.7	<0.20	<0.20	<0.21	<0.20	<0.21	
Heptachlor Epoxide	40	680	40	680	2,000	10,000	190,000,000	0.27 J	<0.21	0.60 J	0.56 J	0.62 J	<0.19	<0.20	<0.20	<0.21	<0.20	<0.21	
PPL Metals																			
Arsenic	1,000	29,000	1,000	29,000	12,000	61,000	190,000,000	9,250	8,270	7,770	6,970	7,130	3,090	8,640	11,200	16,400	8,640	16,400	
Beryllium	400	320,000	400	320,000	2,000	11,000	190,000,000	702	744	773	624	996	278 J	529	621	691	278 J	621	
Cadmium	500	38,000	500	38,000	1,200	6,100	190,000,000	686	839	618	541 J	558	372 J	477 J	498	766	372 J	477 J	
Chromium	10,000	190,000,000	10,000	190,000,000	190,000,000	190,000,000	16,400	13,900	13,200	23,700	13,400	7,980	20,500	15,000	23,100	42,000	20,500	23,100	
Copper	100,000	43,000,000	100,000	43,000,000	8,100,000	120,000,000	190,000,000	29,600	53,500	41,900	15,500	24,500	8,940	22,100	42,000	167,000	22,100	42,000	
Lead	500	450,000	500	450,000	500,000	1,000,000	190,000,000	124,000	199,000	53,300	29,400	77,200	9,900	13,200	19,300	190,000	9,900	13,200	
Nickel	10,000	650,000	10,000	650,000	4,400,000	64,000,000	190,000,000	16,200	14,600	13,900	80,400	13,100	11,400	14,900	24,600	192,000	11,400	14,900	
Selenium	5,000	26,000	5,000	26,000	1,100,000	16,000,000	190,000,000	<894	<1,040	<972	<1,020	<952	<998	<915	<882	3,650	<998	<882	
Silver	10,000	84,000	10,000	84,000	1,100,000	16,000,000	190,000,000	151 J	269 J	<162	<170	<159	<166	<152	<147	1,190	<159	<147	
Thallium	200	14,000	200	14,000	2,200	32,000	190,000,000	<815	1,410 J	<886	<930	<867	<909	<833	<804	12,000	<909	<833	
Zinc	200,000	12,000,000	200,000	12,000,000	66,000,000	190,000,000	120,000	227,000	129,000	57,000	78,100	32,800	48,100	42,600	98,400	42,600	98,400	42,600	
Mercury	200	10,000	200	10,000	35,000	510,000	190,000,000	749	358	69.2 J	144	28.7 J	90.7 J	43.2 J	42.6 J	58.4 J	90.7 J	43.2 J	

Notes:
 1) All units in micrograms per kilogram (ug/kg)
 2) Bold & shaded MSCs represent the applicable Act 2 nonresidential Statewide Health Standard.
 3) Bold and shaded results represent an exceedence of the applicable nonresidential Direct Contact MSCs.
 4) Shaded results represent an exceedence of the applicable residential Direct Contact MSCs.
 5) Fill and soil samples were collected on June 2, 2017.
 6) J = Estimated concentration detected between the Method Detection Limit and the laboratory Limit of Quantitation.

Table 3
 SPLP Leachate Analytical Data Summary
 McGinness Property - Western Fill Area
 RETTEW Project No. 026852001

Detected Regulated Substances	Act 2 Medium Specific Concentrations (MSCs) for Residential Used Aquifers	Act 2 Medium Specific Concentrations (MSCs) for Nonresidential Used Aquifers	SPLP Sample Identifications (Depth in feet below grade below sample I.D.)						
			TP-1 10 ft.	TP-2 14 ft.	TP-3 14 ft.	TP-4 4 ft.	TP-5 5 ft.	TP-6 5 ft.	
PPL VOCs and SVOCs									
Benzene	5	5	<0.5	<0.5	<0.5	2	<0.5	<0.5	<0.5
Toluene	1,000	1,000	<0.5	<0.5	<0.5	2	<0.5	<0.5	<0.5
Xylenes	10,000	10,000	<0.5	<0.5	<0.5	0.6 J	<0.5	<0.5	<0.5
Acenaphthene	2,500	3,800	59	31	58 J	420	460	31 J	
Acenaphthylene	2,500	7,000	81	140	320	320	1,500	160	
Anthracene	66	66	150	150	240	1,800	3,000	60 J	
Benzo(a)anthracene	0.32	4.9	390	570	740	5,300	10,000	120	
Benzo(a)pyrene	0.2	0.2	320	580	850	3,600	11,000	190	
Benzo(b)fluoranthene	0.19	1.2	440	700	1,000	4,000	13,000	220	
Benzo(g,h,i)perylene	0.26	0.26	230	410	710	1,900	6,500	170	
Benzo(k)fluoranthene	0.19	0.55	190	340	350	1,500	6,100	88	
Chrysene	1.9	1.9	350	600	800	5,600	9,900	130	
Dibenz(a,h)anthracene	0.055	0.6	64	130	200	680	2,100	47 J	
Fluoranthene	260	260	810	830	910	7,900	18,000	120	
Fluorene	1,700	1,900	73	45	78 J	510	1,100	46 J	
Indeno(1,2,3-cd)pyrene	0.19	2.8	210	360	560	1,600	6,300	130	
Naphthalene	100	100	11 J	52	89	280	210	31 J	
Phenanthrene	1,100	1,100	620	500	480	8,200	12,000	94	
Pyrene	130	130	760	1,000	1,400	13,000	18,000	170	
PPL Metals									
Cadmium	5	5	0.53 J	0.80 J	0.59 J	0.96 J	0.74 J	0.63 J	
Chromium	100	100	2.5 J	6.9 J	<1.8	3.8 J	2.9 J	<1.8	
Copper	1,000	1,000	5.6 J	28	<4.1	<4.1	<4.1	<4.1	
Lead	5	5	<6.2	48.4	<6.2	<6.2	<6.2	<6.2	
Nickel	100	100	<2.8	5.1 J	<2.8	3.1 J	<2.8	3.1 J	
Zinc	2,000	2,000	<5.4	65	<5.4	18.5 J	6.0 J	<5.4	
Mercury	2	2	<0.050	0.079 J	<0.050	<0.050	<0.050	<0.050	

Notes:

- 1) All units in micrograms per liter (ug/L)
- 2) Shaded results represent an exceedence of the applicable nonresidential Statewide Health Standard.
- 3) SPLP samples were collected on June 2, 2017.
- 4) J = Estimated concentration detected between the Method Detection Limit and the laboratory Limit of Quantitation.

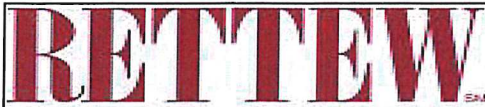
Table 4
Fill and Soil Sample Analytical Data Summary
McGinness Property - Eastern Fill Area
RETNEW Project No. 026852001

Detected Regulated Substances	Act 2 Statewide Health Standard Medium Specific Concentrations (MSCs)										Sample Identifications (Depth in feet below grade below sample ID.)								
	Soil to Groundwater (Used Aquifers)					Direct Contact					Fill Samples				Soil Samples				
	Residential		Nonresidential		Generic Value	Residential		Nonresidential		Surface Soil	Subsurface		TP-1 15 ft.	TP-2 2 ft.	TP-3 8 ft.	TP-4 6 ft.	TP-5 8 ft.	TP-2 4.5 ft.	TP-4 8 ft.
	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value		0-15 feet	Surface Soil	2-15 feet											
PPL VOCs and SVOCs	500	130	500	130	57,000	290,000	330,000	<0.6	7.1	6	1.1	14	<0.5	<0.6					
Benzene	70,000	46,000	70,000	46,000	180,000	890,000	1,000,000	<1	<1	<1	<1	5.1	<1	<1					
Ethylbenzene	100,000	44,000	100,000	44,000	10,000,000	10,000,000	10,000,000	<1	2.1	5.1	<1	18	<1	<1					
Toluene	1,000,000	990,000	1,000,000	990,000	1,900,000	8,000,000	9,100,000	<1	<1	1.1	<1	19	<1	<1					
Xylenes	250,000	3,100,000	380,000	4,700,000	13,000,000	190,000,000	190,000,000	<4	<3	89	<4	2,000	<4	<4					
Acenaphthene	250,000	2,800,000	700,000	8,000,000	13,000,000	190,000,000	190,000,000	<4	<3	54	<4	76	<4	<4					
Acenaphthylene	6,600	350,000	6,600	350,000	66,000,000	190,000,000	190,000,000	7.1	<3	120	9.1	1,300	<4	<4					
Anthracene	32	28,000	490	430,000	6,000	130,000	190,000,000	14.1	7.1	88	19	5,600	<4	9.1					
Benzo(a)anthracene	19	26,000	20	46,000	560	12,000	190,000,000	<4	<3	73	11.1	5,000	<4	9.1					
Benzo(a)fluoranthene	26	180,000	26	180,000	13,000,000	190,000,000	190,000,000	16.1	11.1	100	19	6,300	<4	19.1					
Benzo(b)fluoranthene	19	210,000	55	610,000	4,000	76,000	190,000,000	<4	6.1	34	8.1	2,800	<4	13.1					
Benzo(k)fluoranthene	420	1,780	1,200	4,900	10,000	10,000	10,000	<4	<3	<4	6.1	2,300	<4	8.1					
Di-n-butylphthalate	190	250,000	190	250,000	35,000	760,000	190,000,000	<4	<69	100.1	<71	<220	<80	<87					
Chrysene	5.5	25,000	60	270,000	1,000	22,000	190,000,000	<4	<3	<4	<4	790	<4	<4					
Dibenz(a,h)anthracene	3,800	10,000	10,000	60	59	60	59	<4	<18	<18	<26.1	<56	<20	<22					
1,2-Dichlorobenzene	4,400	10,000	10,000	83	36	230	100	<18	<17	180	<18	110.1	<20	<22					
2,4-Dimethylphenol	600	130,000	600	130,000	1,300,000	6,500,000	10,000,000	<71	<69	840	<71	940	<80	<87					
2,4-Dichloropheno	26,000	3,200,000	26,000	3,200,000	8,800,000	130,000,000	190,000,000	4.1	13.1	210	36	8,700	<4	71.1					
Bis(2-Ethylhexyl)phthalate	170,000	3,400,000	190,000	3,800,000	8,800,000	130,000,000	190,000,000	9.1	<3	200	<4	750	<4	<4					
Fluoranthene	19	1,500,000	280	22,000,000	3,500	76,000	190,000,000	<4	<3	17.1	<4	2,700	<4	<4					
Indeno(1,2,3-cd)pyrene	10,000	25,000	10,000	25,000	160,000	760,000	190,000,000	170	36	410	110	530	<4	31					
Naphthalene	110,000	10,000,000	110,000	10,000,000	66,000,000	190,000,000	190,000,000	200	47	710	100	5,600	<4	21.1					
Phenanthrene	200,000	33,000	200,000	33,000	3,600,000	16,000,000	190,000,000	21.1	19.1	2,400	30.1	850	<23	<22					
Pyrene	13,000	2,700,000	13,000	2,200,000	6,600,000	96,000,000	190,000,000	28	11.1	230	28	8,100	<4	17.1					
Pesticides and Herbicides																			
Dalapon																			
2,4-DB																			
Pentachloropheno																			
2,4,5-T																			
2,4,6-TP																			
Alpha BHC	12	55	54	250	3,000	14,000	190,000,000	0.64 J	<0.17	<0.95	<0.18	<1.9	<0.20	0.76 J					
Gamma BHC - Lindane	20	72	72	17,000	83,000	380,000	190,000,000	<0.23	<0.17	7.7	<1.8	7.3	<3.7	0.42 J					
p,p'-DDD	300	33,000	1,400	150,000	78,000	380,000	190,000,000	1.5 J	1.3 J	<1.8	7.3	<3.7	<0.40	<0.52					
p,p'-DDE	210	130,000	550	330,000	55,000	270,000	190,000,000	0.95 J	0.56 J	<2.2	0.52 J	<4.0	<0.42	<0.45					
Delta BHC																			
Dieldrin	5	130	21	580	1,200	6,000	190,000,000	<0.48	<0.46	7.9	<0.48	<5.1	<0.42	<0.45					
Endosulfan I	1,300	19,000	190,000	25	130	30	260	<0.35	0.67 J	<1.8	<0.35	<3.7	<0.40	<0.43					
Endrin/Aldehyde																			
Heptachlor	40	680	40	680	4,000	20,000	190,000,000	0.27 J	<0.17	<2.2	0.24 J	<1.9	<0.43	0.43 J					
PCBs																			
PCB-1248	37	18,000	170	81,000	9,300	46,000	10,000,000	<3.5	<3.4	71	<3.5	150	<4.0	<4.3					
PCB-1254	37	75,000	170	340,000	4,400	46,000	10,000,000	<3.5	<3.4	38	<3.5	92	<4.0	<4.3					
PPL Metals																			
Antimony	600	27,000	600	27,000	88,000	1,300,000	190,000,000	<850	1,180 J	2,780	2,620	1,590 J	1,680 J	<5,310					
Arsenic	1,000	29,000	1,000	29,000	12,000	61,000	190,000,000	4,830	1,490 J	4,340	6,960	3,850	12,100	<5,860					
Beryllium	400	320,000	400	320,000	2,000	11,000	190,000,000	218 J	577	663	1,100	409 J	894	1,450 J					
Cadmium	500	38,000	500	38,000	1,700	6,100	190,000,000	408 J	103 J	666	445.7	839	113 J	<330					
Chromium	10,000	190,000,000	10,000	190,000,000	190,000,000	190,000,000	190,000,000	11,900	11,100	145,000	54,300	37,900	16,200	17,800					
Copper	100,000	43,000,000	100,000	43,000,000	8,100,000	120,000,000	190,000,000	25,100	17,300	206,000	73,200	156,000	27,000	19,900					
Lead	500	450,000	500	450,000	900,000	1,000,000	190,000,000	31,800	5,780	96,800	26,400	58,300	18,200	17,300					
Nickel	10,000	650,000	10,000	650,000	4,000,000	64,000,000	190,000,000	33,800	7,590	29,400	25,300	31,100	22,300	21,100					
Selenium	5,000	26,000	5,000	26,000	1,100,000	16,000,000	190,000,000	3,280	1,210	2,490	3,260	1,530	<1,030	<5,680					
Thallium	200	14,000	200	14,000	14,000	22,000	190,000,000	<1,340	1,940 J	7,390	6,240	3,210	2,150 J	<8,370					
Zinc	200,000	12,000,000	200,000	12,000,000	66,000,000	190,000,000	190,000,000	29,100	15,900	2,160,000	85,400	479,000	65,400	69,700					
Mercury	200	10,000	200	10,000	35,000	510,000	190,000,000	<10.6	<9.9	36.9	22.5	58.1	15.9 J	30.0					

Notes:
1) All units in micrograms per kilogram (ug/kg)
2) Bold & shaded MSCs represent the applicable Act 2 nonresidential Statewide Health Standard.
3) Bold and shaded results represent an exceedance of the applicable nonresidential Direct Contact MSCs.
4) Shaded results represent an exceedance of the applicable residential Direct Contact MSCs.
5) Fill and soil samples were collected on July 5, 2017.
6) J = Estimated concentration detected between the Method Detection Limit and the laboratory Limit of Quantitation.

APPENDIX A

APPENDIX A
Soil Boring Logs



We answer to you.

CLIENT Columbia Borough

PROJECT NAME McGinness Property Phase II ESA

PROJECT NUMBER 026852001

PROJECT LOCATION 1020 Manor Street

DATE STARTED 6/1/17 COMPLETED 6/1/17

GROUND ELEVATION _____ HOLE SIZE 2 inches

DRILLING CONTRACTOR _____

GROUND WATER LEVELS:

DRILLING METHOD Direct push

∇ AT TIME OF DRILLING 9.00 ft

LOGGED BY GM CHECKED BY ED

AT END OF DRILLING ---

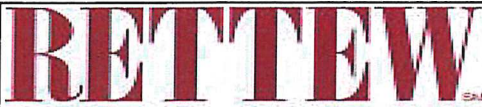
NOTES _____

AFTER DRILLING ---

ENVIRONMENTAL_BH - GINT STD US LAB_GDT - 6/29/17 10:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\MCGINNESS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0						
2.5			PID = 0		SILTY CLAY, (CL-ML) brown, dry	
5.0						
7.5			PID = 2.4		LEAN CLAY, (CL) light green, dry	
8.0						
10.0	SB-1		PID = 441		CLAYEY SILT, (ML) gray, dry	
					∇ SILT, (ML) grayish brown, wet	
12.5			PID = 102			
13.7			PID = 0		POORLY GRADED SAND, (SP) light gray, dry	

Refusal at 13.7 feet.
Bottom of borehole at 13.7 feet.



We answer to you.

CLIENT Columbia Borough

PROJECT NAME McGinness Property Phase II ESA

PROJECT NUMBER 026852001

PROJECT LOCATION 1020 Manor Street

DATE STARTED 6/1/17 COMPLETED 6/1/17

GROUND ELEVATION HOLE SIZE 2 inches

DRILLING CONTRACTOR

GROUND WATER LEVELS:

DRILLING METHOD Direct push

AT TIME OF DRILLING --- not observed

LOGGED BY GM CHECKED BY ED

AT END OF DRILLING ---

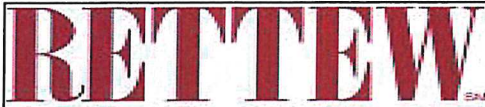
NOTES

AFTER DRILLING ---

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 6/29/17 10:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\MCGINNESS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0						
				0.5	Black ASPHALT	
			PID = 0		SILTY CLAY, (CL-ML) brown, dry	
2.5						
			PID = 0			
5.0						
			PID = 0			
7.5					LEAN CLAY, (CL-ML) greenish gray, dry	
				8.0	SILT, (ML) greenish gray, dry	
10.0			PID = 92			
	SB-2		PID = 24		CLAYEY SILT, (ML) brown	
12.5						
				12.0		

Refusal at 13.2 feet.
Bottom of borehole at 13.2 feet.



We answer to you.

CLIENT Columbia Borough

PROJECT NAME McGinness Property Phase II ESA

PROJECT NUMBER 026852001

PROJECT LOCATION 1020 Manor Street

DATE STARTED 6/1/17 COMPLETED 6/1/17

GROUND ELEVATION _____ HOLE SIZE 2 inches

DRILLING CONTRACTOR _____

GROUND WATER LEVELS:

DRILLING METHOD Direct push

∇ AT TIME OF DRILLING 10.00 ft

LOGGED BY GM CHECKED BY ED

AT END OF DRILLING ---

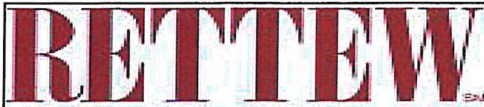
NOTES _____

AFTER DRILLING ---

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 6/29/17 10:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\MCGINNESS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Black ASPHALT	
2.5			PID = 0		SILTY CLAY, (CL-ML) brown	
5.0			PID = 24		LEAN CLAY, (CL) light green, dry grades more clayey	
7.5			PID = 311			
8.0					SILT, (ML) greenish gray, moist	
10.0	SB-3		PID = 1000		∇ SILT, (ML) gray, wet	
12.5			PID = 1200			
12.0					POORLY GRADED SAND, (SP) light gray, dry	
14.5			PID = 500			

Refusal at 14.5 feet.
Bottom of borehole at 14.5 feet.



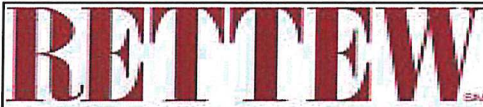
We answer to you.

CLIENT <u>Columbia Borough</u>	PROJECT NAME <u>McGinness Property Phase II ESA</u>
PROJECT NUMBER <u>026852001</u>	PROJECT LOCATION <u>1020 Manor Street</u>
DATE STARTED <u>6/1/17</u> COMPLETED <u>6/1/17</u>	GROUND ELEVATION _____ HOLE SIZE <u>2 inches</u>
DRILLING CONTRACTOR _____	GROUND WATER LEVELS:
DRILLING METHOD <u>Direct push</u>	▽ AT TIME OF DRILLING <u>12.00 ft</u>
LOGGED BY <u>GM</u> CHECKED BY <u>ED</u>	AT END OF DRILLING <u>---</u>
NOTES _____	AFTER DRILLING <u>---</u>

ENVIRONMENTAL BH - GINT STD US LAB_GDT - 6/29/17 10:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\MCGINNESS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Black ASPHALT	
1.0					SILTY CLAY, (CL-ML) brown	
2.5						
5.0			PID = 0		LEAN CLAY, (CL) light green, moist	
7.5			PID = 23.7			
10.0			PID = 97.4		SILT, (ML) greenish gray, moist	
12.5	SB-4		PID = 97.7			

Refusal at 13.0 feet.
Bottom of borehole at 13.0 feet.



We answer to you.

CLIENT Columbia Borough PROJECT NAME McGinness Property Phase II ESA

PROJECT NUMBER 026852001 PROJECT LOCATION 1020 Manor Street

DATE STARTED 6/1/17 COMPLETED 6/1/17 GROUND ELEVATION _____ HOLE SIZE 2 inches

DRILLING CONTRACTOR _____ GROUND WATER LEVELS:

DRILLING METHOD Direct push AT TIME OF DRILLING --- not observed

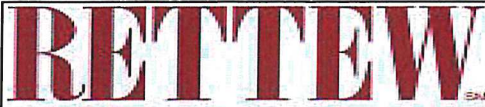
LOGGED BY GM CHECKED BY ED AT END OF DRILLING ---

NOTES _____ AFTER DRILLING ---

ENVIRONMENTAL_BH - GINT STD US LAB.GDT - 6/29/17 10:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\MCGINNESS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					Black ASPHALT	
1.0					CLAYEY SILT, (ML) dark brown, dry	
2.5			PID = 0			
5.0			PID = 0		CLAYEY SILT, (ML) brown, dry	
7.5			PID = 0			
10.0	SB-5		PID = 975		SILT, SILT, (ML) greenish gray	
12.5			PID = 635			
			PID = 0			
			PID = 0			
			PID = 0		LIMESTONE	
			PID = 0			

Refusal at 14.0 feet.
Bottom of borehole at 14.0 feet.



We answer to you.

CLIENT Columbia Borough

PROJECT NAME McGinness Property Phase II ESA

PROJECT NUMBER 026852001

PROJECT LOCATION 1020 Manor Street

DATE STARTED 6/1/17 COMPLETED 6/1/17

GROUND ELEVATION HOLE SIZE 2 inches

DRILLING CONTRACTOR

GROUND WATER LEVELS:

DRILLING METHOD Direct push

AT TIME OF DRILLING --- not observed

LOGGED BY GM CHECKED BY ED

AT END OF DRILLING ---

NOTES

AFTER DRILLING ---

ENVIRONMENTAL BH - GINT STD US LAB.GDT - 6/29/17 10:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\MCGINNESS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0					SILTY CLAY, (CL-ML) brown, dry	
1.5			PID = 0	[Hatched pattern]	WELL GRADED SAND, (SW) black Fill	
2.5			PID = 0	[Dotted pattern]	SILTY SAND, (SW) brown, fine to medium grained, dry	
4.5			PID = 0	[Dotted pattern]	SILT, (ML) dark gray, dry	
8.0			PID = 0	[Vertical lines]	GRAVELLY SAND, (SP) gray, dry	
12.0			PID = 0	[Vertical lines]	Refusal at 12.2 feet. Bottom of borehole at 12.2 feet.	

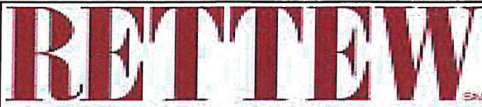
SB-10

PID = 0

12.0
12.2

GRAVELLY SAND, (SP) gray, dry

Refusal at 12.2 feet.
Bottom of borehole at 12.2 feet.



We answer to you.

CLIENT Columbia Borough PROJECT NAME McGinness Property Phase II ESA

PROJECT NUMBER 026852001 PROJECT LOCATION 1020 Manor Street

DATE STARTED 6/1/17 COMPLETED 6/1/17 GROUND ELEVATION _____ HOLE SIZE 2 inches

DRILLING CONTRACTOR _____ GROUND WATER LEVELS:

DRILLING METHOD Direct push ∇ AT TIME OF DRILLING 11.00 ft

LOGGED BY GM CHECKED BY ED AT END OF DRILLING ---

NOTES _____ AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0						
					Black ASPHALT	
					0.5 SANDY SILT, (ML) brown, dry	
			PID = 0		1.5 POORLY GRADED SAND, (SP) dark brown, fine grained, dry	
2.5						
			PID = 0		4.0 SILT, (ML) brown, dry	
5.0						
			PID = 0			
7.5						
			PID = 0			
10.0						
			PID = 0			
	SB-11				11.0 ∇ SILTY SAND, (SP) gray, medium grained, wet	
					12.0	

Refusal at 12.0 feet.
Bottom of borehole at 12.0 feet.

ENVIRONMENTAL_BH - GINT STD US LAB.GDT - 6/29/17 10:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\MCGINNESS.GPJ

APPENDIX B

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

Report Date: June 13, 2017

Project: McGinness PropertySubmittal Date: 06/02/2017
Group Number: 1808705
PO Number: 026852001
State of Sample Origin: PAClient Sample DescriptionSB-1@9ft Grab Soil
SB-2@10ft Grab Soil
SB-3@10ft Grab Soil
SB-4@11ft Grab Soil
SB-5@9ft Grab Soil
SB-6@9ft Grab Soil
SB-7@12ft Grab Soil
SB-8@12ft Grab Soil
SB-9@12ft Grab Soil
SB-10@12ft Grab Soil
SB-11@11ft Grab Soil

Lancaster Labs

(LL) #9026683
9026684
9026685
9026686
9026687
9026688
9026689
9026690
9026691
9026692
9026693

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

1 Copy To

Rettew Associates

Attn: John Stipe

Respectfully Submitted,



Jordan Zito
Project Manager

(717) 556-7289

Sample Description: SB-1@9ft Grab Soil
McGinness Property

LL Sample # SW 9026683
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 08:45 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/13/2017 15:23

MCG01

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.	27	44.72
10237	1,2-Dibromoethane	106-93-4	N.D.	54	44.72
10237	1,2-Dichloroethane	107-06-2	N.D.	54	44.72
10237	Ethylbenzene	100-41-4	87 J	54	44.72
10237	Isopropylbenzene	98-82-8	140 J	54	44.72
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	27	44.72
10237	Naphthalene	91-20-3	130 J	54	44.72
10237	Toluene	108-88-3	N.D.	54	44.72
10237	1,2,4-Trimethylbenzene	95-63-6	490	54	44.72
10237	1,3,5-Trimethylbenzene	108-67-8	1,600	54	44.72
10237	Xylene (Total)	1330-20-7	N.D.	54	44.72
Metals		SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	14.8 Q4Q9	0.628	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	16.6	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	Q171591AA	06/08/2017 16:35	Angela D Sneeringer	44.72
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 08:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 08:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 08:45	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/07/2017 21:43	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-2@10ft Grab Soil
McGinness Property

LL Sample # SW 9026684
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 09:00 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/13/2017 15:23

MCG02

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.	21	36.6
10237	1,2-Dibromoethane	106-93-4	N.D.	43	36.6
10237	1,2-Dichloroethane	107-06-2	N.D.	43	36.6
10237	Ethylbenzene	100-41-4	N.D.	43	36.6
10237	Isopropylbenzene	98-82-8	230	43	36.6
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	21	36.6
10237	Naphthalene	91-20-3	90 J	43	36.6
10237	Toluene	108-88-3	N.D.	43	36.6
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	43	36.6
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	43	36.6
10237	Xylene (Total)	1330-20-7	N.D.	43	36.6

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

Metals		SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	30.5 Q4Q9	3.18	5

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

Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	14.5	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.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by	8260B SW-846	1	Q171591AA	06/08/2017 15:27	Angela D Sneeringer	36.6
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 09:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 09:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 09:00	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/12/2017 07:04	Patrick J Engle	5
05708	GC-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-3@10ft Grab Soil
McGinness Property

LL Sample # SW 9026685
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 09:30 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/13/2017 15:23

Lancaster PA 17603-4011

MCG03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles			ug/kg	ug/kg	
10237	Benzene	71-43-2	N.D.	25	38.88
10237	1,2-Dibromoethane	106-93-4	N.D.	51	38.88
10237	1,2-Dichloroethane	107-06-2	N.D.	51	38.88
10237	Ethylbenzene	100-41-4	4,100	51	38.88
10237	Isopropylbenzene	98-82-8	1,100	51	38.88
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	25	38.88
10237	Naphthalene	91-20-3	5,000	51	38.88
10237	Toluene	108-88-3	N.D.	51	38.88
10237	1,2,4-Trimethylbenzene	95-63-6	11,000	51	38.88
10237	1,3,5-Trimethylbenzene	108-67-8	8,900	51	38.88
10237	Xylene (Total)	1330-20-7	1,800	51	38.88
Metals			mg/kg	mg/kg	
06955	Lead	7439-92-1	10.5 Q4Q9	0.634	1
Wet Chemistry			%	%	
00111	Moisture	n.a.	23.2	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	Q171591AA	06/08/2017 17:21	Angela D Sneeringer	38.88
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 09:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 09:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 09:30	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/07/2017 21:51	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-4@11ft Grab Soil
McGinness Property

LL Sample # SW 9026686
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 09:45 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/13/2017 15:23

Lancaster PA 17603-4011

MCG04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles			ug/kg	ug/kg	
10237	Benzene	71-43-2	N.D.	22	36.18
10237	1,2-Dibromoethane	106-93-4	N.D.	45	36.18
10237	1,2-Dichloroethane	107-06-2	N.D.	45	36.18
10237	Ethylbenzene	100-41-4	2,000	45	36.18
10237	Isopropylbenzene	98-82-8	470	45	36.18
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	22	36.18
10237	Naphthalene	91-20-3	2,000	45	36.18
10237	Toluene	108-88-3	N.D.	45	36.18
10237	1,2,4-Trimethylbenzene	95-63-6	10,000	45	36.18
10237	1,3,5-Trimethylbenzene	108-67-8	3,700	45	36.18
10237	Xylene (Total)	1330-20-7	1,700	45	36.18
Metals			mg/kg	mg/kg	
06955	Lead	SW-846 6010B 7439-92-1	8.09 Q4Q9	0.578	1
Wet Chemistry			%	%	
00111	Moisture	SM 2540 G-1997 n.a.	18.7	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	Q171591AA	06/08/2017 15:50	Angela D Sneeringer	36.18
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 09:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 09:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 09:45	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/07/2017 21:55	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-5@9ft Grab Soil
McGinness Property

LL Sample # SW 9026687
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 10:00 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/13/2017 15:23

MCG05

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	25 J	24	37.59
10237	1,2-Dibromoethane	106-93-4	N.D.	48	37.59
10237	1,2-Dichloroethane	107-06-2	N.D.	48	37.59
10237	Ethylbenzene	100-41-4	8,300	48	37.59
10237	Isopropylbenzene	98-82-8	3,400	48	37.59
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	24	37.59
10237	Naphthalene	91-20-3	8,200	48	37.59
10237	Toluene	108-88-3	N.D.	48	37.59
10237	1,2,4-Trimethylbenzene	95-63-6	55,000	480	375.94
10237	1,3,5-Trimethylbenzene	108-67-8	20,000	480	375.94
10237	Xylene (Total)	1330-20-7	2,800	48	37.59
Metals		SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	16.8 Q4Q9	0.595	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	21.0	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	Q171591AA	06/08/2017 18:06	Angela D Sneeringer	37.59
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R171602AA	06/09/2017 14:56	Jennifer K Howe	375.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 10:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 10:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 10:00	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/07/2017 21:59	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-6@9ft Grab Soil
McGinness Property

LL Sample # SW 9026688
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 10:30 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/13/2017 15:23

MCG06

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	40.26
10237	1,2-Dibromoethane	106-93-4	N.D.	51	40.26
10237	1,2-Dichloroethane	107-06-2	N.D.	51	40.26
10237	Ethylbenzene	100-41-4	N.D.	51	40.26
10237	Isopropylbenzene	98-82-8	N.D.	51	40.26
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	25	40.26
10237	Naphthalene	91-20-3	200 J	51	40.26
10237	Toluene	108-88-3	N.D.	51	40.26
10237	1,2,4-Trimethylbenzene	95-63-6	500	51	40.26
10237	1,3,5-Trimethylbenzene	108-67-8	190 J	51	40.26
10237	Xylene (Total)	1330-20-7	N.D.	51	40.26

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

Metals	SW-846 6010B	mg/kg	mg/kg	
06955 Lead	7439-92-1	6.29 Q4Q9	0.648	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.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	Q171591AA	06/08/2017 16:13	Angela D Sneeringer	40.26
12392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 10:30	Client Supplied	1
12392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 10:30	Client Supplied	1
17579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 10:30	Client Supplied	1
16955	Lead	SW-846 6010B	1	171570570804	06/07/2017 22:03	Elaine F Stoltzfus	1
15708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
10111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-7@12ft Grab Soil
McGinness Property

LL Sample # SW 9026689
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 10:50 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/13/2017 15:23

MCG07

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.	0.5	0.77
10237	1,2-Dibromoethane	106-93-4	N.D.	1	0.77
10237	1,2-Dichloroethane	107-06-2	N.D.	1	0.77
10237	Ethylbenzene	100-41-4	1 J	1	0.77
10237	Isopropylbenzene	98-82-8	N.D.	1	0.77
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	0.77
10237	Naphthalene	91-20-3	1 J	1	0.77
10237	Toluene	108-88-3	N.D.	1	0.77
10237	1,2,4-Trimethylbenzene	95-63-6	4 J	1	0.77
10237	1,3,5-Trimethylbenzene	108-67-8	1 J	1	0.77
10237	Xylene (Total)	1330-20-7	N.D.	1	0.77
Metals		SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	13.3 Q4Q9	0.629	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	22.6	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	X171581AA	06/07/2017 16:10	Linda C Pape	0.77
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 10:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 10:50	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 10:50	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/07/2017 22:14	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-8@12ft Grab Soil
McGinness Property

LL Sample # SW 9026690
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 11:10 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/13/2017 15:23

MCG08

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.	0.4	0.71
10237	1,2-Dibromoethane	106-93-4	N.D.	0.9	0.71
10237	1,2-Dichloroethane	107-06-2	N.D.	0.9	0.71
10237	Ethylbenzene	100-41-4	N.D.	0.9	0.71
10237	Isopropylbenzene	98-82-8	N.D.	0.9	0.71
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.4	0.71
10237	Naphthalene	91-20-3	N.D.	0.9	0.71
10237	Toluene	108-88-3	N.D.	0.9	0.71
10237	1,2,4-Trimethylbenzene	95-63-6	2 J	0.9	0.71
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.9	0.71
10237	Xylene (Total)	1330-20-7	N.D.	0.9	0.71
Metals		SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	28.2 Q4Q9	2.27	5
Reporting limits were raised due to interference from the sample matrix.					
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	18.7	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	X171581AA	06/07/2017 16:33	Linda C Pape	0.71
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 11:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 11:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 11:10	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/12/2017 07:07	Patrick J Engle	5
05708	ICP-MS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-9@12ft Grab Soil
McGinness Property

LL Sample # SW 9026691
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 11:55 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/13/2017 15:23

MCG09

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.	0.5	0.74
10237	1,2-Dibromoethane	106-93-4	N.D.	0.9	0.74
10237	1,2-Dichloroethane	107-06-2	N.D.	0.9	0.74
10237	Ethylbenzene	100-41-4	1 J	0.9	0.74
10237	Isopropylbenzene	98-82-8	1 J	0.9	0.74
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	0.74
10237	Naphthalene	91-20-3	3 J	0.9	0.74
10237	Toluene	108-88-3	N.D.	0.9	0.74
10237	1,2,4-Trimethylbenzene	95-63-6	7	0.9	0.74
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.9	0.74
10237	Xylene (Total)	1330-20-7	N.D.	0.9	0.74
Metals		SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	42.4 Q4Q9	0.502	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	20.0	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	X171581AA	06/07/2017 16:56	Linda C Pape	0.74
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 11:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 11:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 11:55	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/07/2017 22:22	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-10@12ft Grab Soil
McGinness Property

LL Sample # SW 9026692
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 11:30 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/13/2017 15:23

Lancaster PA 17603-4011

MCG10

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.	0.5	0.76
10237	1,2-Dibromoethane	106-93-4	N.D.	0.9	0.76
10237	1,2-Dichloroethane	107-06-2	N.D.	0.9	0.76
10237	Ethylbenzene	100-41-4	1 J	0.9	0.76
10237	Isopropylbenzene	98-82-8	N.D.	0.9	0.76
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	0.76
10237	Naphthalene	91-20-3	1 J	0.9	0.76
10237	Toluene	108-88-3	N.D.	0.9	0.76
10237	1,2,4-Trimethylbenzene	95-63-6	2 J	0.9	0.76
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.9	0.76
10237	Xylene (Total)	1330-20-7	N.D.	0.9	0.76
Metals		SW-846 6010B	mg/kg	mg/kg	
06955	Lead	7439-92-1	18.5 Q4Q9	0.636	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	16.8	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	X171581AA	06/07/2017 17:19	Linda C Pape	0.76
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 11:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 11:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 11:30	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/07/2017 22:26	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012A	06/09/2017 00:26	Scott W Freisher	1

Sample Description: SB-11@11ft Grab Soil
McGinness Property

LL Sample # SW 9026693
LL Group # 1808705
Account # 00721

Project Name: McGinness Property

Collected: 06/01/2017 12:15 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/13/2017 15:23

Lancaster PA 17603-4011

MCG11

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles			ug/kg	ug/kg	
10237	Benzene	71-43-2	N.D.	0.5	0.74
10237	1,2-Dibromoethane	106-93-4	N.D.	0.9	0.74
10237	1,2-Dichloroethane	107-06-2	N.D.	0.9	0.74
10237	Ethylbenzene	100-41-4	N.D.	0.9	0.74
10237	Isopropylbenzene	98-82-8	N.D.	0.9	0.74
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	0.74
10237	Naphthalene	91-20-3	N.D.	0.9	0.74
10237	Toluene	108-88-3	N.D.	0.9	0.74
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.9	0.74
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.9	0.74
10237	Xylene (Total)	1330-20-7	N.D.	0.9	0.74
Metals			mg/kg	mg/kg	
06955	Lead	7439-92-1	8.20 Q4Q9	0.587	1
Wet Chemistry			%	%	
00111	Moisture	n.a.	19.2 Q8	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	VOCs- Solid by 8260B	SW-846 8260B	1	X171581AA	06/07/2017 17:42	Linda C Pape	0.74
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745694	06/01/2017 12:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745694	06/01/2017 12:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745694	06/01/2017 12:15	Client Supplied	1
06955	Lead	SW-846 6010B	1	171570570804	06/07/2017 22:30	Elaine F Stoltzfus	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570804	06/06/2017 23:05	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	17159820012B	06/09/2017 00:26	Scott W Freisher	1

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/13/2017 15:23

Group Number: 1808705

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.

Method Blank

Analysis Name	Result	MDL
	ug/kg	ug/kg
Batch number: Q171591AA	Sample number(s): 9026683-9026688	
Benzene	N.D.	25
1,2-Dibromoethane	N.D.	50
1,2-Dichloroethane	N.D.	50
Ethylbenzene	N.D.	50
Isopropylbenzene	N.D.	50
Methyl Tertiary Butyl Ether	N.D.	25
Naphthalene	N.D.	50
Toluene	N.D.	50
1,2,4-Trimethylbenzene	N.D.	50
1,3,5-Trimethylbenzene	N.D.	50
Xylene (Total)	N.D.	50
Batch number: R171602AA	Sample number(s): 9026687	
1,2,4-Trimethylbenzene	N.D.	50
1,3,5-Trimethylbenzene	N.D.	50
Batch number: X171581AA	Sample number(s): 9026689-9026693	
Benzene	N.D.	0.5
1,2-Dibromoethane	N.D.	1
1,2-Dichloroethane	N.D.	1
Ethylbenzene	N.D.	1
Isopropylbenzene	N.D.	1
Methyl Tertiary Butyl Ether	N.D.	0.5
Naphthalene	N.D.	1
Toluene	N.D.	1
1,2,4-Trimethylbenzene	N.D.	1
1,3,5-Trimethylbenzene	N.D.	1
Xylene (Total)	N.D.	1
	mg/kg	mg/kg
Batch number: 171570570804	Sample number(s): 9026683-9026693	
Lead	N.D.	0.550

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/kg	ug/kg	ug/kg	ug/kg					

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/13/2017 15:23

Group Number: 1808705

LCS/LCSD

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Q171591AA	Sample number(s): 9026683-9026688								
Benzene	1000	920.36	1000	899.5	92	90	80-120	2	30
1,2-Dibromoethane	1000	897.39	1000	884.69	90	88	80-120	1	30
1,2-Dichloroethane	1000	946.42	1000	936.83	95	94	78-127	1	30
Ethylbenzene	1000	884.71	1000	872.51	88	87	80-120	1	30
Isopropylbenzene	1000	850.24	1000	847	85	85	76-120	0	30
Methyl Tertiary Butyl Ether	1000	891.57	1000	859.26	89	86	72-120	4	30
Naphthalene	1000	920.41	1000	982.72	92	98	61-125	7	30
Toluene	1000	942.33	1000	925.99	94	93	80-120	2	30
1,2,4-Trimethylbenzene	1000	942.41	1000	981.46	94	98	74-120	4	30
1,3,5-Trimethylbenzene	1000	929.79	1000	987.9	93	99	73-120	6	30
Xylene (Total)	3000	2637.48	3000	2602.22	88	87	80-120	1	30
Batch number: R171602AA	Sample number(s): 9026687								
1,2,4-Trimethylbenzene	1000	931.49	1000	931.84	93	93	74-120	0	30
1,3,5-Trimethylbenzene	1000	918.39	1000	939.57	92	94	73-120	2	30
Batch number: X171581AA	Sample number(s): 9026689-9026693								
Benzene	20	22.57	20	22.08	113	110	80-120	2	30
1,2-Dibromoethane	20	17.43	20	17.61	87	88	80-120	1	30
1,2-Dichloroethane	20	22.53	20	22.26	113	111	78-127	1	30
Ethylbenzene	20	19.33	20	18.85	97	94	80-120	3	30
Isopropylbenzene	20	18.57	20	18.2	93	91	76-120	2	30
Methyl Tertiary Butyl Ether	20	17.76	20	18.3	89	92	72-120	3	30
Naphthalene	20	15.24	20	15.48	76	77	61-125	2	30
Toluene	20	19.03	20	18.8	95	94	80-120	1	30
1,2,4-Trimethylbenzene	20	17.66	20	17.1	88	85	74-120	3	30
1,3,5-Trimethylbenzene	20	17.44	20	16.84	87	84	73-120	4	30
Xylene (Total)	60	56.77	60	55.61	95	93	80-120	2	30
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 171570570804	Sample number(s): 9026683-9026693								
Lead	15	15.25			102		80-120		
	%	%	%	%					
Batch number: 17159820012A	Sample number(s): 9026683-9026692								
Moisture	89.5	89.05			99		99-101		
Batch number: 17159820012B	Sample number(s): 9026693								
Moisture	89.5	89.05			99		99-101		

MS/MSD

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

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Sample Description: TP-3@14ft Grab Soil
McGinness Property

LL Sample # SW 9026710
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC314

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.	20	0.87
10237	Acrylonitrile	107-13-1	N.D.	4	0.87
10237	Benzene	71-43-2	N.D.	0.5	0.87
10237	Bromodichloromethane	75-27-4	N.D.	1	0.87
10237	Bromoform	75-25-2	N.D.	1	0.87
10237	Bromomethane	74-83-9	N.D.	2	0.87
10237	Carbon Tetrachloride	56-23-5	N.D.	1	0.87
10237	Chlorobenzene	108-90-7	N.D.	1	0.87
10237	Chloroethane	75-00-3	N.D.	2	0.87
10237	Chloroform	67-66-3	N.D.	1	0.87
10237	Chloromethane	74-87-3	N.D.	2	0.87
10237	Dibromochloromethane	124-48-1	N.D.	1	0.87
10237	1,1-Dichloroethane	75-34-3	N.D.	1	0.87
10237	1,2-Dichloroethane	107-06-2	N.D.	1	0.87
10237	1,1-Dichloroethene	75-35-4	N.D.	1	0.87
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	0.87
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	0.87
10237	1,2-Dichloropropane	78-87-5	N.D.	1	0.87
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	0.87
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	0.87
10237	Ethylbenzene	100-41-4	N.D.	1	0.87
10237	Methylene Chloride	75-09-2	38		0.87
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	0.87
10237	Tetrachloroethene	127-18-4	N.D.	1	0.87
10237	Toluene	108-88-3	N.D.	1	0.87
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	0.87
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	0.87
10237	Trichloroethene	79-01-6	N.D.	1	0.87
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.87
10237	Vinyl Chloride	75-01-4	N.D.	1	0.87
10237	Xylene (Total)	1330-20-7	N.D.	1	0.87

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	30	J	19	5
10727	Acenaphthylene	208-96-8	230	Q4	19	5
10727	Anthracene	120-12-7	160		19	5
10727	Benzidine	92-87-5	N.D.	Q4	1,400	5
10727	Benzo(a)anthracene	56-55-3	620	Q4	19	5
10727	Benzo(a)pyrene	50-32-8	760	Q4	19	5
10727	Benzo(b)fluoranthene	205-99-2	970	Q4	19	5
10727	Benzo(g,h,i)perylene	191-24-2	590		19	5
10727	Benzo(k)fluoranthene	207-08-9	360		19	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.		96	5
10727	Butylbenzylphthalate	85-68-7	N.D.	Q4	390	5
10727	Di-n-butylphthalate	84-74-2	N.D.	Q4	390	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	Q4	96	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	Q4	96	5

Sample Description: TP-3@14ft Grab Soil
McGinness Property

LL Sample # SW 9026710
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MC314

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-Chloroethyl) ether	111-44-4	N.D.	96	5
10727	bis(2-Chloroisopropyl) ether	39638-32-9	N.D.	96	5
	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.	39	5
10727	2-Chlorophenol	95-57-8	N.D.	96	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	96	5
10727	Chrysene	218-01-9	680 Q4	19	5
10727	Dibenz(a,h)anthracene	53-70-3	140	19	5
10727	1,2-Dichlorobenzene	95-50-1	N.D.	96	5
10727	1,3-Dichlorobenzene	541-73-1	N.D.	96	5
10727	1,4-Dichlorobenzene	106-46-7	N.D.	96	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	580	5
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	96	5
10727	Diethylphthalate	84-66-2	N.D. Q4	390	5
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	96	5
10727	Dimethylphthalate	131-11-3	N.D. Q4	390	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	960	5
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	1,700	5
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	390	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	96	5
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	96	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D. Q4	390	5
10727	Fluoranthene	206-44-0	930	19	5
10727	Fluorene	86-73-7	45 J	19	5
10727	Hexachlorobenzene	118-74-1	N.D.	19	5
10727	Hexachlorobutadiene	87-68-3	N.D.	96	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q4	960	5
10727	Hexachloroethane	67-72-1	N.D. Q4	190	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	500	19	5
10727	Isophorone	78-59-1	N.D.	96	5
10727	Naphthalene	91-20-3	49 J	19	5
10727	Nitrobenzene	98-95-3	N.D.	96	5
10727	2-Nitrophenol	88-75-5	N.D.	96	5
10727	4-Nitrophenol	100-02-7	N.D.	960	5
10727	N-Nitrosodimethylamine	62-75-9	N.D.	390	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	96	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	96	5
	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. Q4	390	5
10727	Pentachlorophenol	87-86-5	N.D. Q4	190	5
10727	Phenanthrene	85-01-8	320	19	5
10727	Phenol	108-95-2	N.D. Q4	96	5
10727	Pyrene	129-00-0	1,000	19	5
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	96	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	96	5

REVISED

Sample Description: TP-3@14ft Grab Soil
McGinness Property

LL Sample # SW 9026710
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Retnew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MC314

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Herbicides					
		SW-846 8151A	ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D.	14	1
10401	Dalapon	75-99-0	N.D.	51	1
10401	2,4-DB	94-82-6	N.D.	7.1	1
10401	Dicamba	1918-00-9	N.D.	4.6	1
10401	Dinoseb	88-85-7	N.D.	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					
10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	10	1
10401	MCPA	94-74-6	N.D.	880	1
10401	MCPP (Mecoprop)	93-65-2	N.D.	860	1
10401	Pentachlorophenol	87-86-5	N.D.	0.38	1
10401	2,4,5-T	93-76-5	N.D.	0.94	1
10401	2,4,5-TP	93-72-1	N.D.	0.86	1

Pesticides/PCBs					
		SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D.	Q4Q9	0.20
10738	Alpha BHC	319-84-6	0.21	JP Q4	0.20
10738	Beta BHC	319-85-7	N.D.	Q4Q9	0.35
10738	Gamma BHC - Lindane	58-89-9	N.D.	Q4	0.20
10738	Chlordane	57-74-9	N.D.		4.6
10738	p,p-DDD	72-54-8	N.D.	Q4	0.38
10738	p,p-DDE	72-55-9	1.6	J Q4Q9	0.38
10738	p,p-DDT	50-29-3	3.2	P Q4	0.40
10738	Delta BHC	319-86-8	N.D.	Q4	0.52
10738	Dieldrin	60-57-1	N.D.	Q4Q9	0.38
10738	Endosulfan I	959-98-8	N.D.	Q4	0.25
10738	Endosulfan II	33213-65-9	N.D.	V Q4Q9	1.7
10738	Endosulfan Sulfate	1031-07-8	N.D.	Q4Q9	7.6
10738	Endrin	72-20-8	N.D.	V Q4Q9	1.5
10738	Endrin Aldehyde	7421-93-4	N.D.	Q4Q9	7.6
10738	Heptachlor	76-44-8	N.D.	Q4	0.20
10738	Heptachlor Epoxide	1024-57-3	0.60	J Q4	0.20
10738	Methoxychlor	72-43-5	N.D.	Q4	39
10738	Toxaphene	8001-35-2	N.D.		16

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

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

Pesticides/PCBs					
		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.		4.2
10736	PCB-1221	11104-28-2	N.D.		5.3
10736	PCB-1232	11141-16-5	N.D.		9.2
10736	PCB-1242	53469-21-9	N.D.		3.8
10736	PCB-1248	12672-29-6	N.D.		3.8
10736	PCB-1254	11097-69-1	N.D.		3.8
10736	PCB-1260	11096-82-5	N.D.		5.6

Metals					
		SW-846 6010B	mg/kg	mg/kg	

REVISED

Sample Description: TP-3@14ft Grab Soil
McGinness Property

LL Sample # SW 9026710
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MC314

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals			mg/kg	mg/kg	
		SW-846 6010B			
06944	Antimony	7440-36-0	N.D. Q4	0.756	1
06935	Arsenic	7440-38-2	7.77 Q8	1.05	1
06947	Beryllium	7440-41-7	0.773	0.0724	1
06949	Cadmium	7440-43-9	0.618	0.0529	1
06951	Chromium	7440-47-3	13.2 B	0.151	1
06953	Copper	7440-50-8	41.9	0.249	1
06955	Lead	7439-92-1	53.3	0.594	1
06961	Nickel	7440-02-0	13.9	0.324	1
06936	Selenium	7782-49-2	N.D.	0.972	1
06966	Silver	7440-22-4	N.D.	0.162	1
06925	Thallium	7440-28-0	N.D.	0.886	1
06972	Zinc	7440-66-6	129	0.735	1
SW-846 7471A			mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0692 J	0.0116	1
Wet Chemistry			%	%	
		SM 2540 G-1997			
00111	Moisture	n.a.	13.5 Q8	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171581AA	06/07/2017 11:32	Linda C Pape	0.87
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745695	06/02/2017 09:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745695	06/02/2017 09:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745695	06/02/2017 09:15	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17159SLK026	06/11/2017 22:38	Linda M Hartenstine	5
0809	BNA Soil Microwave	SW-846 3546	1	17159SLK026	06/09/2017 08:00	Bradley W VanLeuven	1
0401	Herbicide soils 8151A Master	SW-846 8151A	1	171600029A	06/13/2017 23:01	Heather M Miller	1

REVISED

Sample Description: TP-3@14ft Grab Soil
McGinness Property

LL Sample # SW 9026710
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC314

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/14/2017 11:08	Andrea L Jones	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/15/2017 15:05	Andrea L Jones	20
10736	PCBs in Soil (microwave)	SW-846 8082	1	171560032A	06/07/2017 05:30	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171560032A	06/06/2017 09:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	171590039A	06/09/2017 08:00	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	2	171600029A	06/12/2017 00:15	Sherry L Morrow	1
06944	Antimony	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06935	Arsenic	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06947	Beryllium	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06949	Cadmium	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06951	Chromium	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06953	Copper	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06955	Lead	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06961	Nickel	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06936	Selenium	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06966	Silver	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06925	Thallium	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
06972	Zinc	SW-846 6010B	1	171570570806	06/08/2017 11:43	Patrick J Engle	1
00159	Mercury	SW-846 7471A	1	171570571101	06/07/2017 04:57	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570806	06/07/2017 05:41	James L Mertz	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171570571101	06/06/2017 17:55	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	17159820012B	06/09/2017 00:26	Scott W Freisher	1

REVISED

Sample Description: TP-3@14ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026711
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN314

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l	mg/l	
10727	Acenaphthene	83-32-9	0.058 J Q4Q9	0.017	5
10727	Acenaphthylene	208-96-8	0.32 Q4	0.017	5
10727	Anthracene	120-12-7	0.24 Q4	0.017	5
10727	Benzidine	92-87-5	N.D. Q0Q4	1.3	5
10727	Benzo (a) anthracene	56-55-3	0.74 Q4	0.017	5
10727	Benzo (a) pyrene	50-32-8	0.85 Q4	0.017	5
10727	Benzo (b) fluoranthene	205-99-2	1.0 Q4	0.017	5
10727	Benzo (g, h, i) perylene	191-24-2	0.71 Q4	0.017	5
10727	Benzo (k) fluoranthene	207-08-9	0.35 Q4	0.017	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D. Q4	0.083	5
10727	Butylbenzylphthalate	85-68-7	N.D. Q4	0.33	5
10727	Di-n-butylphthalate	84-74-2	N.D. Q4	0.33	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D. Q4	0.083	5
10727	bis (2-Chloroethoxy) methane	111-91-1	N.D. Q4Q9	0.083	5
10727	bis (2-Chloroethyl) ether	111-44-4	N.D. Q4	0.083	5
10727	bis (2-Chloroisopropyl) ether	39638-32-9	N.D. Q4	0.083	5
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. Q4	0.033	5
10727	2-Chlorophenol	95-57-8	N.D. Q4	0.083	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D. Q4	0.083	5
10727	Chrysene	218-01-9	0.80 Q4	0.017	5
10727	Dibenz (a, h) anthracene	53-70-3	0.20 Q4	0.017	5
10727	1,2-Dichlorobenzene	95-50-1	N.D. Q4	0.083	5
10727	1,3-Dichlorobenzene	541-73-1	N.D. Q4	0.083	5
10727	1,4-Dichlorobenzene	106-46-7	N.D. Q4	0.083	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D. Q4	0.50	5
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	0.083	5
10727	Diethylphthalate	84-66-2	N.D. Q4	0.33	5
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	0.083	5
10727	Dimethylphthalate	131-11-3	N.D. Q4	0.33	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	0.83	5
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	1.5	5
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	0.33	5
10727	2,6-Dinitrotoluene	606-20-2	N.D. Q4	0.083	5
10727	1,2-Diphenylhydrazine	122-66-7	N.D. Q4	0.083	5
10727	bis (2-Ethylhexyl) phthalate	117-81-7	N.D. Q4	0.33	5
10727	Fluoranthene	206-44-0	0.91 Q4	0.017	5
10727	Fluorene	86-73-7	0.078 J Q4	0.017	5
10727	Hexachlorobenzene	118-74-1	N.D. Q4Q9	0.017	5
10727	Hexachlorobutadiene	87-68-3	N.D. Q4	0.083	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q0Q4	0.83	5
10727	Hexachloroethane	67-72-1	N.D. Q4	0.17	5
10727	Indeno (1,2,3-cd) pyrene	193-39-5	0.56 Q4	0.017	5
10727	Isophorone	78-59-1	N.D. Q4	0.083	5
10727	Naphthalene	91-20-3	0.089 Q4	0.017	5
10727	Nitrobenzene	98-95-3	N.D.	0.083	5

REVISED

Sample Description: TP-3@14ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026711
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN314

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l	mg/l	
10727	2-Nitrophenol	88-75-5	N.D. Q4	0.083	5
10727	4-Nitrophenol	100-02-7	N.D. Q4	0.83	5
10727	N-Nitrosodimethylamine	62-75-9	N.D. Q4	0.33	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	0.083	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	0.083	5
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. Q4	0.33	5
10727	Pentachlorophenol	87-86-5	N.D. Q4	0.17	5
10727	Phenanthrene	85-01-8	0.48 Q4	0.017	5
10727	Phenol	108-95-2	N.D. Q4Q9	0.083	5
10727	Pyrene	129-00-0	1.4 Q4	0.017	5
10727	1,2,4-Trichlorobenzene	120-82-1	N.D. Q4	0.083	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	0.083	5

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals		SW-846 6010B	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0077	1
07035	Arsenic	7440-38-2	N.D.	0.0097	1
07047	Beryllium	7440-41-7	N.D.	0.00067	1
07049	Cadmium	7440-43-9	0.00059 J BQ8	0.00049	1
07051	Chromium	7440-47-3	N.D.	0.0018	1
07053	Copper	7440-50-8	N.D.	0.0041	1
07055	Lead	7439-92-1	N.D.	0.0062	1
07061	Nickel	7440-02-0	N.D.	0.0028	1
07036	Selenium	7782-49-2	N.D.	0.0097	1
07066	Silver	7440-22-4	N.D. Q4Q9	0.0019	1
07022	Thallium	7440-28-0	N.D.	0.0094	1
07072	Zinc	7440-66-6	N.D.	0.0054	1
		SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-3@14ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026711
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN314

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17161SLC026	06/16/2017 14:25	Linda M Hartenstine	5
10809	BNA Soil Microwave	SW-846 3546	1	17161SLC026	06/11/2017 07:10	David S Schrum	1
07044	Antimony	SW-846 6010B	1	171580570505	06/11/2017 17:42	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	171580570505	06/11/2017 17:42	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	171580570505	06/09/2017 11:43	Patrick J Engle	1
07049	Cadmium	SW-846 6010B	1	171580570505	06/11/2017 17:42	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	171580570505	06/09/2017 11:43	Patrick J Engle	1
07053	Copper	SW-846 6010B	1	171580570505	06/09/2017 11:43	Patrick J Engle	1
07055	Lead	SW-846 6010B	1	171580570505	06/11/2017 17:42	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	171580570505	06/11/2017 17:42	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	171580570505	06/11/2017 17:42	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	171580570505	06/09/2017 11:43	Patrick J Engle	1
07022	Thallium	SW-846 6010B	1	171580570505	06/11/2017 17:42	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	171580570505	06/11/2017 17:42	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	171580571305	06/09/2017 04:22	Damary Valentin	1
05705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171580570505	06/08/2017 16:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171580571305	06/08/2017 20:15	Barbara A Kane	1
01567	Synthetic Precipitation Leach	SW-846 1312	1	17157-10253-15 67	06/06/2017 13:03	Scarlett M Barrett	n.a.

REVISED

Sample Description: TP-3@14ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026712
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MZ314

CAT No.	Analysis Name	CAS Number	Result	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

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-3@14ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026712
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 09:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MZ314

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	N171631AA	06/12/2017 14:02	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N171631AA	06/12/2017 14:02	Nicole S Lamoreaux	1
08792	SPLP Volatile Extraction	SW-846 1312	1	17159-12245-87 92	06/08/2017 14:35	Tanner E Grumbling	n.a.

REVISED

Sample Description: TP-2@14ft Grab Soil
McGinness Property

LL Sample # SW 9026713
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 10:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC214

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	0.94
10237	Acrylonitrile	107-13-1	N.D.	5	0.94
10237	Benzene	71-43-2	2 J	0.6	0.94
10237	Bromodichloromethane	75-27-4	N.D.	1	0.94
10237	Bromoform	75-25-2	N.D.	1	0.94
10237	Bromomethane	74-83-9	N.D.	2	0.94
10237	Carbon Tetrachloride	56-23-5	N.D.	1	0.94
10237	Chlorobenzene	108-90-7	N.D.	1	0.94
10237	Chloroethane	75-00-3	N.D.	2	0.94
10237	Chloroform	67-66-3	N.D.	1	0.94
10237	Chloromethane	74-87-3	N.D.	2	0.94
10237	Dibromochloromethane	124-48-1	N.D.	1	0.94
10237	1,1-Dichloroethane	75-34-3	N.D.	1	0.94
10237	1,2-Dichloroethane	107-06-2	N.D.	1	0.94
10237	1,1-Dichloroethene	75-35-4	N.D.	1	0.94
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	0.94
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	0.94
10237	1,2-Dichloropropane	78-87-5	N.D.	1	0.94
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	0.94
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	0.94
10237	Ethylbenzene	100-41-4	N.D.	1	0.94
10237	Methylene Chloride	75-09-2	N.D.	2	0.94
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	0.94
10237	Tetrachloroethene	127-18-4	N.D.	1	0.94
10237	Toluene	108-88-3	N.D.	1	0.94
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	0.94
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	0.94
10237	Trichloroethene	79-01-6	N.D.	1	0.94
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.94
10237	Vinyl Chloride	75-01-4	N.D.	1	0.94
10237	Xylene (Total)	1330-20-7	N.D.	1	0.94

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	4,400	21	5
10727	Acenaphthylene	208-96-8	150 Q4	21	5
10727	Anthracene	120-12-7	8,500	21	5
10727	Benzidine	92-87-5	N.D. Q4	1,500	5
10727	Benzo(a)anthracene	56-55-3	18,000 Q4	21	5
10727	Benzo(a)pyrene	50-32-8	14,000 Q4	21	5
10727	Benzo(b)fluoranthene	205-99-2	20,000 Q4	21	5
10727	Benzo(g,h,i)perylene	191-24-2	9,900	21	5

Sample Description: TP-2@14ft Grab Soil
McGinness Property

LL Sample # SW 9026713
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 10:15 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MC214

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	Benzo(k) fluoranthene	207-08-9	8,200	21	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	100	5
10727	Butylbenzylphthalate	85-68-7	N.D. Q4	410	5
10727	Di-n-butylphthalate	84-74-2	N.D. Q4	410	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D. Q4	100	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D. Q4	100	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	100	5
10727	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	100	5
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.	41	5
10727	2-Chlorophenol	95-57-8	N.D.	100	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	100	5
10727	Chrysene	218-01-9	18,000 Q4	21	5
10727	Dibenz(a,h)anthracene	53-70-3	2,400	21	5
10727	1,2-Dichlorobenzene	95-50-1	N.D.	100	5
10727	1,3-Dichlorobenzene	541-73-1	N.D.	100	5
10727	1,4-Dichlorobenzene	106-46-7	N.D.	100	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	620	5
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	100	5
10727	Diethylphthalate	84-66-2	N.D. Q4	410	5
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	100	5
10727	Dimethylphthalate	131-11-3	N.D. Q4	410	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	1,000	5
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	1,800	5
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	410	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	100	5
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	100	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D. Q4	410	5
10727	Fluoranthene	206-44-0	51,000	100	25
10727	Fluorene	86-73-7	4,200	21	5
10727	Hexachlorobenzene	118-74-1	N.D.	21	5
10727	Hexachlorobutadiene	87-68-3	N.D.	100	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q4	1,000	5
10727	Hexachloroethane	67-72-1	N.D. Q4	210	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	9,200	21	5
10727	Isophorone	78-59-1	N.D.	100	5
10727	Naphthalene	91-20-3	720	21	5
10727	Nitrobenzene	98-95-3	N.D.	100	5
10727	2-Nitrophenol	88-75-5	N.D.	100	5
10727	4-Nitrophenol	100-02-7	N.D.	1,000	5
10727	N-Nitrosodimethylamine	62-75-9	N.D.	410	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	100	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	100	5
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. Q4	410	5

REVISED

Sample Description: TP-2@14ft Grab Soil
McGinness Property

LL Sample # SW 9026713
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 10:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC214

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	Pentachlorophenol	87-86-5	N.D. Q4	210	5
10727	Phenanthrene	85-01-8	47,000	100	25
10727	Phenol	108-95-2	N.D. Q4	100	5
10727	Pyrene	129-00-0	38,000	100	25
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	100	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	100	5

Herbicides SW-846 8151A					
			ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D.	15	1
10401	Dalapon	75-99-0	N.D.	54	1
10401	2,4-DB	94-82-6	N.D.	7.7	1
10401	Dicamba	1918-00-9	N.D.	4.9	1
10401	Dinoseb	88-85-7	N.D.	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					

10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	11	1
10401	MCPA	94-74-6	N.D.	940	1
10401	MCPD (Mecoprop)	93-65-2	N.D.	930	1
10401	Pentachlorophenol	87-86-5	N.D.	0.41	1
10401	2,4,5-T	93-76-5	N.D.	1.0	1
10401	2,4,5-TP	93-72-1	N.D.	0.93	1

Pesticides/PCBs SW-846 8081A					
			ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. Q4Q9	0.21	1
10738	Alpha BHC	319-84-6	0.47 J Q4	0.21	1
10738	Beta BHC	319-85-7	N.D. Q4Q9	0.37	1
10738	Gamma BHC - Lindane	58-89-9	N.D. Q4	0.21	1
10738	Chlordane	57-74-9	N.D.	5.0	1
10738	p,p-DDD	72-54-8	1.6 J Q4	0.41	1
10738	p,p-DDE	72-55-9	1.0 J Q4Q9	0.41	1
10738	p,p-DDT	50-29-3	1.4 JP Q4	0.44	1
10738	Delta BHC	319-86-8	N.D. Q4	0.56	1
10738	Dieldrin	60-57-1	N.D. Q4Q9	0.41	1
10738	Endosulfan I	959-98-8	N.D. Q4	0.27	1
10738	Endosulfan II	33213-65-9	N.D. V Q4Q9	0.63	1
10738	Endosulfan Sulfate	1031-07-8	N.D. Q4Q9	8.2	20
10738	Endrin	72-20-8	N.D. Q4Q9	0.41	1
10738	Endrin Aldehyde	7421-93-4	N.D. Q4Q9	8.2	20
10738	Heptachlor	76-44-8	0.26 JP Q4	0.21	1
10738	Heptachlor Epoxide	1024-57-3	N.D. Q4	0.21	1
10738	Methoxychlor	72-43-5	N.D. Q4	42	20
10738	Toxaphene	8001-35-2	N.D.	17	1

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

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

Pesticides/PCBs SW-846 8082					
			ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	4.5	1

REVISED

Sample Description: TP-2@14ft Grab Soil
McGinness Property

LL Sample # SW 9026713
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 10:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC214

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1221	11104-28-2	N.D.	5.7	1
10736	PCB-1232	11141-16-5	N.D.	10	1
10736	PCB-1242	53469-21-9	N.D.	4.1	1
10736	PCB-1248	12672-29-6	N.D.	4.1	1
10736	PCB-1254	11097-69-1	N.D.	4.1	1
10736	PCB-1260	11096-82-5	N.D.	6.1	1
Metals		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	1.46 J Q4	0.811	1
06935	Arsenic	7440-38-2	8.27 Q8	1.12	1
06947	Beryllium	7440-41-7	0.744	0.0776	1
06949	Cadmium	7440-43-9	0.839	0.0568	1
06951	Chromium	7440-47-3	13.9 B	0.162	1
06953	Copper	7440-50-8	53.5	0.267	1
06955	Lead	7439-92-1	199	0.637	1
06961	Nickel	7440-02-0	14.6	0.348	1
06936	Selenium	7782-49-2	N.D.	1.04	1
06966	Silver	7440-22-4	0.269 J	0.174	1
06925	Thallium	7440-28-0	1.41 J	0.950	1
06972	Zinc	7440-66-6	227	0.788	1
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.358 Q8	0.0119	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	20.1 Q8	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171581AA	06/07/2017 11:55	Linda C Pape	0.94
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745695	06/02/2017 10:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745695	06/02/2017 10:15	Client Supplied	1

REVISED

Sample Description: TP-2@14ft Grab Soil
McGinness Property

LL Sample # SW 9026713
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 10:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC214

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745695	06/02/2017 10:15	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17159SLK026	06/11/2017 23:02	Linda M Hartenstine	5
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17159SLK026	06/13/2017 04:31	Anthony P Bauer	25
10809	BNA Soil Microwave	SW-846 3546	1	17159SLK026	06/09/2017 08:00	Bradley W VanLeuven	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171600029A	06/13/2017 23:34	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/14/2017 11:34	Andrea L Jones	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/15/2017 15:31	Andrea L Jones	20
10736	PCBs in Soil (microwave)	SW-846 8082	1	171560032A	06/07/2017 05:53	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171560032A	06/06/2017 09:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	171590039A	06/09/2017 08:00	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	2	171600029A	06/12/2017 00:15	Sherry L Morrow	1
06944	Antimony	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06935	Arsenic	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06947	Beryllium	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06949	Cadmium	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06951	Chromium	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06953	Copper	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06955	Lead	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06961	Nickel	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06936	Selenium	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06966	Silver	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06925	Thallium	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
06972	Zinc	SW-846 6010B	1	171570570806	06/08/2017 11:46	Patrick J Engle	1
00159	Mercury	SW-846 7471A	1	171560571101	06/06/2017 12:53	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570806	06/07/2017 05:41	James L Mertz	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171560571101	06/06/2017 08:10	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17159820012B	06/09/2017 00:26	Scott W Freisher	1

Sample Description: TP-2@14ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026714
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 10:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN214

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Semivolatiles SW-846 8270C			mg/l	mg/l	
10727	Acenaphthene	83-32-9	0.031 Q4Q9	0.003	1
10727	Acenaphthylene	208-96-8	0.14 Q4	0.003	1
10727	Anthracene	120-12-7	0.15 Q4	0.003	1
10727	Benzidine	92-87-5	N.D. Q0Q4	0.25	1
10727	Benzo (a) anthracene	56-55-3	0.57 Q4	0.003	1
10727	Benzo (a) pyrene	50-32-8	0.58 Q4	0.003	1
10727	Benzo (b) fluoranthene	205-99-2	0.70 Q4	0.003	1
10727	Benzo (g, h, i) perylene	191-24-2	0.41 Q4	0.003	1
10727	Benzo (k) fluoranthene	207-08-9	0.34 Q4	0.003	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D. Q4	0.017	1
10727	Butylbenzylphthalate	85-68-7	N.D. Q4	0.066	1
10727	Di-n-butylphthalate	84-74-2	N.D. Q4	0.066	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D. Q4	0.017	1
10727	bis (2-Chloroethoxy) methane	111-91-1	N.D. Q4Q9	0.017	1
10727	bis (2-Chloroethyl) ether	111-44-4	N.D. Q4	0.017	1
10727	bis (2-Chloroisopropyl) ether	39638-32-9	N.D. Q4	0.017	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. Q4	0.007	1
10727	2-Chlorophenol	95-57-8	N.D. Q4	0.017	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D. Q4	0.017	1
10727	Chrysene	218-01-9	0.60 Q4	0.003	1
10727	Dibenz (a, h) anthracene	53-70-3	0.13 Q4	0.003	1
10727	1,2-Dichlorobenzene	95-50-1	N.D. Q4	0.017	1
10727	1,3-Dichlorobenzene	541-73-1	N.D. Q4	0.017	1
10727	1,4-Dichlorobenzene	106-46-7	N.D. Q4	0.017	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D. Q4	0.10	1
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	0.017	1
10727	Diethylphthalate	84-66-2	N.D. Q4	0.066	1
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	0.017	1
10727	Dimethylphthalate	131-11-3	N.D. Q4	0.066	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	0.17	1
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	0.30	1
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	0.066	1
10727	2,6-Dinitrotoluene	606-20-2	N.D. Q4	0.017	1
10727	1,2-Diphenylhydrazine	122-66-7	N.D. Q4	0.017	1
10727	bis (2-Ethylhexyl) phthalate	117-81-7	N.D. Q4	0.066	1
10727	Fluoranthene	206-44-0	0.83 Q4	0.003	1
10727	Fluorene	86-73-7	0.045 Q4	0.003	1
10727	Hexachlorobenzene	118-74-1	N.D. Q4Q9	0.003	1
10727	Hexachlorobutadiene	87-68-3	N.D. Q4	0.017	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q0Q4	0.17	1
10727	Hexachloroethane	67-72-1	N.D. Q4	0.033	1
10727	Indeno (1,2,3-cd) pyrene	193-39-5	0.36 Q4	0.003	1
10727	Isophorone	78-59-1	N.D. Q4	0.017	1
10727	Naphthalene	91-20-3	0.052 Q4	0.003	1
10727	Nitrobenzene	98-95-3	N.D.	0.017	1

REVISED

Sample Description: TP-2@14ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026714
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 10:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN214

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l	mg/l	
10727	2-Nitrophenol	88-75-5	N.D. Q4	0.017	1
10727	4-Nitrophenol	100-02-7	N.D. Q4	0.17	1
10727	N-Nitrosodimethylamine	62-75-9	N.D. Q4	0.066	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	0.017	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	0.017	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. Q4	0.066	1
10727	Pentachlorophenol	87-86-5	N.D. Q4	0.033	1
10727	Phenanthrene	85-01-8	0.50 Q4	0.003	1
10727	Phenol	108-95-2	N.D. Q4Q9	0.017	1
10727	Pyrene	129-00-0	1.0 Q4	0.003	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D. Q4	0.017	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	0.017	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	SW-846 6010B	mg/l	mg/l	
07044	Antimony	7440-36-0	0.0212	0.0077 1
07035	Arsenic	7440-38-2	N.D.	0.0097 1
07047	Beryllium	7440-41-7	N.D.	0.00067 1
07049	Cadmium	7440-43-9	0.00080 J BQ8	0.00049 1
07051	Chromium	7440-47-3	0.0069 J	0.0018 1
07053	Copper	7440-50-8	0.0279	0.0041 1
07055	Lead	7439-92-1	0.0484	0.0062 1
07061	Nickel	7440-02-0	0.0051 J	0.0028 1
07036	Selenium	7782-49-2	N.D.	0.0097 1
07066	Silver	7440-22-4	N.D. Q4Q9	0.0019 1
07022	Thallium	7440-28-0	N.D.	0.0094 1
07072	Zinc	7440-66-6	0.0652	0.0054 1
	SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000079 J	0.000050 1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-2@14ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026714
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 10:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN214

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17161SLC026	06/16/2017 14:50	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	17161SLC026	06/11/2017 07:10	David S Schrum	1
07044	Antimony	SW-846 6010B	1	171580570505	06/11/2017 18:05	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	171580570505	06/11/2017 18:05	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	171580570505	06/09/2017 12:21	Patrick J Engle	1
07049	Cadmium	SW-846 6010B	1	171580570505	06/11/2017 18:05	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	171580570505	06/11/2017 18:05	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	171580570505	06/09/2017 12:21	Patrick J Engle	1
07055	Lead	SW-846 6010B	1	171580570505	06/11/2017 18:05	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	171580570505	06/11/2017 18:05	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	171580570505	06/11/2017 18:05	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	171580570505	06/09/2017 12:21	Patrick J Engle	1
07022	Thallium	SW-846 6010B	1	171580570505	06/11/2017 18:05	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	171580570505	06/11/2017 18:05	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	171580571305	06/09/2017 04:37	Damary Valentin	1
05705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171580570505	06/08/2017 16:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171580571305	06/08/2017 20:15	Barbara A Kane	1
01567	Synthetic Precipitation Leach	SW-846 1312	1	17157-10253-1567	06/06/2017 13:03	Scarlett M Barrett	n.a.

REVISED

Sample Description: TP-2@14ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026715
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 10:15 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue
Lancaster PA 17603-4011

Reported: 06/28/2017 13:14

MZ214

CAT No.	Analysis Name	CAS Number	Result	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

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-1@10ft Grab Soil
McGinness Property

LL Sample # SW 9026716
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:10 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC110

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	N.D. Q4	0.695	1
06935	Arsenic	7440-38-2	9.25 Q8	0.964	1
06947	Beryllium	7440-41-7	0.702	0.0666	1
06949	Cadmium	7440-43-9	0.686	0.0487	1
06951	Chromium	7440-47-3	16.4 B	0.139	1
06953	Copper	7440-50-8	29.6	0.228	1
06955	Lead	7439-92-1	124	0.546	1
06961	Nickel	7440-02-0	16.2	0.298	1
06936	Selenium	7782-49-2	N.D.	0.894	1
06966	Silver	7440-22-4	0.151 J	0.149	1
06925	Thallium	7440-28-0	N.D.	0.815	1
06972	Zinc	7440-66-6	120	0.675	1
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.749 Q8	0.0109	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	15.4 Q8	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171581AA	06/07/2017 12:18	Linda C Pape	0.81
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745695	06/02/2017 11:10	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745695	06/02/2017 11:10	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745695	06/02/2017 11:10	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17159SLK026	06/11/2017 23:27	Linda M Hartenstine	1
0809	BNA Soil Microwave	SW-846 3546	1	17159SLK026	06/09/2017 08:00	Bradley W VanLeuven	1
0401	Herbicide soils 8151A Master	SW-846 8151A	1	171600029A	06/14/2017 00:07	Heather M Miller	1

REVISED

Sample Description: TP-1@10ft Grab Soil
McGinness Property

LL Sample # SW 9026716
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:10 by GM

Retnew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC110

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/14/2017 12:01	Andrea L Jones	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/15/2017 15:58	Andrea L Jones	20
10736	PCBs in Soil (microwave)	SW-846 8082	1	171560032A	06/07/2017 06:04	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171560032A	06/06/2017 09:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	171590039A	06/09/2017 08:00	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	2	171600029A	06/12/2017 00:15	Sherry L Morrow	1
06944	Antimony	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06935	Arsenic	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06947	Beryllium	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06949	Cadmium	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06951	Chromium	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06953	Copper	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06955	Lead	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06961	Nickel	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06936	Selenium	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06966	Silver	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06925	Thallium	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
06972	Zinc	SW-846 6010B	1	171570570806	06/08/2017 11:50	Patrick J Engle	1
00159	Mercury	SW-846 7471A	1	171560571101	06/06/2017 12:55	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570806	06/07/2017 05:41	James L Mertz	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171560571101	06/06/2017 08:10	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17159820012B	06/09/2017 00:26	Scott W Freisher	1

Sample Description: TP-1@10ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026717
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:10 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN110

CAT No.	Analysis Name	CAS Number	Result	Method	Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l		mg/l	
10727	Acenaphthene	83-32-9	0.059	Q4Q9	0.003	1
10727	Acenaphthylene	208-96-8	0.081	Q4	0.003	1
10727	Anthracene	120-12-7	0.15	Q4	0.003	1
10727	Benzidine	92-87-5	N.D.	Q0Q4	0.25	1
10727	Benzo (a) anthracene	56-55-3	0.39	Q4	0.003	1
10727	Benzo (a) pyrene	50-32-8	0.32	Q4	0.003	1
10727	Benzo (b) fluoranthene	205-99-2	0.44	Q4	0.003	1
10727	Benzo (g, h, i) perylene	191-24-2	0.23	Q4	0.003	1
10727	Benzo (k) fluoranthene	207-08-9	0.19	Q4	0.003	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	Q4	0.017	1
10727	Butylbenzylphthalate	85-68-7	N.D.	Q4	0.066	1
10727	Di-n-butylphthalate	84-74-2	N.D.	Q4	0.066	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	Q4	0.017	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	Q4Q9	0.017	1
10727	bis(2-Chloroethyl) ether	111-44-4	N.D.	Q4	0.017	1
10727	bis(2-Chloroisopropyl) ether	39638-32-9	N.D.	Q4	0.017	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.	Q4	0.007	1
10727	2-Chlorophenol	95-57-8	N.D.	Q4	0.017	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	Q4	0.017	1
10727	Chrysene	218-01-9	0.35	Q4	0.003	1
10727	Dibenz (a, h) anthracene	53-70-3	0.064	Q4	0.003	1
10727	1,2-Dichlorobenzene	95-50-1	N.D.	Q4	0.017	1
10727	1,3-Dichlorobenzene	541-73-1	N.D.	Q4	0.017	1
10727	1,4-Dichlorobenzene	106-46-7	N.D.	Q4	0.017	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	Q4	0.099	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	Q4	0.017	1
10727	Diethylphthalate	84-66-2	N.D.	Q4	0.066	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	Q4	0.017	1
10727	Dimethylphthalate	131-11-3	N.D.	Q4	0.066	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	Q4	0.17	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	Q4	0.30	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	Q4	0.066	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	Q4	0.017	1
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	Q4	0.017	1
10727	bis(2-Ethylhexyl) phthalate	117-81-7	N.D.	Q4	0.066	1
10727	Fluoranthene	206-44-0	0.81	Q4	0.003	1
10727	Fluorene	86-73-7	0.073	Q4	0.003	1
10727	Hexachlorobenzene	118-74-1	N.D.	Q4Q9	0.003	1
10727	Hexachlorobutadiene	87-68-3	N.D.	Q4	0.017	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	Q0Q4	0.17	1
10727	Hexachloroethane	67-72-1	N.D.	Q4	0.033	1
10727	Indeno (1,2,3-cd) pyrene	193-39-5	0.21	Q4	0.003	1
10727	Isophorone	78-59-1	N.D.	Q4	0.017	1
10727	Naphthalene	91-20-3	0.011	J Q4	0.003	1
10727	Nitrobenzene	98-95-3	N.D.		0.017	1

REVISED

Sample Description: TP-1@10ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026717
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:10 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN110

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l	mg/l	
10727	2-Nitrophenol	88-75-5	N.D. Q4	0.017	1
10727	4-Nitrophenol	100-02-7	N.D. Q4	0.17	1
10727	N-Nitrosodimethylamine	62-75-9	N.D. Q4	0.066	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	0.017	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	0.017	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. Q4	0.066	1
10727	Pentachlorophenol	87-86-5	N.D. Q4	0.033	1
10727	Phenanthrene	85-01-8	0.62 Q4	0.003	1
10727	Phenol	108-95-2	N.D. Q4Q9	0.017	1
10727	Pyrene	129-00-0	0.76 Q4	0.003	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D. Q4	0.017	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	0.017	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	SW-846 6010B	mg/l	mg/l
07044	Antimony	7440-36-0	N.D. 0.0077
07035	Arsenic	7440-38-2	N.D. 0.0097
07047	Beryllium	7440-41-7	N.D. 0.00067
07049	Cadmium	7440-43-9	0.00053 J BQ8 0.00049
07051	Chromium	7440-47-3	0.0025 J 0.0018
07053	Copper	7440-50-8	0.0056 J 0.0041
07055	Lead	7439-92-1	N.D. 0.0062
07061	Nickel	7440-02-0	N.D. 0.0028
07036	Selenium	7782-49-2	N.D. 0.0097
07066	Silver	7440-22-4	N.D. Q4Q9 0.0019
07022	Thallium	7440-28-0	N.D. 0.0094
07072	Zinc	7440-66-6	N.D. 0.0054
	SW-846 7470A	mg/l	mg/l
00259	Mercury	7439-97-6	N.D. 0.000050

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-1@10ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026717
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:10 by GM

Rettew Associates

3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN110

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17161SLC026	06/16/2017 15:14	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	17161SLC026	06/11/2017 07:10	David S Schrum	1
07044	Antimony	SW-846 6010B	1	171580570505	06/11/2017 18:09	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	171580570505	06/11/2017 18:09	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	171580570505	06/09/2017 12:24	Patrick J Engle	1
07049	Cadmium	SW-846 6010B	1	171580570505	06/11/2017 18:09	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	171580570505	06/11/2017 18:09	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	171580570505	06/09/2017 12:24	Patrick J Engle	1
07055	Lead	SW-846 6010B	1	171580570505	06/11/2017 18:09	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	171580570505	06/11/2017 18:09	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	171580570505	06/11/2017 18:09	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	171580570505	06/09/2017 12:24	Patrick J Engle	1
07022	Thallium	SW-846 6010B	1	171580570505	06/11/2017 18:09	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	171580570505	06/11/2017 18:09	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	171580571305	06/09/2017 04:40	Damary Valentin	1
05705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171580570505	06/08/2017 16:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171580571305	06/08/2017 20:15	Barbara A Kane	1
01567	Synthetic Precipitation Leach	SW-846 1312	1	17157-10253-15 67	06/06/2017 13:03	Scarlett M Barrett	n.a.

REVISED

Sample Description: TP-1@10ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026718
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:10 by GM

Rettew Associates

3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MZ110

CAT No.	Analysis Name	CAS Number	Result	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

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-1@10ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026718
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:10 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MZ110

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	N171631AA	06/12/2017 14:48	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N171631AA	06/12/2017 14:48	Nicole S Lamoreaux	1
08792	SPLP Volatile Extraction	SW-846 1312	1	17159-12245-87 92	06/08/2017 14:35	Tanner E Grumbling	n.a.

Sample Description: TP-4@9ft Grab Soil
McGinness Property

LL Sample # SW 9026719
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:45 by GM

Retnew Associates

3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC409

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.	17	0.71
10237	Acrylonitrile	107-13-1	N.D.	3	0.71
10237	Benzene	71-43-2	N.D.	0.4	0.71
10237	Bromodichloromethane	75-27-4	N.D.	0.8	0.71
10237	Bromoform	75-25-2	N.D.	0.8	0.71
10237	Bromomethane	74-83-9	N.D.	2	0.71
10237	Carbon Tetrachloride	56-23-5	N.D.	0.8	0.71
10237	Chlorobenzene	108-90-7	N.D.	0.8	0.71
10237	Chloroethane	75-00-3	N.D.	2	0.71
10237	Chloroform	67-66-3	N.D.	0.8	0.71
10237	Chloromethane	74-87-3	N.D.	2	0.71
10237	Dibromochloromethane	124-48-1	N.D.	0.8	0.71
10237	1,1-Dichloroethane	75-34-3	N.D.	0.8	0.71
10237	1,2-Dichloroethane	107-06-2	N.D.	0.8	0.71
10237	1,1-Dichloroethene	75-35-4	N.D.	0.8	0.71
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.8	0.71
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	0.71
10237	1,2-Dichloropropane	78-87-5	N.D.	0.8	0.71
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.8	0.71
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.8	0.71
10237	Ethylbenzene	100-41-4	N.D.	0.8	0.71
10237	Methylene Chloride	75-09-2	N.D.	2	0.71
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.8	0.71
10237	Tetrachloroethene	127-18-4	N.D.	0.8	0.71
10237	Toluene	108-88-3	N.D.	0.8	0.71
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.8	0.71
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.8	0.71
10237	Trichloroethene	79-01-6	N.D.	0.8	0.71
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.71
10237	Vinyl Chloride	75-01-4	N.D.	0.8	0.71
10237	Xylene (Total)	1330-20-7	N.D.	0.8	0.71

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	5	J Q4	1
10727	Anthracene	120-12-7	N.D.	4	1
10727	Benzidine	92-87-5	N.D.	Q4	290
10727	Benzo (a) anthracene	56-55-3	6	J Q4	1
10727	Benzo (a) pyrene	50-32-8	7	J Q4	1
10727	Benzo (b) fluoranthene	205-99-2	8	J Q4	1
10727	Benzo (g, h, i) perylene	191-24-2	8	J	1
10727	Benzo (k) fluoranthene	207-08-9	5	J	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	19	1
10727	Butylbenzylphthalate	85-68-7	N.D.	Q4	77
10727	Di-n-butylphthalate	84-74-2	N.D.	Q4	77
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	Q4	19
10727	bis (2-Chloroethoxy) methane	111-91-1	N.D.	Q4	19

REVISED

Sample Description: TP-4@9ft Grab Soil
McGinness Property

LL Sample # SW 9026719
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:45 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC409

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-Chloroethyl) ether	111-44-4	N.D.	19	1
10727	bis(2-Chloroisopropyl) ether	39638-32-9	N.D.	19	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.	19	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	19	1
10727	Chrysene	218-01-9	9 J Q4	4	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	4	1
10727	1,2-Dichlorobenzene	95-50-1	N.D.	19	1
10727	1,3-Dichlorobenzene	541-73-1	N.D.	19	1
10727	1,4-Dichlorobenzene	106-46-7	N.D.	19	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	120	1
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	19	1
10727	Diethylphthalate	84-66-2	N.D. Q4	77	1
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	19	1
10727	Dimethylphthalate	131-11-3	N.D. Q4	77	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	190	1
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	350	1
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	77	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	19	1
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	19	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D. Q4	77	1
10727	Fluoranthene	206-44-0	10 J	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.	19	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q4	190	1
10727	Hexachloroethane	67-72-1	N.D. Q4	39	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	6 J	4	1
10727	Isophorone	78-59-1	N.D.	19	1
10727	Naphthalene	91-20-3	N.D.	4	1
10727	Nitrobenzene	98-95-3	N.D.	19	1
10727	2-Nitrophenol	88-75-5	N.D.	19	1
10727	4-Nitrophenol	100-02-7	N.D.	190	1
10727	N-Nitrosodimethylamine	62-75-9	N.D.	77	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	19	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	19	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. Q4	77	1
10727	Pentachlorophenol	87-86-5	N.D. Q4	39	1
10727	Phenanthrene	85-01-8	6 J	4	1
10727	Phenol	108-95-2	N.D. Q4	19	1
10727	Pyrene	129-00-0	12 J	4	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	19	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	19	1

REVISED

Sample Description: TP-4@9ft Grab Soil
McGinness Property

LL Sample # SW 9026719
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:45 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC409

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Herbicides					
		SW-846 8151A	ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D.	14	1
10401	Dalapon	75-99-0	N.D.	50	1
10401	2,4-DB	94-82-6	N.D.	7.1	1
10401	Dicamba	1918-00-9	N.D.	4.6	1
10401	Dinoseb	88-85-7	N.D.	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					
10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	10	1
10401	MCPA	94-74-6	N.D.	870	1
10401	MCPP (Mecoprop)	93-65-2	N.D.	860	1
10401	Pentachlorophenol	87-86-5	N.D.	0.38	1
10401	2,4,5-T	93-76-5	N.D.	0.94	1
10401	2,4,5-TP	93-72-1	N.D.	0.86	1
Pesticides/PCBs					
		SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D.	Q4Q9	1
10738	Alpha BHC	319-84-6	N.D.	Q4	1
10738	Beta BHC	319-85-7	N.D.	Q4Q9	1
10738	Gamma BHC - Lindane	58-89-9	N.D.	Q4	1
10738	Chlordane	57-74-9	N.D.	4.6	1
10738	p,p-DDD	72-54-8	0.54	J Q4	1
10738	p,p-DDE	72-55-9	N.D.	Q4Q9	1
10738	p,p-DDT	50-29-3	N.D.	Q4	1
10738	Delta BHC	319-86-8	N.D.	Q4	1
10738	Dieldrin	60-57-1	N.D.	Q4Q9	1
10738	Endosulfan I	959-98-8	N.D.	Q4	1
10738	Endosulfan II	33213-65-9	N.D.	Q4Q9	1
10738	Endosulfan Sulfate	1031-07-8	N.D.	Q4Q9	1
10738	Endrin	72-20-8	N.D.	Q4Q9	1
10738	Endrin Aldehyde	7421-93-4	N.D.	Q4Q9	1
10738	Heptachlor	76-44-8	N.D.	Q4	1
10738	Heptachlor Epoxide	1024-57-3	N.D.	Q4	1
10738	Methoxychlor	72-43-5	N.D.	Q4	1
10738	Toxaphene	8001-35-2	N.D.	16	1
Pesticides/PCBs					
		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	4.1	1
10736	PCB-1221	11104-28-2	N.D.	5.3	1
10736	PCB-1232	11141-16-5	N.D.	9.2	1
10736	PCB-1242	53469-21-9	N.D.	3.8	1
10736	PCB-1248	12672-29-6	N.D.	3.8	1
10736	PCB-1254	11097-69-1	N.D.	3.8	1
10736	PCB-1260	11096-82-5	N.D.	5.6	1
Metals					
		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D.	Q4	1
06935	Arsenic	7440-38-2	8.64	Q8	1
06947	Beryllium	7440-41-7	0.529		1
06949	Cadmium	7440-43-9	0.477	J	1

REVISED

Sample Description: TP-4@9ft Grab Soil
McGinness Property

LL Sample # SW 9026719
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:45 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC409

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	
06951	Chromium	7440-47-3	20.5 B	0.142	1
06953	Copper	7440-50-8	22.1	0.234	1
06955	Lead	7439-92-1	13.2	0.559	1
06961	Nickel	7440-02-0	14.9	0.305	1
06936	Selenium	7782-49-2	N.D.	0.915	1
06966	Silver	7440-22-4	N.D.	0.152	1
06925	Thallium	7440-28-0	N.D.	0.833	1
06972	Zinc	7440-66-6	48.1	0.691	1
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0423 J Q8	0.0112	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	13.7 Q8	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171581AA	06/07/2017 12:41	Linda C Pape	0.71
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745695	06/02/2017 11:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745695	06/02/2017 11:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745695	06/02/2017 11:45	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17159SLK026	06/12/2017 00:40	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	17159SLK026	06/09/2017 08:00	Bradley W VanLeuven	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171600029A	06/14/2017 01:47	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/14/2017 12:28	Andrea L Jones	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	171560032A	06/07/2017 06:39	Jessica L Miller	1

Sample Description: TP-4@9ft Grab Soil
McGinness Property

LL Sample # SW 9026719
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 11:45 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC409

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171560032A	06/06/2017 09:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	171590039A	06/09/2017 08:00	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	2	171600029A	06/12/2017 00:15	Sherry L Morrow	1
06944	Antimony	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06935	Arsenic	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06947	Beryllium	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06949	Cadmium	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06951	Chromium	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06953	Copper	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06955	Lead	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06961	Nickel	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06936	Selenium	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06966	Silver	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06925	Thallium	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
06972	Zinc	SW-846 6010B	1	171570570806	06/08/2017 11:53	Patrick J Engle	1
00159	Mercury	SW-846 7471A	1	171560571101	06/06/2017 13:01	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570806	06/07/2017 05:41	James L Mertz	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171560571101	06/06/2017 08:10	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17159820012B	06/09/2017 00:26	Scott W Freisher	1

REVISED

Sample Description: TP-4@4ft Grab Soil
McGinness Property

LL Sample # SW 9026720
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:00 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MC404

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.	19	0.78
10237	Acrylonitrile	107-13-1	N.D.	4	0.78
10237	Benzene	71-43-2	N.D.	0.5	0.78
10237	Bromodichloromethane	75-27-4	N.D.	0.9	0.78
10237	Bromoform	75-25-2	N.D.	0.9	0.78
10237	Bromomethane	74-83-9	N.D.	2	0.78
10237	Carbon Tetrachloride	56-23-5	N.D.	0.9	0.78
10237	Chlorobenzene	108-90-7	N.D.	0.9	0.78
10237	Chloroethane	75-00-3	N.D.	2	0.78
10237	Chloroform	67-66-3	N.D.	0.9	0.78
10237	Chloromethane	74-87-3	N.D.	2	0.78
10237	Dibromochloromethane	124-48-1	N.D.	0.9	0.78
10237	1,1-Dichloroethane	75-34-3	N.D.	0.9	0.78
10237	1,2-Dichloroethane	107-06-2	N.D.	0.9	0.78
10237	1,1-Dichloroethene	75-35-4	N.D.	0.9	0.78
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.9	0.78
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.9	0.78
10237	1,2-Dichloropropane	78-87-5	N.D.	0.9	0.78
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.9	0.78
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.9	0.78
10237	Ethylbenzene	100-41-4	N.D.	0.9	0.78
10237	Methylene Chloride	75-09-2	N.D.	2	0.78
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.9	0.78
10237	Tetrachloroethene	127-18-4	N.D.	0.9	0.78
10237	Toluene	108-88-3	N.D.	0.9	0.78
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.9	0.78
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.9	0.78
10237	Trichloroethene	79-01-6	N.D.	0.9	0.78
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.78
10237	Vinyl Chloride	75-01-4	N.D.	0.9	0.78
10237	Xylene (Total)	1330-20-7	N.D.	0.9	0.78

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.

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	430	20	5
10727	Acenaphthylene	208-96-8	88	20	5
10727	Anthracene	120-12-7	870	20	5
10727	Benzidine	92-87-5	N.D.	1,500	5
10727	Benzo(a)anthracene	56-55-3	3,700	20	5
10727	Benzo(a)pyrene	50-32-8	2,400	20	5
10727	Benzo(b)fluoranthene	205-99-2	3,300	20	5
10727	Benzo(g,h,i)perylene	191-24-2	1,400	20	5

REVISED

Sample Description: TP-4@4ft Grab Soil
McGinness Property

LL Sample # SW 9026720
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:00 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue
Lancaster PA 17603-4011

Reported: 06/28/2017 13:14

MC404

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	Benzo(k)fluoranthene	207-08-9	1,800	20	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	100	5
10727	Butylbenzylphthalate	85-68-7	N.D. Q4	400	5
10727	Di-n-butylphthalate	84-74-2	N.D. Q4	400	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D. Q4	100	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D. Q4	100	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	100	5
10727	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	100	5
	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.	40	5
10727	2-Chlorophenol	95-57-8	N.D.	100	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	100	5
10727	Chrysene	218-01-9	2,900 Q4	20	5
10727	Dibenz(a,h)anthracene	53-70-3	330	20	5
10727	1,2-Dichlorobenzene	95-50-1	N.D.	100	5
10727	1,3-Dichlorobenzene	541-73-1	N.D.	100	5
10727	1,4-Dichlorobenzene	106-46-7	N.D.	100	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	600	5
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	100	5
10727	Diethylphthalate	84-66-2	N.D. Q4	400	5
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	100	5
10727	Dimethylphthalate	131-11-3	N.D. Q4	400	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	1,000	5
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	1,800	5
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	400	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	100	5
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	100	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D. Q4	400	5
10727	Fluoranthene	206-44-0	9,600	20	5
10727	Fluorene	86-73-7	160	20	5
10727	Hexachlorobenzene	118-74-1	N.D.	20	5
10727	Hexachlorobutadiene	87-68-3	N.D.	100	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q4	1,000	5
10727	Hexachloroethane	67-72-1	N.D. Q4	200	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	1,400	20	5
10727	Isophorone	78-59-1	N.D.	100	5
10727	Naphthalene	91-20-3	24 J	20	5
10727	Nitrobenzene	98-95-3	N.D.	100	5
10727	2-Nitrophenol	88-75-5	N.D.	100	5
10727	4-Nitrophenol	100-02-7	N.D.	1,000	5
10727	N-Nitrosodimethylamine	62-75-9	N.D.	400	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	100	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	100	5
	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. Q4	400	5

REVISED

Sample Description: TP-4@4ft Grab Soil
McGinness Property

LL Sample # SW 9026720
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:00 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MC404

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	Pentachlorophenol	87-86-5	N.D. Q4	200	5
10727	Phenanthrene	85-01-8	2,400	20	5
10727	Phenol	108-95-2	N.D. Q4	100	5
10727	Pyrene	129-00-0	8,000	20	5
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	100	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	100	5

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Herbicides	SW-846 8151A		ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D.	14	1
10401	Dalapon	75-99-0	N.D.	53	1
10401	2,4-DB	94-82-6	N.D.	7.4	1
10401	Dicamba	1918-00-9	N.D.	4.8	1
10401	Dinoseb	88-85-7	N.D.	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					

10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	11	1
10401	MCPA	94-74-6	N.D.	910	1
10401	MCPP (Mecoprop)	93-65-2	N.D.	900	1
10401	Pentachlorophenol	87-86-5	N.D.	0.40	1
10401	2,4,5-T	93-76-5	N.D.	0.99	1
10401	2,4,5-TP	93-72-1	N.D.	0.90	1

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	SW-846 8081A		ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. Q4Q9	0.21	1
10738	Alpha BHC	319-84-6	N.D. Q4	0.21	1
10738	Beta BHC	319-85-7	N.D. Q4Q9	0.36	1
10738	Gamma BHC - Lindane	58-89-9	N.D. Q4	0.21	1
10738	Chlordane	57-74-9	N.D.	4.8	1
10738	p,p-DDD	72-54-8	N.D. Q4	0.40	1
10738	p,p-DDE	72-55-9	N.D. Q4Q9	0.40	1
10738	p,p-DDT	50-29-3	3.6 P Q4	0.42	1
10738	Delta BHC	319-86-8	N.D. Q4	0.54	1
10738	Dieldrin	60-57-1	N.D. V Q4Q9	0.73	1
10738	Endosulfan I	959-98-8	N.D. Q4	0.27	1
10738	Endosulfan II	33213-65-9	N.D. V Q4Q9	0.97	1
10738	Endosulfan Sulfate	1031-07-8	N.D. Q4Q9	8.0	20
10738	Endrin	72-20-8	N.D. Q4Q9	0.40	1
10738	Endrin Aldehyde	7421-93-4	N.D. Q4Q9	8.0	20
10738	Heptachlor	76-44-8	N.D. Q4	0.21	1
10738	Heptachlor Epoxide	1024-57-3	0.56 JP Q4	0.21	1
10738	Methoxychlor	72-43-5	N.D. Q4	41	20
10738	Toxaphene	8001-35-2	N.D.	17	1

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

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	SW-846 8082		ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	4.3	1

REVISED

Sample Description: TP-4@4ft Grab Soil
McGinness Property

LL Sample # SW 9026720
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:00 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC404

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1221	11104-28-2	N.D.	5.5	1
10736	PCB-1232	11141-16-5	N.D.	9.6	1
10736	PCB-1242	53469-21-9	N.D.	3.9	1
10736	PCB-1248	12672-29-6	N.D.	3.9	1
10736	PCB-1254	11097-69-1	N.D.	3.9	1
10736	PCB-1260	11096-82-5	N.D.	5.9	1
Metals		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D. Q4	0.794	1
06935	Arsenic	7440-38-2	6.97 Q8	1.10	1
06947	Beryllium	7440-41-7	0.624	0.0760	1
06949	Cadmium	7440-43-9	0.541 J	0.0556	1
06951	Chromium	7440-47-3	23.7 B	0.159	1
06953	Copper	7440-50-8	15.5	0.261	1
06955	Lead	7439-92-1	29.4	0.624	1
06961	Nickel	7440-02-0	80.4	0.340	1
06936	Selenium	7782-49-2	N.D.	1.02	1
06966	Silver	7440-22-4	N.D.	0.170	1
06925	Thallium	7440-28-0	N.D.	0.930	1
06972	Zinc	7440-66-6	57.0	0.771	1
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.144 Q8	0.0114	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	17.6 Q8	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171581AA	06/07/2017 13:05	Linda C Pape	0.78
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745695	06/02/2017 12:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745695	06/02/2017 12:00	Client Supplied	1

Sample Description: TP-4@4ft Grab Soil
McGinness Property

LL Sample # SW 9026720
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:00 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC404

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745695	06/02/2017 12:00	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17159SLK026	06/12/2017 01:04	Linda M Hartenstine	5
10809	BNA Soil Microwave	SW-846 3546	1	17159SLK026	06/09/2017 08:00	Bradley W VanLeuven	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171600029A	06/14/2017 03:26	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/14/2017 12:41	Andrea L Jones	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/15/2017 16:25	Andrea L Jones	20
10736	PCBs in Soil (microwave)	SW-846 8082	1	171560032A	06/07/2017 06:50	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171560032A	06/06/2017 09:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	171590039A	06/09/2017 08:00	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	2	171600029A	06/12/2017 00:15	Sherry L Morrow	1
06944	Antimony	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06935	Arsenic	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06947	Beryllium	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06949	Cadmium	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06951	Chromium	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06953	Copper	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06955	Lead	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06961	Nickel	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06936	Selenium	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06966	Silver	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06925	Thallium	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
06972	Zinc	SW-846 6010B	1	171570570806	06/08/2017 11:56	Patrick J Engle	1
00159	Mercury	SW-846 7471A	1	171560571101	06/06/2017 13:03	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570806	06/07/2017 05:41	James L Mertz	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171560571101	06/06/2017 08:10	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17159820012B	06/09/2017 00:26	Scott W Freisher	1

REVISED

Sample Description: TP-4@4ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026721
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:00 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue
Lancaster PA 17603-4011

Reported: 06/28/2017 13:14

MN404

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l	mg/l	
10727	Acenaphthene	83-32-9	0.42 Q4Q9	0.016	5
10727	Acenaphthylene	208-96-8	0.32 Q4	0.016	5
10727	Anthracene	120-12-7	1.8 Q4	0.016	5
10727	Benzidine	92-87-5	N.D. Q0Q4	1.2	5
10727	Benzo (a) anthracene	56-55-3	5.3 Q4	0.016	5
10727	Benzo (a) pyrene	50-32-8	3.6 Q4	0.016	5
10727	Benzo (b) fluoranthene	205-99-2	4.0 Q4	0.016	5
10727	Benzo (g, h, i) perylene	191-24-2	1.9 Q4	0.016	5
10727	Benzo (k) fluoranthene	207-08-9	1.5 Q4	0.016	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D. Q4	0.082	5
10727	Butylbenzylphthalate	85-68-7	N.D. Q4	0.33	5
10727	Di-n-butylphthalate	84-74-2	N.D. Q4	0.33	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D. Q4	0.082	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D. Q4Q9	0.082	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q4	0.082	5
10727	bis(2-Chloroisopropyl)ether	39638-32-9	N.D. Q4	0.082	5
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. Q4	0.033	5
10727	2-Chlorophenol	95-57-8	N.D. Q4	0.082	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D. Q4	0.082	5
10727	Chrysene	218-01-9	5.6 Q4	0.016	5
10727	Dibenz (a, h) anthracene	53-70-3	0.68 Q4	0.016	5
10727	1,2-Dichlorobenzene	95-50-1	N.D. Q4	0.082	5
10727	1,3-Dichlorobenzene	541-73-1	N.D. Q4	0.082	5
10727	1,4-Dichlorobenzene	106-46-7	N.D. Q4	0.082	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D. Q4	0.49	5
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	0.082	5
10727	Diethylphthalate	84-66-2	N.D. Q4	0.33	5
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	0.082	5
10727	Dimethylphthalate	131-11-3	N.D. Q4	0.33	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	0.82	5
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	1.5	5
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	0.33	5
10727	2,6-Dinitrotoluene	606-20-2	N.D. Q4	0.082	5
10727	1,2-Diphenylhydrazine	122-66-7	N.D. Q4	0.082	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D. Q4	0.33	5
10727	Fluoranthene	206-44-0	7.9 Q4	0.016	5
10727	Fluorene	86-73-7	0.51 Q4	0.016	5
10727	Hexachlorobenzene	118-74-1	N.D. Q4Q9	0.016	5
10727	Hexachlorobutadiene	87-68-3	N.D. Q4	0.082	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q0Q4	0.82	5
10727	Hexachloroethane	67-72-1	N.D. Q4	0.16	5
10727	Indeno (1,2,3-cd) pyrene	193-39-5	1.6 Q4	0.016	5
10727	Isophorone	78-59-1	N.D. Q4	0.082	5
10727	Naphthalene	91-20-3	0.28 Q4	0.016	5
10727	Nitrobenzene	98-95-3	N.D.	0.082	5

REVISED

Sample Description: TP-4@4ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026721
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:00 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MN404

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17161SLC026	06/16/2017 15:38	Linda M Hartenstine	5
10809	BNA Soil Microwave	SW-846 3546	1	17161SLC026	06/11/2017 07:10	David S Schrum	1
07044	Antimony	SW-846 6010B	1	171580570505	06/11/2017 18:20	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	171580570505	06/11/2017 18:20	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	171580570505	06/09/2017 12:28	Patrick J Engle	1
07049	Cadmium	SW-846 6010B	1	171580570505	06/11/2017 18:20	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	171580570505	06/11/2017 18:20	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	171580570505	06/09/2017 12:28	Patrick J Engle	1
07055	Lead	SW-846 6010B	1	171580570505	06/11/2017 18:20	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	171580570505	06/11/2017 18:20	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	171580570505	06/11/2017 18:20	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	171580570505	06/09/2017 12:28	Patrick J Engle	1
07022	Thallium	SW-846 6010B	1	171580570505	06/11/2017 18:20	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	171580570505	06/11/2017 18:20	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	171580571305	06/09/2017 04:42	Damary Valentin	1
05705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171580570505	06/08/2017 16:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171580571305	06/08/2017 20:15	Barbara A Kane	1
01567	Synthetic Precipitation Leach	SW-846 1312	1	17157-10253-15 67	06/06/2017 13:03	Scarlett M Barrett	n.a.

REVISED

Sample Description: TP-4@4ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026722
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:00 by GM

Rettew Associates

3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MZ404

CAT No.	Analysis Name	CAS Number	Result	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	2	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	2	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	0.6 J	0.5	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-4@4ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026722
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:00 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MZ404

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	N171631AA	06/12/2017 15:35	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N171631AA	06/12/2017 15:35	Nicole S Lamoreaux	1
08792	SPLP Volatile Extraction	SW-846 1312	1	17159-12245-87 92	06/08/2017 14:35	Tanner E Grumbling	n.a.

REVISED

Sample Description: TP-5@10ft Grab Soil
McGinness Property

LL Sample # SW 9026723
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:30 by GM

Retnew Associates

3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC510

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.	18	0.76
10237	Acrylonitrile	107-13-1	N.D.	4	0.76
10237	Benzene	71-43-2	N.D.	0.5	0.76
10237	Bromodichloromethane	75-27-4	N.D.	0.9	0.76
10237	Bromoform	75-25-2	N.D.	0.9	0.76
10237	Bromomethane	74-83-9	N.D.	2	0.76
10237	Carbon Tetrachloride	56-23-5	N.D.	0.9	0.76
10237	Chlorobenzene	108-90-7	N.D.	0.9	0.76
10237	Chloroethane	75-00-3	N.D.	2	0.76
10237	Chloroform	67-66-3	N.D.	0.9	0.76
10237	Chloromethane	74-87-3	N.D.	2	0.76
10237	Dibromochloromethane	124-48-1	N.D.	0.9	0.76
10237	1,1-Dichloroethane	75-34-3	N.D.	0.9	0.76
10237	1,2-Dichloroethane	107-06-2	N.D.	0.9	0.76
10237	1,1-Dichloroethene	75-35-4	N.D.	0.9	0.76
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.9	0.76
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.9	0.76
10237	1,2-Dichloropropane	78-87-5	N.D.	0.9	0.76
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.9	0.76
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.9	0.76
10237	Ethylbenzene	100-41-4	N.D.	0.9	0.76
10237	Methylene Chloride	75-09-2	N.D.	2	0.76
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.9	0.76
10237	Tetrachloroethene	127-18-4	N.D.	0.9	0.76
10237	Toluene	108-88-3	N.D.	0.9	0.76
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.9	0.76
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.9	0.76
10237	Trichloroethene	79-01-6	N.D.	0.9	0.76
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.76
10237	Vinyl Chloride	75-01-4	N.D.	0.9	0.76
10237	Xylene (Total)	1330-20-7	N.D.	0.9	0.76

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.	300	1
10727	Benzo (a) anthracene	56-55-3	5	J Q4	1
10727	Benzo (a) pyrene	50-32-8	N.D.	4	1
10727	Benzo (b) fluoranthene	205-99-2	5	J Q4	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.	20	1
10727	Butylbenzylphthalate	85-68-7	N.D.	79	1
10727	Di-n-butylphthalate	84-74-2	N.D.	79	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	20	1
10727	bis (2-Chloroethoxy) methane	111-91-1	N.D.	20	1

REVISED

Sample Description: TP-5@10ft Grab Soil
McGinness Property

LL Sample # SW 9026723
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:30 by GM

Retnew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC510

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-Chloroethyl) ether	111-44-4	N.D.	20	1
10727	bis(2-Chloroisopropyl) ether	39638-32-9	N.D.	20	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.	20	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	20	1
10727	Chrysene	218-01-9	5 J Q4	4	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	4	1
10727	1,2-Dichlorobenzene	95-50-1	N.D.	20	1
10727	1,3-Dichlorobenzene	541-73-1	N.D.	20	1
10727	1,4-Dichlorobenzene	106-46-7	N.D.	20	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	120	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	20 Q4	1
10727	Diethylphthalate	84-66-2	N.D.	79 Q4	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	20 Q4	1
10727	Dimethylphthalate	131-11-3	N.D.	79 Q4	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	200 Q4	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	360 Q4	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	79 Q4	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	20	1
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	20	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	79 Q4	1
10727	Fluoranthene	206-44-0	4 J	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.	20	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	200 Q4	1
10727	Hexachloroethane	67-72-1	N.D.	40 Q4	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	4	1
10727	Isophorone	78-59-1	N.D.	20	1
10727	Naphthalene	91-20-3	N.D.	4	1
10727	Nitrobenzene	98-95-3	N.D.	20	1
10727	2-Nitrophenol	88-75-5	N.D.	20	1
10727	4-Nitrophenol	100-02-7	N.D.	200	1
10727	N-Nitrosodimethylamine	62-75-9	N.D.	79	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	20 Q4	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	20 Q4	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.	79 Q4	1
10727	Pentachlorophenol	87-86-5	N.D.	40 Q4	1
10727	Phenanthrene	85-01-8	N.D.	4	1
10727	Phenol	108-95-2	N.D.	20 Q4	1
10727	Pyrene	129-00-0	5 J	4	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	20	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	20 Q4	1

Sample Description: TP-5@10ft Grab Soil
McGinness Property

LL Sample # SW 9026723
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:30 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC510

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Herbicides		SW-846 8151A	ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D.	14	1
10401	Dalapon	75-99-0	N.D.	53	1
10401	2,4-DB	94-82-6	N.D. Q4Q9	7.4	1
10401	Dicamba	1918-00-9	N.D.	4.8	1
10401	Dinoseb	88-85-7	N.D. Q0Q4Q9	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					
10401	2,4-DP (Dichloroprop)	120-36-5	N.D. Q4Q9	11	1
10401	MCPA	94-74-6	N.D.	910	1
10401	MCPP (Mecoprop)	93-65-2	N.D. Q4	900	1
10401	Pentachlorophenol	87-86-5	N.D.	0.39	1
10401	2,4,5-T	93-76-5	N.D.	0.98	1
10401	2,4,5-TP	93-72-1	N.D. Q4	0.90	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

Pesticides/PCBs		SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. Q4Q9	0.20	1
10738	Alpha BHC	319-84-6	N.D. Q4	0.20	1
10738	Beta BHC	319-85-7	N.D. Q4Q9	0.35	1
10738	Gamma BHC - Lindane	58-89-9	N.D. Q4	0.20	1
10738	Chlordane	57-74-9	N.D.	4.7	1
10738	p,p-DDD	72-54-8	0.52 J Q4	0.39	1
10738	p,p-DDE	72-55-9	N.D. Q4Q9	0.39	1
10738	p,p-DDT	50-29-3	N.D. Q4	0.41	1
10738	Delta BHC	319-86-8	N.D. Q4	0.53	1
10738	Dieldrin	60-57-1	N.D. Q4Q9	0.39	1
10738	Endosulfan I	959-98-8	N.D. Q4	0.26	1
10738	Endosulfan II	33213-65-9	N.D. Q4Q9	0.39	1
10738	Endosulfan Sulfate	1031-07-8	N.D. Q4Q9	0.39	1
10738	Endrin	72-20-8	N.D. Q4Q9	0.39	1
10738	Endrin Aldehyde	7421-93-4	N.D. Q4Q9	0.39	1
10738	Heptachlor	76-44-8	N.D. Q4	0.20	1
10738	Heptachlor Epoxide	1024-57-3	N.D. Q4	0.20	1
10738	Methoxychlor	72-43-5	N.D. Q4	2.0	1
10738	Toxaphene	8001-35-2	N.D.	16	1

Pesticides/PCBs		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	4.2	1
10736	PCB-1221	11104-28-2	N.D.	5.4	1

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Sample Description: TP-5@10ft Grab Soil
McGinness Property

LL Sample # SW 9026723
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:30 by GM

Rettew Associates

3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC510

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs			SW-846 8082	ug/kg	
10736	PCB-1232	11141-16-5	N.D.	9.4	1
10736	PCB-1242	53469-21-9	N.D.	3.9	1
10736	PCB-1248	12672-29-6	N.D.	3.9	1
10736	PCB-1254	11097-69-1	N.D.	3.9	1
10736	PCB-1260	11096-82-5	N.D.	5.8	1
Metals			SW-846 6010B	mg/kg	
06944	Antimony	7440-36-0	N.D. Q4	0.686	1
06935	Arsenic	7440-38-2	11.2 Q8	0.951	1
06947	Beryllium	7440-41-7	0.621	0.0657	1
06949	Cadmium	7440-43-9	0.498	0.0480	1
06951	Chromium	7440-47-3	15.0 B	0.137	1
06953	Copper	7440-50-8	42.0	0.226	1
06955	Lead	7439-92-1	19.3	0.539	1
06961	Nickel	7440-02-0	24.6	0.294	1
06936	Selenium	7782-49-2	N.D.	0.882	1
06966	Silver	7440-22-4	N.D.	0.147	1
06925	Thallium	7440-28-0	N.D.	0.804	1
06972	Zinc	7440-66-6	42.6	0.667	1
			SW-846 7471A	mg/kg	
00159	Mercury	7439-97-6	0.0426 J	0.0116	1
Wet Chemistry			SM 2540 G-1997	%	
00111	Moisture	n.a.	16.4 Q8	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.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171581AA	06/07/2017 13:28	Linda C Pape	0.76
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745695	06/02/2017 12:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745695	06/02/2017 12:30	Client Supplied	1

Sample Description: TP-5@10ft Grab Soil
McGinness Property

LL Sample # SW 9026723
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:30 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC510

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745695	06/02/2017 12:30	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17159SLK026	06/12/2017 01:28	Linda M Hartenstine	1
10809	BNA Soil Microwave	SW-846 3546	1	17159SLK026	06/09/2017 08:00	Bradley W VanLeuven	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171640005A	06/15/2017 17:23	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/14/2017 13:08	Andrea L Jones	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	171560032A	06/07/2017 07:02	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171560032A	06/06/2017 09:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	171590039A	06/09/2017 08:00	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	2	171640005A	06/13/2017 16:00	Ryan J Dowdy	1
06944	Antimony	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06935	Arsenic	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06947	Beryllium	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06949	Cadmium	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06951	Chromium	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06953	Copper	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06955	Lead	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06961	Nickel	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06936	Selenium	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06966	Silver	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06925	Thallium	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
06972	Zinc	SW-846 6010B	1	171570570806	06/08/2017 12:00	Patrick J Engle	1
00159	Mercury	SW-846 7471A	1	171570571101	06/07/2017 04:59	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570806	06/07/2017 05:41	James L Mertz	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171570571101	06/06/2017 17:55	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	17159820012B	06/09/2017 00:26	Scott W Freisher	1

REVISED

Sample Description: TP-5@5ft Grab Soil
McGinness Property

LL Sample # SW 9026724
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC505

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.	17	0.78
10237	Acrylonitrile	107-13-1	N.D.	3	0.78
10237	Benzene	71-43-2	1 J	0.4	0.78
10237	Bromodichloromethane	75-27-4	N.D.	0.9	0.78
10237	Bromoform	75-25-2	N.D.	0.9	0.78
10237	Bromomethane	74-83-9	N.D.	2	0.78
10237	Carbon Tetrachloride	56-23-5	N.D.	0.9	0.78
10237	Chlorobenzene	108-90-7	N.D.	0.9	0.78
10237	Chloroethane	75-00-3	N.D.	2	0.78
10237	Chloroform	67-66-3	N.D.	0.9	0.78
10237	Chloromethane	74-87-3	N.D.	2	0.78
10237	Dibromochloromethane	124-48-1	N.D.	0.9	0.78
10237	1,1-Dichloroethane	75-34-3	N.D.	0.9	0.78
10237	1,2-Dichloroethane	107-06-2	N.D.	0.9	0.78
10237	1,1-Dichloroethene	75-35-4	N.D.	0.9	0.78
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.9	0.78
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.9	0.78
10237	1,2-Dichloropropane	78-87-5	N.D.	0.9	0.78
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.9	0.78
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.9	0.78
10237	Ethylbenzene	100-41-4	N.D.	0.9	0.78
10237	Methylene Chloride	75-09-2	N.D.	2	0.78
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.9	0.78
10237	Tetrachloroethene	127-18-4	N.D.	0.9	0.78
10237	Toluene	108-88-3	N.D.	0.9	0.78
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.9	0.78
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.9	0.78
10237	Trichloroethene	79-01-6	N.D.	0.9	0.78
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.78
10237	Vinyl Chloride	75-01-4	N.D.	0.9	0.78
10237	Xylene (Total)	1330-20-7	N.D.	0.9	0.78

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.

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	80 J	19	5
10727	Acenaphthylene	208-96-8	750 Q4	19	5
10727	Anthracene	120-12-7	500	19	5
10727	Benzidine	92-87-5	N.D. Q4	1,400	5
10727	Benzo(a)anthracene	56-55-3	1,800 Q4	19	5
10727	Benzo(a)pyrene	50-32-8	2,400 Q4	19	5
10727	Benzo(b)fluoranthene	205-99-2	3,100 Q4	19	5
10727	Benzo(g,h,i)perylene	191-24-2	1,800	19	5

REVISED

Sample Description: TP-5@5ft Grab Soil
McGinness Property

LL Sample # SW 9026724
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates

3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC505

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	Benzo(k) fluoranthene	207-08-9	1,100	19	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	93	5
10727	Butylbenzylphthalate	85-68-7	N.D. Q4	370	5
10727	Di-n-butylphthalate	84-74-2	N.D. Q4	370	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D. Q4	93	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D. Q4	93	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D.	93	5
10727	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	93	5
	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.	37	5
10727	2-Chlorophenol	95-57-8	N.D.	93	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	93	5
10727	Chrysene	218-01-9	1,800 Q4	19	5
10727	Dibenz(a,h)anthracene	53-70-3	420	19	5
10727	1,2-Dichlorobenzene	95-50-1	N.D.	93	5
10727	1,3-Dichlorobenzene	541-73-1	N.D.	93	5
10727	1,4-Dichlorobenzene	106-46-7	N.D.	93	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	560	5
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	93	5
10727	Diethylphthalate	84-66-2	N.D. Q4	370	5
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	93	5
10727	Dimethylphthalate	131-11-3	N.D. Q4	370	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	930	5
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	1,700	5
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	370	5
10727	2,6-Dinitrotoluene	606-20-2	N.D.	93	5
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	93	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D. Q4	370	5
10727	Fluoranthene	206-44-0	3,200	19	5
10727	Fluorene	86-73-7	220	19	5
10727	Hexachlorobenzene	118-74-1	N.D.	19	5
10727	Hexachlorobutadiene	87-68-3	N.D.	93	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q4	930	5
10727	Hexachloroethane	67-72-1	N.D. Q4	190	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	1,600	19	5
10727	Isophorone	78-59-1	N.D.	93	5
10727	Naphthalene	91-20-3	100	19	5
10727	Nitrobenzene	98-95-3	N.D.	93	5
10727	2-Nitrophenol	88-75-5	N.D.	93	5
10727	4-Nitrophenol	100-02-7	N.D.	930	5
10727	N-Nitrosodimethylamine	62-75-9	N.D.	370	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	93	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	93	5
	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. Q4	370	5

Sample Description: TP-5@5ft Grab Soil
McGinness Property

LL Sample # SW 9026724
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC505

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	Pentachlorophenol	87-86-5	N.D. Q4	190	5
10727	Phenanthrene	85-01-8	1,800	19	5
10727	Phenol	108-95-2	N.D. Q4	93	5
10727	Pyrene	129-00-0	3,400	19	5
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	93	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	93	5

Herbicides		SW-846 8151A	ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D.	13	1
10401	Dalapon	75-99-0	N.D.	49	1
10401	2,4-DB	94-82-6	N.D. Q4Q9	6.9	1
10401	Dicamba	1918-00-9	N.D.	4.5	1
10401	Dinoseb	88-85-7	N.D. Q0Q4Q9	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					

10401	2,4-DP (Dichloroprop)	120-36-5	N.D. Q4Q9	10	1
10401	MCPA	94-74-6	N.D. Q4	850	1
10401	MCPP (Mecoprop)	93-65-2	N.D. Q4	840	1
10401	Pentachlorophenol	87-86-5	N.D.	0.37	1
10401	2,4,5-T	93-76-5	N.D.	0.92	1
10401	2,4,5-TP	93-72-1	N.D. Q4	0.84	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

Pesticides/PCBs		SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. Q4Q9	0.19	1
10738	Alpha BHC	319-84-6	0.39 J Q4	0.19	1
10738	Beta BHC	319-85-7	N.D. Q4Q9	0.33	1
10738	Gamma BHC - Lindane	58-89-9	N.D. V Q4	0.20	1
10738	Chlordane	57-74-9	N.D.	4.4	1
10738	p,p-DDD	72-54-8	N.D. Q4	0.37	1
10738	p,p-DDE	72-55-9	1.6 J Q4Q9	0.37	1
10738	p,p-DDT	50-29-3	3.6 P Q4	0.39	1
10738	Delta BHC	319-86-8	N.D. Q4	0.50	1
10738	Dieldrin	60-57-1	N.D. Q4Q9	0.37	1
10738	Endosulfan I	959-98-8	N.D. Q4	0.24	1
10738	Endosulfan II	33213-65-9	N.D. V Q4Q9	1.0	1
10738	Endosulfan Sulfate	1031-07-8	3.8 P Q4Q9	0.37	1
10738	Endrin	72-20-8	N.D. V Q4Q9	1.1	1
10738	Endrin Aldehyde	7421-93-4	N.D. Q4Q9	0.37	1

REVISED

Sample Description: TP-5@5ft Grab Soil
McGinness Property

LL Sample # SW 9026724
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MC505

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs		SW-846 8081A	ug/kg		ug/kg	
10738	Heptachlor	76-44-8	2.2	Q4	0.19	1
10738	Heptachlor Epoxide	1024-57-3	0.62	JP Q4	0.19	1
10738	Methoxychlor	72-43-5	N.D.	V Q4	4.3	1
10738	Toxaphene	8001-35-2	N.D.		16	1

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

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

Pesticides/PCBs		SW-846 8082	ug/kg		ug/kg	
10736	PCB-1016	12674-11-2	N.D.		4.0	1
10736	PCB-1221	11104-28-2	N.D.		5.1	1
10736	PCB-1232	11141-16-5	N.D.		8.9	1
10736	PCB-1242	53469-21-9	N.D.		3.7	1
10736	PCB-1248	12672-29-6	N.D.		3.7	1
10736	PCB-1254	11097-69-1	N.D.		3.7	1
10736	PCB-1260	11096-82-5	N.D.		5.5	1

Metals		SW-846 6010B	mg/kg		mg/kg	
06944	Antimony	7440-36-0	N.D.	Q4	0.740	1
06935	Arsenic	7440-38-2	7.13	Q8	1.03	1
06947	Beryllium	7440-41-7	0.996		0.0709	1
06949	Cadmium	7440-43-9	0.558		0.0518	1
06951	Chromium	7440-47-3	13.4	B	0.148	1
06953	Copper	7440-50-8	24.5		0.243	1
06955	Lead	7439-92-1	77.2		0.582	1
06961	Nickel	7440-02-0	13.1		0.317	1
06936	Selenium	7782-49-2	N.D.		0.952	1
06966	Silver	7440-22-4	N.D.		0.159	1
06925	Thallium	7440-28-0	N.D.		0.867	1
06972	Zinc	7440-66-6	78.1		0.719	1

Mercury		SW-846 7471A	mg/kg		mg/kg	
00159	Mercury	7439-97-6	0.0287	J	0.0107	1

Wet Chemistry		SM 2540 G-1997	%		%	
00111	Moisture	n.a.	10.8	Q8	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.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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

REVISED

Sample Description: TP-5@5ft Grab Soil
McGinness Property

LL Sample # SW 9026724
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC505

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	X171581AA	06/07/2017 13:51	Linda C Pape	0.78
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745695	06/02/2017 12:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745695	06/02/2017 12:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745695	06/02/2017 12:45	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17159SLK026	06/12/2017 01:53	Linda M Hartenstine	5
10809	BNA Soil Microwave	SW-846 3546	1	17159SLK026	06/09/2017 08:00	Bradley W VanLeuven	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171640005A	06/15/2017 17:56	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/15/2017 11:57	Andrea L Jones	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	171560032A	06/07/2017 07:13	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171560032A	06/06/2017 09:00	Michelle A Newswanger	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	171590039A	06/09/2017 08:00	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	2	171640005A	06/13/2017 16:00	Ryan J Dowdy	1
06944	Antimony	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06935	Arsenic	SW-846 6010B	1	171570570806	06/11/2017 23:39	Jonathan Allen	1
06947	Beryllium	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06949	Cadmium	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06951	Chromium	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06953	Copper	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06955	Lead	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06961	Nickel	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06936	Selenium	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06966	Silver	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06925	Thallium	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
06972	Zinc	SW-846 6010B	1	171570570806	06/08/2017 12:03	Patrick J Engle	1
00159	Mercury	SW-846 7471A	1	171570571101	06/07/2017 05:05	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570806	06/07/2017 05:41	James L Mertz	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171570571101	06/06/2017 17:55	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	17159820012B	06/09/2017 00:26	Scott W Freisher	1

REVISED

Sample Description: TP-5@5ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026725
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20
Reported: 06/28/2017 13:14

MN505

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l	mg/l	
10727	Acenaphthene	83-32-9	0.46 Q4Q9	0.017	5
10727	Acenaphthylene	208-96-8	1.5 Q4	0.017	5
10727	Anthracene	120-12-7	3.0 Q4	0.017	5
10727	Benzidine	92-87-5	N.D. Q0Q4	1.2	5
10727	Benzo(a)anthracene	56-55-3	10 Q4	0.017	5
10727	Benzo(a)pyrene	50-32-8	11 Q4	0.017	5
10727	Benzo(b)fluoranthene	205-99-2	13 Q4	0.017	5
10727	Benzo(g,h,i)perylene	191-24-2	6.5 Q4	0.017	5
10727	Benzo(k)fluoranthene	207-08-9	6.1 Q4	0.017	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D. Q4	0.083	5
10727	Butylbenzylphthalate	85-68-7	N.D. Q4	0.33	5
10727	Di-n-butylphthalate	84-74-2	N.D. Q4	0.33	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D. Q4	0.083	5
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D. Q4Q9	0.083	5
10727	bis(2-Chloroethyl)ether	111-44-4	N.D. Q4	0.083	5
10727	bis(2-Chloroisopropyl)ether	39638-32-9	N.D. Q4	0.083	5
	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. Q4	0.033	5
10727	2-Chlorophenol	95-57-8	N.D. Q4	0.083	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D. Q4	0.083	5
10727	Chrysene	218-01-9	9.9 Q4	0.017	5
10727	Dibenz(a,h)anthracene	53-70-3	2.1 Q4	0.017	5
10727	1,2-Dichlorobenzene	95-50-1	N.D. Q4	0.083	5
10727	1,3-Dichlorobenzene	541-73-1	N.D. Q4	0.083	5
10727	1,4-Dichlorobenzene	106-46-7	N.D. Q4	0.083	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D. Q4	0.50	5
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	0.083	5
10727	Diethylphthalate	84-66-2	N.D. Q4	0.33	5
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	0.083	5
10727	Dimethylphthalate	131-11-3	N.D. Q4	0.33	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	0.83	5
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	1.5	5
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	0.33	5
10727	2,6-Dinitrotoluene	606-20-2	N.D. Q4	0.083	5
10727	1,2-Diphenylhydrazine	122-66-7	N.D. Q4	0.083	5
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D. Q4	0.33	5
10727	Fluoranthene	206-44-0	18 Q4	0.017	5
10727	Fluorene	86-73-7	1.1 Q4	0.017	5
10727	Hexachlorobenzene	118-74-1	N.D. Q4Q9	0.017	5
10727	Hexachlorobutadiene	87-68-3	N.D. Q4	0.083	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q0Q4	0.83	5
10727	Hexachloroethane	67-72-1	N.D. Q4	0.17	5
10727	Indeno(1,2,3-cd)pyrene	193-39-5	6.3 Q4	0.017	5
10727	Isophorone	78-59-1	N.D. Q4	0.083	5
10727	Naphthalene	91-20-3	0.21 Q4	0.017	5
10727	Nitrobenzene	98-95-3	N.D.	0.083	5

REVISED

Sample Description: TP-5@5ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026725
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN505

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l	mg/l	
10727	2-Nitrophenol	88-75-5	N.D. Q4	0.083	5
10727	4-Nitrophenol	100-02-7	N.D. Q4	0.83	5
10727	N-Nitrosodimethylamine	62-75-9	N.D. Q4	0.33	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	0.083	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	0.083	5
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. Q4	0.33	5
10727	Pentachlorophenol	87-86-5	N.D. Q4	0.17	5
10727	Phenanthrene	85-01-8	12 Q4	0.017	5
10727	Phenol	108-95-2	N.D. Q4Q9	0.083	5
10727	Pyrene	129-00-0	18 Q4	0.017	5
10727	1,2,4-Trichlorobenzene	120-82-1	N.D. Q4	0.083	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	0.083	5

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals		SW-846 6010B	mg/l	mg/l	
07044	Antimony	7440-36-0	N.D.	0.0077	1
07035	Arsenic	7440-38-2	N.D.	0.0097	1
07047	Beryllium	7440-41-7	N.D.	0.00067	1
07049	Cadmium	7440-43-9	0.00074 J BQ8	0.00049	1
07051	Chromium	7440-47-3	0.0029 J	0.0018	1
07053	Copper	7440-50-8	N.D.	0.0041	1
07055	Lead	7439-92-1	N.D.	0.0062	1
07061	Nickel	7440-02-0	N.D.	0.0028	1
07036	Selenium	7782-49-2	N.D.	0.0097	1
07066	Silver	7440-22-4	N.D. Q4Q9	0.0019	1
07022	Thallium	7440-28-0	N.D.	0.0094	1
07072	Zinc	7440-66-6	0.0060 J	0.0054	1
		SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-5@5ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026725
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MN505

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17161SLC026	06/16/2017 16:03	Linda M Hartenstine	5
10809	BNA Soil Microwave	SW-846 3546	1	17161SLC026	06/11/2017 07:10	David S Schrum	1
07044	Antimony	SW-846 6010B	1	171580570505	06/11/2017 18:23	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	171580570505	06/11/2017 18:23	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	171580570505	06/09/2017 12:31	Patrick J Engle	1
07049	Cadmium	SW-846 6010B	1	171580570505	06/11/2017 18:23	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	171580570505	06/11/2017 18:23	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	171580570505	06/09/2017 12:31	Patrick J Engle	1
07055	Lead	SW-846 6010B	1	171580570505	06/11/2017 18:23	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	171580570505	06/11/2017 18:23	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	171580570505	06/11/2017 18:23	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	171580570505	06/09/2017 12:31	Patrick J Engle	1
07022	Thallium	SW-846 6010B	1	171580570505	06/11/2017 18:23	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	171580570505	06/11/2017 18:23	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	171580571305	06/09/2017 04:45	Damary Valentin	1
05705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171580570505	06/08/2017 16:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171580571305	06/08/2017 20:15	Barbara A Kane	1
01567	Synthetic Precipitation Leach	SW-846 1312	1	17157-10253-1567	06/06/2017 13:03	Scarlett M Barrett	n.a.

REVISED

Sample Description: TP-5@5ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026726
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MZ505

CAT No.	Analysis Name	CAS Number	Result	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

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-5@5ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026726
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 12:45 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MZ505

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	N171631AA	06/12/2017 15:59	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N171631AA	06/12/2017 15:59	Nicole S Lamoreaux	1
08792	SPLP Volatile Extraction	SW-846 1312	1	17159-12245-87 92	06/08/2017 14:35	Tanner E Grumbling	n.a.

Sample Description: TP-6@10ft Grab Soil
McGinness Property

LL Sample # SW 9026727
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 13:00 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MC610

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-Chloroethyl)ether	111-44-4	N.D.	20	1
10727	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	20	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.	20	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	20	1
10727	Chrysene	218-01-9	24	4	1
10727	Dibenz(a,h)anthracene	53-70-3	10	4	1
10727	1,2-Dichlorobenzene	95-50-1	N.D.	20	1
10727	1,3-Dichlorobenzene	541-73-1	N.D.	20	1
10727	1,4-Dichlorobenzene	106-46-7	N.D.	20	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	120	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	20	1
10727	Diethylphthalate	84-66-2	N.D.	80	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	20	1
10727	Dimethylphthalate	131-11-3	N.D.	80	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	200	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	360	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	80	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	20	1
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	20	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	80	1
10727	Fluoranthene	206-44-0	22	4	1
10727	Fluorene	86-73-7	6	4	1
10727	Hexachlorobenzene	118-74-1	N.D.	4	1
10727	Hexachlorobutadiene	87-68-3	N.D.	20	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D.	200	1
10727	Hexachloroethane	67-72-1	N.D.	40	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	21	4	1
10727	Isophorone	78-59-1	N.D.	20	1
10727	Naphthalene	91-20-3	32	4	1
10727	Nitrobenzene	98-95-3	N.D.	20	1
10727	2-Nitrophenol	88-75-5	N.D.	20	1
10727	4-Nitrophenol	100-02-7	N.D.	200	1
10727	N-Nitrosodimethylamine	62-75-9	N.D.	80	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	20	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	20	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.	80	1
10727	Pentachlorophenol	87-86-5	N.D.	40	1
10727	Phenanthrene	85-01-8	17	4	1
10727	Phenol	108-95-2	N.D.	20	1
10727	Pyrene	129-00-0	28	4	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	20	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	20	1

Sample Description: TP-6@10ft Grab Soil
McGinness Property

LL Sample # SW 9026727
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 13:00 by GM

Rettew Associates

3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC610

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Herbicides		SW-846 8151A	ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D.	15	1
10401	Dalapon	75-99-0	N.D.	53	1
10401	2,4-DB	94-82-6	N.D. Q4Q9	7.5	1
10401	Dicamba	1918-00-9	N.D.	4.8	1
10401	Dinoseb	88-85-7	N.D. Q0Q4Q9	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					
10401	2,4-DP (Dichloroprop)	120-36-5	N.D. Q4Q9	11	1
10401	MCPA	94-74-6	N.D. Q4	920	1
10401	MCPP (Mecoprop)	93-65-2	N.D. Q4	910	1
10401	Pentachlorophenol	87-86-5	N.D.	0.40	1
10401	2,4,5-T	93-76-5	N.D.	0.99	1
10401	2,4,5-TP	93-72-1	N.D. Q4	0.91	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

Pesticides/PCBs		SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D. Q4Q9	0.21	1
10738	Alpha BHC	319-84-6	N.D. Q4	0.21	1
10738	Beta BHC	319-85-7	N.D. Q4Q9	0.36	1
10738	Gamma BHC - Lindane	58-89-9	N.D. Q4	0.21	1
10738	Chlordane	57-74-9	N.D.	4.8	1
10738	p,p-DDD	72-54-8	N.D. Q4	0.62	1
10738	p,p-DDE	72-55-9	N.D. Q4Q9	0.58	1
10738	p,p-DDT	50-29-3	0.83 J Q4	0.42	1
10738	Delta BHC	319-86-8	N.D. Q4	0.54	1
10738	Dieldrin	60-57-1	N.D. Q4Q9	0.40	1
10738	Endosulfan I	959-98-8	N.D. Q4	0.27	1
10738	Endosulfan II	33213-65-9	N.D. Q4Q9	0.40	1
10738	Endosulfan Sulfate	1031-07-8	N.D. Q4Q9	0.40	1
10738	Endrin	72-20-8	N.D. Q4Q9	0.40	1
10738	Endrin Aldehyde	7421-93-4	N.D. Q4Q9	0.40	1
10738	Heptachlor	76-44-8	N.D. Q4	0.21	1
10738	Heptachlor Epoxide	1024-57-3	N.D. Q4	0.21	1
10738	Methoxychlor	72-43-5	N.D. Q4	2.1	1
10738	Toxaphene	8001-35-2	N.D.	17	1

Pesticides/PCBs		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D. Q4	4.3	1
10736	PCB-1221	11104-28-2	N.D.	5.5	1

REVISED

Sample Description: TP-6@5ft Grab Soil
McGinness Property

LL Sample # SW 9026728
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 13:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC605

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	Pentachlorophenol	87-86-5	N.D.	Q4	190	5
10727	Phenanthrene	85-01-8	52	J	19	5
10727	Phenol	108-95-2	N.D.	Q4	96	5
10727	Pyrene	129-00-0	150		19	5
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.		96	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	Q4	96	5

Herbicides		SW-846 8151A	ug/kg		ug/kg	
10401	2,4-D	94-75-7	N.D.		14	1
10401	Dalapon	75-99-0	N.D.		50	1
10401	2,4-DB	94-82-6	N.D.	Q4Q9	7.1	1
10401	Dicamba	1918-00-9	N.D.		4.6	1
10401	Dinoseb	88-85-7	N.D.	Q0Q4Q9	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.						
10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	Q4Q9	10	1
10401	MCPA	94-74-6	N.D.	Q4	870	1
10401	MCPP (Mecoprop)	93-65-2	N.D.	Q4	860	1
10401	Pentachlorophenol	87-86-5	N.D.		0.38	1
10401	2,4,5-T	93-76-5	N.D.		0.94	1
10401	2,4,5-TP	93-72-1	N.D.	Q4	0.86	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

Pesticides/PCBs		SW-846 8081A	ug/kg		ug/kg	
10738	Aldrin	309-00-2	N.D.	Q4Q9	0.19	1
10738	Alpha BHC	319-84-6	0.24	J Q4	0.19	1
10738	Beta BHC	319-85-7	N.D.	Q4Q9	0.34	1
10738	Gamma BHC - Lindane	58-89-9	N.D.	Q4	0.19	1
10738	Chlordane	57-74-9	N.D.		4.6	1
10738	p,p-DDD	72-54-8	N.D.	Q4	0.38	1
10738	p,p-DDE	72-55-9	1.2	J Q4Q9	0.38	1
10738	p,p-DDT	50-29-3	1.9	J Q4	0.40	1
10738	Delta BHC	319-86-8	N.D.	Q4	0.52	1
10738	Dieldrin	60-57-1	N.D.	Q4Q9	0.38	1
10738	Endosulfan I	959-98-8	N.D.	Q4	0.25	1
10738	Endosulfan II	33213-65-9	0.61	J Q4Q9	0.38	1
10738	Endosulfan Sulfate	1031-07-8	N.D.	Q4Q9	0.38	1
10738	Endrin	72-20-8	N.D.	Q4Q9	0.38	1
10738	Endrin Aldehyde	7421-93-4	N.D.	Q4Q9	0.38	1

REVISED

Sample Description: TP-6@5ft Grab Soil
McGinness Property

LL Sample # SW 9026728
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 13:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC605

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs						
		SW-846 8081A	ug/kg		ug/kg	
10738	Heptachlor	76-44-8	7.7	Q4	0.97	5
10738	Heptachlor Epoxide	1024-57-3	N.D.	Q4	0.19	1
10738	Methoxychlor	72-43-5	N.D.	Q4	1.9	1
10738	Toxaphene	8001-35-2	N.D.		16	1
Pesticides/PCBs						
		SW-846 8082	ug/kg		ug/kg	
10736	PCB-1016	12674-11-2	N.D.	Q4	4.1	1
10736	PCB-1221	11104-28-2	N.D.		5.3	1
10736	PCB-1232	11141-16-5	N.D.		9.2	1
10736	PCB-1242	53469-21-9	N.D.		3.8	1
10736	PCB-1248	12672-29-6	N.D.		3.8	1
10736	PCB-1254	11097-69-1	N.D.		3.8	1
10736	PCB-1260	11096-82-5	N.D.	Q4	5.6	1
Metals						
		SW-846 6010B	mg/kg		mg/kg	
06944	Antimony	7440-36-0	N.D.	Q4	0.776	1
06935	Arsenic	7440-38-2	3.09	Q8	1.08	1
06947	Beryllium	7440-41-7	0.278	J	0.0743	1
06949	Cadmium	7440-43-9	0.372	J	0.0543	1
06951	Chromium	7440-47-3	7.98	B	0.155	1
06953	Copper	7440-50-8	8.94		0.255	1
06955	Lead	7439-92-1	9.90		0.610	1
06961	Nickel	7440-02-0	11.4		0.333	1
06936	Selenium	7782-49-2	N.D.		0.998	1
06966	Silver	7440-22-4	N.D.		0.166	1
06925	Thallium	7440-28-0	N.D.		0.909	1
06972	Zinc	7440-66-6	32.8		0.754	1
SW-846 7471A						
		SW-846 7471A	mg/kg		mg/kg	
00159	Mercury	7439-97-6	0.0907	J Q8	0.0112	1
Wet Chemistry						
		SM 2540 G-1997	%		%	
00111	Moisture	n.a.	13.3	Q8	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.						

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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

REVISED

Sample Description: TP-6@5ft Grab Soil
McGinness Property

LL Sample # SW 9026728
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 13:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MC605

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	X171581AA	06/07/2017 14:37	Linda C Pape	0.87
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201715745695	06/02/2017 13:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201715745695	06/02/2017 13:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201715745695	06/02/2017 13:15	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17159SLK026	06/12/2017 02:41	Linda M Hartenstine	5
10809	BNA Soil Microwave	SW-846 3546	1	17159SLK026	06/09/2017 08:00	Bradley W VanLeuven	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171640005A	06/15/2017 19:02	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/15/2017 12:37	Andrea L Jones	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171590039A	06/15/2017 20:39	Andrea L Jones	5
10736	PCBs in Soil (microwave)	SW-846 8082	1	171590001A	06/12/2017 04:56	Kirby B Turner	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171590001A	06/08/2017 19:50	Sally L Appleyard	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	2	171590039A	06/09/2017 08:00	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	2	171640005A	06/13/2017 16:00	Ryan J Dowdy	1
06944	Antimony	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06935	Arsenic	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06947	Beryllium	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06949	Cadmium	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06951	Chromium	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06953	Copper	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06955	Lead	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06961	Nickel	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06936	Selenium	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06966	Silver	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06925	Thallium	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
06972	Zinc	SW-846 6010B	1	171570570806	06/08/2017 12:09	Patrick J Engle	1
00159	Mercury	SW-846 7471A	1	171520571103	06/07/2017 04:26	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171570570806	06/07/2017 05:41	James L Mertz	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171520571103	06/06/2017 08:10	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17159820012B	06/09/2017 00:26	Scott W Freisher	1

REVISED

Sample Description: TP-6@5ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026729
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 13:15 by GM

Rettew Associates

Submitted: 06/02/2017 14:20

3020 Columbia Avenue

Reported: 06/28/2017 13:14

Lancaster PA 17603-4011

MN605

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l	mg/l	
10727	Acenaphthene	83-32-9	0.031 J Q4Q9	0.016	5
10727	Acenaphthylene	208-96-8	0.16 Q4	0.016	5
10727	Anthracene	120-12-7	0.060 J Q4	0.016	5
10727	Benzidine	92-87-5	N.D. Q0Q4	1.2	5
10727	Benzo (a) anthracene	56-55-3	0.12 Q4	0.016	5
10727	Benzo (a) pyrene	50-32-8	0.19 Q4	0.016	5
10727	Benzo (b) fluoranthene	205-99-2	0.22 Q4	0.016	5
10727	Benzo (g, h, i) perylene	191-24-2	0.17 Q4	0.016	5
10727	Benzo (k) fluoranthene	207-08-9	0.088 Q4	0.016	5
10727	4-Bromophenyl-phenylether	101-55-3	N.D. Q4	0.083	5
10727	Butylbenzylphthalate	85-68-7	N.D. Q4	0.33	5
10727	Di-n-butylphthalate	84-74-2	N.D. Q4	0.33	5
10727	4-Chloro-3-methylphenol	59-50-7	N.D. Q4	0.083	5
10727	bis (2-Chloroethoxy) methane	111-91-1	N.D. Q4Q9	0.083	5
10727	bis (2-Chloroethyl) ether	111-44-4	N.D. Q4	0.083	5
10727	bis (2-Chloroisopropyl) ether	39638-32-9	N.D. Q4	0.083	5
	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. Q4	0.033	5
10727	2-Chlorophenol	95-57-8	N.D. Q4	0.083	5
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D. Q4	0.083	5
10727	Chrysene	218-01-9	0.13 Q4	0.016	5
10727	Dibenz (a, h) anthracene	53-70-3	0.047 J Q4	0.016	5
10727	1,2-Dichlorobenzene	95-50-1	N.D. Q4	0.083	5
10727	1,3-Dichlorobenzene	541-73-1	N.D. Q4	0.083	5
10727	1,4-Dichlorobenzene	106-46-7	N.D. Q4	0.083	5
10727	3,3'-Dichlorobenzidine	91-94-1	N.D. Q4	0.50	5
10727	2,4-Dichlorophenol	120-83-2	N.D. Q4	0.083	5
10727	Diethylphthalate	84-66-2	N.D. Q4	0.33	5
10727	2,4-Dimethylphenol	105-67-9	N.D. Q4	0.083	5
10727	Dimethylphthalate	131-11-3	N.D. Q4	0.33	5
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D. Q4	0.83	5
10727	2,4-Dinitrophenol	51-28-5	N.D. Q4	1.5	5
10727	2,4-Dinitrotoluene	121-14-2	N.D. Q4	0.33	5
10727	2,6-Dinitrotoluene	606-20-2	N.D. Q4	0.083	5
10727	1,2-Diphenylhydrazine	122-66-7	N.D. Q4	0.083	5
10727	bis (2-Ethylhexyl) phthalate	117-81-7	N.D. Q4	0.33	5
10727	Fluoranthene	206-44-0	0.12 Q4	0.016	5
10727	Fluorene	86-73-7	0.046 J Q4	0.016	5
10727	Hexachlorobenzene	118-74-1	N.D. Q4Q9	0.016	5
10727	Hexachlorobutadiene	87-68-3	N.D. Q4	0.083	5
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q0Q4	0.83	5
10727	Hexachloroethane	67-72-1	N.D. Q4	0.17	5
10727	Indeno (1,2,3-cd) pyrene	193-39-5	0.13 Q4	0.016	5
10727	Isophorone	78-59-1	N.D. Q4	0.083	5
10727	Naphthalene	91-20-3	0.031 J Q4	0.016	5
10727	Nitrobenzene	98-95-3	N.D.	0.083	5



REVISED

Sample Description: TP-6@5ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026729
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 13:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN605

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	mg/l	mg/l	
10727	2-Nitrophenol	88-75-5	N.D. Q4	0.083	5
10727	4-Nitrophenol	100-02-7	N.D. Q4	0.83	5
10727	N-Nitrosodimethylamine	62-75-9	N.D. Q4	0.33	5
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D. Q4	0.083	5
10727	N-Nitrosodiphenylamine	86-30-6	N.D. Q4	0.083	5
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. Q4	0.33	5
10727	Pentachlorophenol	87-86-5	N.D. Q4	0.17	5
10727	Phenanthrene	85-01-8	0.094 Q4	0.016	5
10727	Phenol	108-95-2	N.D. Q4Q9	0.083	5
10727	Pyrene	129-00-0	0.17 Q4	0.016	5
10727	1,2,4-Trichlorobenzene	120-82-1	N.D. Q4	0.083	5
10727	2,4,6-Trichlorophenol	88-06-2	N.D. Q4	0.083	5

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	SW-846 6010B	mg/l	mg/l
07044	Antimony	7440-36-0	N.D. 0.0077
07035	Arsenic	7440-38-2	N.D. 0.0097
07047	Beryllium	7440-41-7	N.D. 0.00067
07049	Cadmium	7440-43-9	0.00063 J BQ8 0.00049
07051	Chromium	7440-47-3	N.D. 0.0018
07053	Copper	7440-50-8	N.D. 0.0041
07055	Lead	7439-92-1	N.D. 0.0062
07061	Nickel	7440-02-0	0.0031 J 0.0028
07036	Selenium	7782-49-2	N.D. 0.0097
07066	Silver	7440-22-4	N.D. Q4Q9 0.0019
07022	Thallium	7440-28-0	N.D. 0.0094
07072	Zinc	7440-66-6	N.D. 0.0054
	SW-846 7470A	mg/l	mg/l
00259	Mercury	7439-97-6	N.D. 0.000050

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

REVISED

Sample Description: TP-6@5ft Grab Soil
SPLP NVE
McGinness Property

LL Sample # TL 9026729
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 13:15 by GM

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MN605

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17161SLC026	06/16/2017 16:27	Linda M Hartenstine	5
10809	BNA Soil Microwave	SW-846 3546	1	17161SLC026	06/11/2017 07:10	David S Schrum	1
07044	Antimony	SW-846 6010B	1	171580570505	06/11/2017 18:27	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	171580570505	06/11/2017 18:27	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	171580570505	06/09/2017 12:35	Patrick J Engle	1
07049	Cadmium	SW-846 6010B	1	171580570505	06/11/2017 18:27	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	171580570505	06/09/2017 12:35	Patrick J Engle	1
07053	Copper	SW-846 6010B	1	171580570505	06/09/2017 12:35	Patrick J Engle	1
07055	Lead	SW-846 6010B	1	171580570505	06/11/2017 18:27	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	171580570505	06/11/2017 18:27	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	171580570505	06/11/2017 18:27	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	171580570505	06/09/2017 12:35	Patrick J Engle	1
07022	Thallium	SW-846 6010B	1	171580570505	06/11/2017 18:27	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	171580570505	06/11/2017 18:27	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	171580571305	06/09/2017 04:47	Damary Valentin	1
05705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171580570505	06/08/2017 16:20	Barbara A Kane	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171580571305	06/08/2017 20:15	Barbara A Kane	1
01567	Synthetic Precipitation Leach	SW-846 1312	1	17157-10253-1567	06/06/2017 13:03	Scarlett M Barrett	n.a.

REVISED

Sample Description: TP-6@5ft Grab Soil
SPLP ZHE
McGinness Property

LL Sample # TL 9026730
LL Group # 1808709
Account # 00721

Project Name: McGinness Property

Collected: 06/02/2017 13:15 by GM

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 06/02/2017 14:20

Reported: 06/28/2017 13:14

MZ605

CAT No.	Analysis Name	CAS Number	Result	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

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

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.

Method Blank

Analysis Name	Result	MDL
	ug/kg	ug/kg
Batch number: X171581AA	Sample number(s): 9026710, 9026713, 9026716, 9026719-9026720, 9026723-9026724, 9026727-9026728	
Acrolein	N.D.	20
Acrylonitrile	N.D.	4
Benzene	N.D.	0.5
Bromodichloromethane	N.D.	1
Bromoform	N.D.	1
Bromomethane	N.D.	2
Carbon Tetrachloride	N.D.	1
Chlorobenzene	N.D.	1
Chloroethane	N.D.	2
Chloroform	N.D.	1
Chloromethane	N.D.	2
Dibromochloromethane	N.D.	1
1,1-Dichloroethane	N.D.	1
1,2-Dichloroethane	N.D.	1
1,1-Dichloroethene	N.D.	1
cis-1,2-Dichloroethene	N.D.	1
trans-1,2-Dichloroethene	N.D.	1
1,2-Dichloropropane	N.D.	1
cis-1,3-Dichloropropene	N.D.	1
trans-1,3-Dichloropropene	N.D.	1
Ethylbenzene	N.D.	1
Methylene Chloride	N.D.	2
1,1,2,2-Tetrachloroethane	N.D.	1
Tetrachloroethene	N.D.	1
Toluene	N.D.	1
1,1,1-Trichloroethane	N.D.	1
1,1,2-Trichloroethane	N.D.	1
Trichloroethene	N.D.	1
Trichlorofluoromethane	N.D.	2
Vinyl Chloride	N.D.	1
Xylene (Total)	N.D.	1
	ug/l	ug/l
Batch number: N171631AA	Sample number(s): 9026712, 9026715, 9026718, 9026722, 9026726, 9026730	
Acrolein	N.D.	40
Acrylonitrile	N.D.	4
Benzene	N.D.	0.5
Bromodichloromethane	N.D.	0.5
Bromoform	N.D.	0.5

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
Bromomethane	N.D.	0.5
Carbon Tetrachloride	N.D.	0.5
Chlorobenzene	N.D.	0.5
Chloroethane	N.D.	0.5
2-Chloroethyl Vinyl Ether	N.D.	2
Chloroform	N.D.	0.5
Chloromethane	N.D.	0.5
Dibromochloromethane	N.D.	0.5
1,1-Dichloroethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
1,1-Dichloroethene	N.D.	0.5
cis-1,2-Dichloroethene	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	0.5
1,2-Dichloropropane	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	0.5
Ethylbenzene	N.D.	0.5
Methylene Chloride	N.D.	2
1,1,2,2-Tetrachloroethane	N.D.	0.5
Tetrachloroethene	N.D.	0.5
Toluene	N.D.	0.5
1,1,1-Trichloroethane	N.D.	0.5
1,1,2-Trichloroethane	N.D.	0.5
Trichloroethene	N.D.	0.5
Trichlorofluoromethane	N.D.	0.5
Vinyl Chloride	N.D.	0.5
Xylene (Total)	N.D.	0.5

	mg/l	mg/l
Batch number: 17161SLC026	Sample number(s) : 9026711,9026714,9026717,9026721,9026725,9026729	
Acenaphthene	N.D.	0.003
Acenaphthylene	N.D.	0.003
Anthracene	N.D.	0.003
Benzidine	N.D.	0.25
Benzo(a)anthracene	N.D.	0.003
Benzo(a)pyrene	N.D.	0.003
Benzo(b)fluoranthene	N.D.	0.003
Benzo(g,h,i)perylene	N.D.	0.003
Benzo(k)fluoranthene	N.D.	0.003
4-Bromophenyl-phenylether	N.D.	0.017
Butylbenzylphthalate	N.D.	0.067
Di-n-butylphthalate	N.D.	0.067
4-Chloro-3-methylphenol	N.D.	0.017
bis(2-Chloroethoxy)methane	N.D.	0.017
bis(2-Chloroethyl)ether	N.D.	0.017
bis(2-Chloroisopropyl)ether	N.D.	0.017
2-Chloronaphthalene	N.D.	0.007
2-Chlorophenol	N.D.	0.017
4-Chlorophenyl-phenylether	N.D.	0.017

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

 Client Name: Rettew Associates
 Reported: 06/28/2017 13:14

Group Number: 1808709

Method Blank (continued)

Analysis Name	Result	MDL
	mg/l	mg/l
Chrysene	N.D.	0.003
Dibenz (a, h) anthracene	N.D.	0.003
1,2-Dichlorobenzene	N.D.	0.017
1,3-Dichlorobenzene	N.D.	0.017
1,4-Dichlorobenzene	N.D.	0.017
3,3'-Dichlorobenzidine	N.D.	0.10
2,4-Dichlorophenol	N.D.	0.017
Diethylphthalate	N.D.	0.067
2,4-Dimethylphenol	N.D.	0.017
Dimethylphthalate	N.D.	0.067
4,6-Dinitro-2-methylphenol	N.D.	0.17
2,4-Dinitrophenol	N.D.	0.30
2,4-Dinitrotoluene	N.D.	0.067
2,6-Dinitrotoluene	N.D.	0.017
1,2-Diphenylhydrazine	N.D.	0.017
bis (2-Ethylhexyl) phthalate	N.D.	0.067
Fluoranthene	N.D.	0.003
Fluorene	N.D.	0.003
Hexachlorobenzene	N.D.	0.003
Hexachlorobutadiene	N.D.	0.017
Hexachlorocyclopentadiene	N.D.	0.17
Hexachloroethane	N.D.	0.033
Indeno (1,2,3-cd) pyrene	N.D.	0.003
Isophorone	N.D.	0.017
Naphthalene	N.D.	0.003
Nitrobenzene	N.D.	0.017
2-Nitrophenol	N.D.	0.017
4-Nitrophenol	N.D.	0.17
N-Nitrosodimethylamine	N.D.	0.067
N-Nitroso-di-n-propylamine	N.D.	0.017
N-Nitrosodiphenylamine	N.D.	0.017
Di-n-octylphthalate	N.D.	0.067
Pentachlorophenol	N.D.	0.033
Phenanthrene	N.D.	0.003
Phenol	N.D.	0.017
Pyrene	N.D.	0.003
1,2,4-Trichlorobenzene	N.D.	0.017
2,4,6-Trichlorophenol	N.D.	0.017

	ug/kg	ug/kg
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Batch number: 17159SLK026

Sample number (s):

9026710, 9026713, 9026716, 9026719-9026720, 9026723-9026724, 9026727-9026728

Acenaphthene	N.D.	3
Acenaphthylene	N.D.	3
Anthracene	N.D.	3
Benzidine	N.D.	250
Benzo (a) anthracene	N.D.	3
Benzo (a) pyrene	N.D.	3
Benzo (b) fluoranthene	N.D.	3

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

Method Blank (continued)

Analysis Name	Result	MDL
	ug/kg	ug/kg
Benzo (g, h, i) perylene	N.D.	3
Benzo (k) fluoranthene	N.D.	3
4-Bromophenyl-phenylether	N.D.	17
Butylbenzylphthalate	N.D.	67
Di-n-butylphthalate	N.D.	67
4-Chloro-3-methylphenol	N.D.	17
bis (2-Chloroethoxy) methane	N.D.	17
bis (2-Chloroethyl) ether	N.D.	17
bis (2-Chloroisopropyl) ether	N.D.	17
2-Chloronaphthalene	N.D.	7
2-Chlorophenol	N.D.	17
4-Chlorophenyl-phenylether	N.D.	17
Chrysene	N.D.	3
Dibenz (a, h) anthracene	N.D.	3
1,2-Dichlorobenzene	N.D.	17
1,3-Dichlorobenzene	N.D.	17
1,4-Dichlorobenzene	N.D.	17
3,3'-Dichlorobenzidine	N.D.	100
2,4-Dichlorophenol	N.D.	17
Diethylphthalate	N.D.	67
2,4-Dimethylphenol	N.D.	17
Dimethylphthalate	N.D.	67
4,6-Dinitro-2-methylphenol	N.D.	170
2,4-Dinitrophenol	N.D.	300
2,4-Dinitrotoluene	N.D.	67
2,6-Dinitrotoluene	N.D.	17
1,2-Diphenylhydrazine	N.D.	17
bis (2-Ethylhexyl) phthalate	N.D.	67
Fluoranthene	N.D.	3
Fluorene	N.D.	3
Hexachlorobenzene	N.D.	3
Hexachlorobutadiene	N.D.	17
Hexachlorocyclopentadiene	N.D.	170
Hexachloroethane	N.D.	33
Indeno (1, 2, 3-cd) pyrene	N.D.	3
Isophorone	N.D.	17
Naphthalene	N.D.	3
Nitrobenzene	N.D.	17
2-Nitrophenol	N.D.	17
4-Nitrophenol	N.D.	170
N-Nitrosodimethylamine	N.D.	67
N-Nitroso-di-n-propylamine	N.D.	17
N-Nitrosodiphenylamine	N.D.	17
Di-n-octylphthalate	N.D.	67
Pentachlorophenol	N.D.	33
Phenanthrene	N.D.	3
Phenol	N.D.	17
Pyrene	N.D.	3
1,2,4-Trichlorobenzene	N.D.	17

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

Method Blank (continued)

Analysis Name	Result	MDL
	ug/kg	ug/kg
2,4,6-Trichlorophenol	N.D.	17
Batch number: 171600029A	Sample number(s): 9026710,9026713,9026716,9026719-9026720	
2,4-D	N.D.	12
Dalapon	N.D.	44
2,4-DB	N.D.	6.2
Dicamba	N.D.	4.0
Dinoseb	N.D.	9.0
2,4-DP (Dichloroprop)	N.D.	9.0
MCPA	N.D.	760
MCPP (Mecoprop)	N.D.	750
Pentachlorophenol	N.D.	0.33
2,4,5-T	N.D.	0.82
2,4,5-TP	N.D.	0.75
Batch number: 171640005A	Sample number(s): 9026723-9026724,9026727-9026728	
2,4-D	N.D.	12
Dalapon	N.D.	44
2,4-DB	N.D.	6.2
Dicamba	N.D.	4.0
Dinoseb	N.D.	9.0
2,4-DP (Dichloroprop)	N.D.	9.0
MCPA	N.D.	760
MCPP (Mecoprop)	N.D.	750
Pentachlorophenol	N.D.	0.33
2,4,5-T	N.D.	0.82
2,4,5-TP	N.D.	0.75
Batch number: 171560032A	Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724	
PCB-1016	N.D.	3.6
PCB-1221	N.D.	4.6
PCB-1232	N.D.	8.0
PCB-1242	N.D.	3.3
PCB-1248	N.D.	3.3
PCB-1254	N.D.	3.3
PCB-1260	N.D.	4.9
Batch number: 171590001A	Sample number(s): 9026727-9026728	
PCB-1016	N.D.	3.6
PCB-1221	N.D.	4.6
PCB-1232	N.D.	8.0
PCB-1242	N.D.	3.3
PCB-1248	N.D.	3.3
PCB-1254	N.D.	3.3
PCB-1260	N.D.	4.9
Batch number: 171590039A	Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724,9026727-9026728	
Aldrin	N.D.	0.17
Alpha BHC	N.D.	0.17
Beta BHC	N.D.	0.30

*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

Method Blank (continued)

Analysis Name	Result	MDL
	ug/kg	ug/kg
Gamma BHC - Lindane	N.D.	0.17
Chlordane	N.D.	4.0
p,p-DDD	N.D.	0.33
p,p-DDE	N.D.	0.33
p,p-DDT	N.D.	0.35
Delta BHC	N.D.	0.45
Dieldrin	N.D.	0.33
Endosulfan I	N.D.	0.22
Endosulfan II	N.D.	0.33
Endosulfan Sulfate	N.D.	0.33
Endrin	N.D.	0.33
Endrin Aldehyde	N.D.	0.33
Heptachlor	N.D.	0.17
Heptachlor Epoxide	N.D.	0.17
Methoxychlor	N.D.	1.7
Toxaphene	N.D.	14
	mg/kg	mg/kg
Batch number: 171520571103	Sample number(s): 9026727-9026728	
Mercury	N.D.	0.0100
Batch number: 171560571101	Sample number(s): 9026713,9026716,9026719-9026720	
Mercury	N.D.	0.0010
Batch number: 171570570806	Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724,9026727-9026728	
Antimony	N.D.	0.700
Arsenic	N.D.	0.970
Beryllium	N.D.	0.0670
Cadmium	N.D.	0.0490
Chromium	0.177 J	0.140
Copper	N.D.	0.230
Lead	N.D.	0.550
Nickel	N.D.	0.300
Selenium	N.D.	0.900
Silver	N.D.	0.150
Thallium	N.D.	0.820
Zinc	N.D.	0.680
Batch number: 171570571101	Sample number(s): 9026710,9026723-9026724	
Mercury	N.D.	0.0100
	mg/l	mg/l
Batch number: 171580570505	Sample number(s): 9026711,9026714,9026717,9026721,9026725,9026729	
Antimony	N.D.	0.0077
Arsenic	N.D.	0.0097
Beryllium	N.D.	0.00067
Cadmium	0.00054 J	0.00049
Chromium	N.D.	0.0018
Copper	N.D.	0.0041

*- Outside of specification

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

Method Blank (continued)

Analysis Name	Result	MDL
	mg/l	mg/l
Lead	N.D.	0.0062
Nickel	N.D.	0.0028
Selenium	N.D.	0.0097
Silver	N.D.	0.0019
Thallium	N.D.	0.0094
Zinc	N.D.	0.0054
Batch number: 171580571305	Sample number(s): 9026711,9026714,9026717,9026721,9026725,9026729	
Mercury	N.D.	0.000050

LCS/LCSD

Analysis Name	LCS Spike	LCS	LCSD Spike	LCSD	LCS	LCSD	LCS/LCSD	RPD	RPD Max
	Added	Conc	Added	Conc	%REC	%REC	Limits		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: X171581AA	Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724,9026727-9026728								
Acrolein	150	162.08	150	153.35	108	102	49-138	6	30
Acrylonitrile	100	98.22	100	99.08	98	99	66-120	1	30
Benzene	20	22.57	20	22.08	113	110	80-120	2	30
Bromodichloromethane	20	22.52	20	22.22	113	111	75-120	1	30
Bromoform	20	18.81	20	18.71	94	94	61-122	1	30
Bromomethane	20	18.73	20	18.24	94	91	39-155	3	30
Carbon Tetrachloride	20	24.68	20	23.68	123	118	69-130	4	30
Chlorobenzene	20	19.4	20	19.22	97	96	80-120	1	30
Chloroethane	20	18.21	20	17.43	91	87	50-137	4	30
Chloroform	20	23.35	20	22.77	117	114	80-120	3	30
Chloromethane	20	18.53	20	18.18	93	91	56-120	2	30
Dibromochloromethane	20	19.12	20	19.12	96	96	71-120	0	30
1,1-Dichloroethane	20	22.71	20	21.92	114	110	77-120	4	30
1,2-Dichloroethane	20	22.53	20	22.26	113	111	78-127	1	30
1,1-Dichloroethene	20	22.7	20	21.87	113	109	73-129	4	30
cis-1,2-Dichloroethene	20	23.08	20	22.53	115	113	80-120	2	30
trans-1,2-Dichloroethene	20	23.17	20	21.95	116	110	80-125	5	30
1,2-Dichloropropane	20	22.5	20	21.82	113	109	76-120	3	30
cis-1,3-Dichloropropene	20	19.89	20	20.04	99	100	74-120	1	30
trans-1,3-Dichloropropene	20	18.06	20	18.23	90	91	70-120	1	30
Ethylbenzene	20	19.33	20	18.85	97	94	80-120	3	30
Methylene Chloride	20	22.59	20	22.31	113	112	76-122	1	30
1,1,2,2-Tetrachloroethane	20	16.64	20	16.51	83	83	67-121	1	30
Tetrachloroethene	20	19.83	20	19.35	99	97	74-126	2	30
Toluene	20	19.03	20	18.8	95	94	80-120	1	30
1,1,1-Trichloroethane	20	23.08	20	22.35	115	112	66-128	3	30
1,1,2-Trichloroethane	20	19.06	20	19.05	95	95	80-120	0	30
Trichloroethene	20	21.99	20	21.66	110	108	80-120	2	30
Trichlorofluoromethane	20	22.93	20	21.83	115	109	63-132	5	30

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Vinyl Chloride	20	18.11	20	18.1	91	91	59-120	0	30
Xylene (Total)	60	56.77	60	55.61	95	93	80-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: N171631AA	Sample number(s): 9026712, 9026715, 9026718, 9026722, 9026726, 9026730								
Acrolein	150	123.28	150	128.36	82	86	50-129	4	30
Acrylonitrile	100	101.12	100	105.85	101	106	64-121	5	30
Benzene	20	21.09	20	22.05	105	110	78-120	4	30
Bromodichloromethane	20	19.77	20	20.8	99	104	80-120	5	30
Bromoform	20	16.89	20	17.32	84	87	64-120	3	30
Bromomethane	20	14.4	20	14.33	72	72	49-121	1	30
Carbon Tetrachloride	20	20.64	20	21.43	103	107	76-123	4	30
Chlorobenzene	20	20.15	20	21.08	101	105	80-120	5	30
Chloroethane	20	13.27	20	13.26	66	66	51-121	0	30
2-Chloroethyl Vinyl Ether	20	17.02	20	17.78	85	89	55-121	4	30
Chloroform	20	20.58	20	21.66	103	108	80-120	5	30
Chloromethane	20	16.7	20	17.61	84	88	57-120	5	30
Dibromochloromethane	20	18.24	20	18.9	91	94	78-120	4	30
1,1-Dichloroethane	20	20.68	20	21.89	103	109	80-120	6	30
1,2-Dichloroethane	20	20	20	21.02	100	105	66-128	5	30
1,1-Dichloroethene	20	22.69	20	23.82	113	119	76-124	5	30
cis-1,2-Dichloroethene	20	21.4	20	22.96	107	115	80-120	7	30
trans-1,2-Dichloroethene	20	22.35	20	23.01	112	115	80-120	3	30
1,2-Dichloropropane	20	20.78	20	21.72	104	109	80-120	4	30
cis-1,3-Dichloropropene	20	19.7	20	20.61	99	103	75-120	5	30
trans-1,3-Dichloropropene	20	18.15	20	18.93	91	95	76-120	4	30
Ethylbenzene	20	19.86	20	20.61	99	103	78-120	4	30
Methylene Chloride	20	21.35	20	22.54	107	113	80-120	5	30
1,1,2,2-Tetrachloroethane	20	18.26	20	18.99	91	95	72-120	4	30
Tetrachloroethene	20	20.29	20	20.9	101	104	80-129	3	30
Toluene	20	19.98	20	20.77	100	104	80-120	4	30
1,1,1-Trichloroethane	20	19.99	20	20.86	100	104	67-120	4	30
1,1,2-Trichloroethane	20	20.25	20	20.86	101	104	80-120	3	30
Trichloroethene	20	20.41	20	21.4	102	107	80-120	5	30
Trichlorofluoromethane	20	17.01	20	17.19	85	86	57-134	1	30
Vinyl Chloride	20	17.35	20	17.94	87	90	63-121	3	30
Xylene (Total)	60	59.61	60	62.3	99	104	80-120	4	30
	mg/l	mg/l	mg/l	mg/l					
Batch number: 17161SLC026	Sample number(s): 9026711, 9026714, 9026717, 9026721, 9026725, 9026729								
Acenaphthene	0.417	0.431			103		83-116		
Acenaphthylene	0.417	0.403			97		83-119		
Anthracene	0.417	0.415			100		82-118		
Benzydine	2.08	0.156			7*		17-105		
Benzo (a) anthracene	0.417	0.422			101		76-119		
Benzo (a) pyrene	0.417	0.387			93		78-117		
Benzo (b) fluoranthene	0.417	0.421			101		79-121		

*- Outside of specification

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Benzo (g, h, i) perylene	0.417	0.398			95		71-123		
Benzo (k) fluoranthene	0.417	0.395			95		71-123		
4-Bromophenyl-phenylether	0.417	0.432			104		78-122		
Butylbenzylphthalate	0.417	0.420			101		80-118		
Di-n-butylphthalate	0.417	0.438			105		84-120		
4-Chloro-3-methylphenol	0.417	0.410			98		78-124		
bis (2-Chloroethoxy) methane	0.417	0.372			89		77-116		
bis (2-Chloroethyl) ether	0.417	0.351			84		68-115		
bis (2-Chloroisopropyl) ether	0.417	0.309			74		51-129		
2-Chloronaphthalene	0.417	0.504			121		57-148		
2-Chlorophenol	0.417	0.413			99		80-121		
4-Chlorophenyl-phenylether	0.417	0.412			99		73-119		
Chrysene	0.417	0.408			98		72-121		
Dibenz (a, h) anthracene	0.417	0.415			100		72-129		
1,2-Dichlorobenzene	0.417	0.377			90		77-113		
1,3-Dichlorobenzene	0.417	0.369			89		79-113		
1,4-Dichlorobenzene	0.417	0.373			89		79-112		
3,3'-Dichlorobenzidine	0.417	0.251			60		12-125		
2,4-Dichlorophenol	0.417	0.419			100		86-125		
Diethylphthalate	0.417	0.439			105		81-118		
2,4-Dimethylphenol	0.417	0.315			76		57-109		
Dimethylphthalate	0.417	0.426			102		82-113		
4,6-Dinitro-2-methylphenol	0.417	0.366			88		53-130		
2,4-Dinitrophenol	0.833	0.595			71		27-136		
2,4-Dinitrotoluene	0.417	0.431			104		81-122		
2,6-Dinitrotoluene	0.417	0.446			107		80-120		
1,2-Diphenylhydrazine	0.417	0.376			90		72-125		
bis (2-Ethylhexyl) phthalate	0.417	0.417			100		81-121		
Fluoranthene	0.417	0.424			102		72-120		
Fluorene	0.417	0.421			101		75-118		
Hexachlorobenzene	0.417	0.452			109		73-120		
Hexachlorobutadiene	0.417	0.398			95		72-120		
Hexachlorocyclopentadiene	0.833	0.329			40*		57-142		
Hexachloroethane	0.417	0.347			83		69-116		
Indeno (1,2,3-cd) pyrene	0.417	0.404			97		69-125		
Isophorone	0.417	0.348			84		70-118		
Naphthalene	0.417	0.384			92		75-113		
Nitrobenzene	0.417	0.352			85		70-122		
2-Nitrophenol	0.417	0.419			101		83-120		
4-Nitrophenol	0.417	0.376			90		52-133		
N-Nitrosodimethylamine	0.417	0.309			74		49-119		
N-Nitroso-di-n-propylamine	0.417	0.336			81		67-121		
N-Nitrosodiphenylamine	0.417	0.421			101		83-118		
Di-n-octylphthalate	0.417	0.406			98		80-140		
Pentachlorophenol	0.417	0.252			60		56-131		
Phenanthrene	0.417	0.413			99		74-114		
Phenol	0.417	0.358			86		73-122		
Pyrene	0.417	0.409			98		74-112		

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

LCS/LCSD (continued)

Analysis Name	LCS Spike	LCS	LCSD Spike	LCSD	LCS	LCSD	LCS/LCSD	RPD	RPD
	Added	Conc	Added	Conc	%REC	%REC	Limits		Max
	mg/l	mg/l	mg/l	mg/l					
1,2,4-Trichlorobenzene	0.417	0.397			95		79-114		
2,4,6-Trichlorophenol	0.417	0.413			99		81-123		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17159SLK026	Sample number(s): 9026710, 9026713, 9026716, 9026719-9026720, 9026723-9026724, 9026727-9026728								
Acenaphthene	1666.67	1772.69			106		83-116		
Acenaphthylene	1666.67	1679.93			101		83-119		
Anthracene	1666.67	1742.32			105		82-118		
Benzidine	8333.33	3276.38			39		17-105		
Benzo(a)anthracene	1666.67	1702.38			102		76-119		
Benzo(a)pyrene	1666.67	1647.19			99		78-117		
Benzo(b)fluoranthene	1666.67	1610.65			97		79-121		
Benzo(g,h,i)perylene	1666.67	1629.91			98		71-123		
Benzo(k)fluoranthene	1666.67	1808.2			108		71-123		
4-Bromophenyl-phenylether	1666.67	1905.64			114		78-122		
Butylbenzylphthalate	1666.67	1620.63			97		80-118		
Di-n-butylphthalate	1666.67	1705.62			102		84-120		
4-Chloro-3-methylphenol	1666.67	1636.2			98		78-124		
bis(2-Chloroethoxy)methane	1666.67	1550.58			93		77-116		
bis(2-Chloroethyl)ether	1666.67	1433.07			86		68-115		
bis(2-Chloroisopropyl)ether	1666.67	1320.45			79		51-129		
2-Chloronaphthalene	1666.67	1873.09			112		57-148		
2-Chlorophenol	1666.67	1684.93			101		80-121		
4-Chlorophenyl-phenylether	1666.67	1717.5			103		73-119		
Chrysene	1666.67	1711.74			103		72-121		
Dibenz(a,h)anthracene	1666.67	1686.25			101		72-129		
1,2-Dichlorobenzene	1666.67	1642.1			99		77-113		
1,3-Dichlorobenzene	1666.67	1616.58			97		79-113		
1,4-Dichlorobenzene	1666.67	1628.76			98		79-112		
3,3'-Dichlorobenzidine	1666.67	1023.53			61		12-125		
2,4-Dichlorophenol	1666.67	1775.14			107		86-125		
Diethylphthalate	1666.67	1678.95			101		81-118		
2,4-Dimethylphenol	1666.67	1326.61			80		57-109		
Dimethylphthalate	1666.67	1701.27			102		82-113		
4,6-Dinitro-2-methylphenol	1666.67	1761.01			106		53-130		
2,4-Dinitrophenol	3333.33	3303.24			99		27-136		
2,4-Dinitrotoluene	1666.67	1710.13			103		81-122		
2,6-Dinitrotoluene	1666.67	1791.5			107		80-120		
1,2-Diphenylhydrazine	1666.67	1571.83			94		72-125		
bis(2-Ethylhexyl)phthalate	1666.67	1605.81			96		81-121		
Fluoranthene	1666.67	1731.27			104		72-120		
Fluorene	1666.67	1740.66			104		75-118		
Hexachlorobenzene	1666.67	1882.78			113		73-120		
Hexachlorobutadiene	1666.67	1804.65			108		72-120		
Hexachlorocyclopentadiene	3333.33	2391.65			72		57-142		
Hexachloroethane	1666.67	1469.14			88		69-116		
Indeno(1,2,3-cd)pyrene	1666.67	1642.51			99		69-125		

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Isophorone	1666.67	1514.36			91		70-118		
Naphthalene	1666.67	1655.55			99		75-113		
Nitrobenzene	1666.67	1544.24			93		70-122		
2-Nitrophenol	1666.67	1787.25			107		83-120		
4-Nitrophenol	1666.67	1596.37			96		52-133		
N-Nitrosodimethylamine	1666.67	1565.52			94		49-119		
N-Nitroso-di-n-propylamine	1666.67	1353.72			81		67-121		
N-Nitrosodiphenylamine	1666.67	1700.15			102		83-118		
Di-n-octylphthalate	1666.67	1669.21			100		80-140		
Pentachlorophenol	1666.67	1431.72			86		56-131		
Phenanthrene	1666.67	1705.09			102		74-114		
Phenol	1666.67	1548.42			93		73-122		
Pyrene	1666.67	1669.12			100		74-112		
1,2,4-Trichlorobenzene	1666.67	1766.75			106		79-114		
2,4,6-Trichlorophenol	1666.67	1878.1			113		81-123		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 171600029A	Sample number (s): 9026710, 9026713, 9026716, 9026719-9026720								
2,4-D	83.7	80.85			97		57-142		
Dalapon	209	83.78			40		23-115		
2,4-DB	83.7	81.11			97		71-146		
Dicamba	8.33	7.09			85		48-129		
Dinoseb	142	16.52			12		10-38		
2,4-DP (Dichloroprop)	83.2	71.95			86		65-143		
MCPA	8340	6456.2			77		26-118		
MCPP (Mecoprop)	8340	8125.54			97		50-122		
Pentachlorophenol	33	23.62			72		49-137		
2,4,5-T	8.33	8.54			102		59-137		
2,4,5-TP	8.33	8.05			97		65-158		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 171640005A	Sample number (s): 9026723-9026724, 9026727-9026728								
2,4-D	83.7	87.17			104		57-142		
Dalapon	209	128.8			62		23-115		
2,4-DB	83.7	85.38			102		71-146		
Dicamba	8.33	7.13			86		48-129		
Dinoseb	142	12.82			9*		10-38		
2,4-DP (Dichloroprop)	83.2	79.63			96		65-143		
MCPA	8340	7393.53			89		26-118		
MCPP (Mecoprop)	8340	7696.67			92		50-122		
Pentachlorophenol	33	28.25			86		49-137		
2,4,5-T	8.33	8.71			105		59-137		
2,4,5-TP	8.33	8.68			104		65-158		
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 171560032A	Sample number (s): 9026710, 9026713, 9026716, 9026719-9026720, 9026723-9026724								
PCB-1016	167	180.88			108		76-121		
PCB-1260	168	168.28			100		79-130		

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 171590001A	Sample number(s): 9026727-9026728								
PCB-1016	167	160.54			96		76-121		
PCB-1260	168	170.22			101		79-130		
Batch number: 171590039A	Sample number(s): 9026710, 9026713, 9026716, 9026719-9026720, 9026723-9026724, 9026727-9026728								
Aldrin	3.33	2.98			90		60-117		
Alpha BHC	3.27	3.09			95		65-124		
Beta BHC	3.27	3.17			97		68-129		
Gamma BHC - Lindane	3.27	3.36			103		47-140		
p,p-DDD	6.53	7.31			112		69-138		
p,p-DDE	6.60	6.75			102		68-146		
p,p-DDT	6.53	6.63			102		67-135		
Delta BHC	3.27	3.31			101		45-151		
Dieldrin	6.47	6.79			105		63-126		
Endosulfan I	3.27	3.24			99		62-119		
Endosulfan II	6.67	6.80			102		65-126		
Endosulfan Sulfate	6.60	6.89			104		71-132		
Endrin	6.53	7.16			110		65-125		
Endrin Aldehyde	6.60	6.51			99		59-122		
Heptachlor	3.27	3.33			102		66-118		
Heptachlor Epoxide	3.33	3.29			99		74-128		
Methoxychlor	32.8	35.74			109		65-131		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 171520571103	Sample number(s): 9026727-9026728								
Mercury	0.100	0.104			104		80-120		
Batch number: 171560571101	Sample number(s): 9026713, 9026716, 9026719-9026720								
Mercury	0.100	0.0946			95		80-120		
Batch number: 171570570806	Sample number(s): 9026710, 9026713, 9026716, 9026719-9026720, 9026723-9026724, 9026727-9026728								
Antimony	50	50.09			100		80-120		
Arsenic	15	15.21			101		80-120		
Beryllium	5.00	5.08			102		80-120		
Cadmium	5.00	5.16			103		80-120		
Chromium	20	19.54			98		80-120		
Copper	25	25.32			101		80-120		
Lead	15	14.93			100		80-120		
Nickel	50	51.57			103		80-120		
Selenium	15	14.96			100		80-120		
Silver	5.00	5.73			115		80-120		
Thallium	15	16.82			112		80-120		
Zinc	50	50.1			100		80-120		
Batch number: 171570571101	Sample number(s): 9026710, 9026723-9026724								
Mercury	0.100	0.0941			94		80-120		

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 171580570505	Sample number(s): 9026711,9026714,9026717,9026721,9026725,9026729								
Antimony	0.500	0.482			96		80-120		
Arsenic	0.150	0.141			94		80-120		
Beryllium	0.0500	0.0504			101		80-120		
Cadmium	0.0500	0.0497			99		80-120		
Chromium	0.200	0.208			104		80-120		
Copper	0.250	0.266			107		80-120		
Lead	0.150	0.148			99		80-120		
Nickel	0.500	0.503			101		80-120		
Selenium	0.150	0.144			96		80-120		
Silver	0.0500	0.0534			107		80-120		
Thallium	0.150	0.149			100		80-120		
Zinc	0.500	0.490			98		80-120		
Batch number: 171580571305	Sample number(s): 9026711,9026714,9026717,9026721,9026725,9026729								
Mercury	0.00100	0.000960			96		80-120		
	%	%	%	%					
Batch number: 17159820012B	Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724,9026727-9026728								
Moisture	89.5	89.05			99		99-101		

MS/MSD

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: N171631AA	Sample number(s): 9026712,9026715,9026718,9026722,9026726,9026730 UNSPK: P030618									
Acrolein	N.D.	3000	2230.1	3000	2224.77	74	74	50-129	0	30
Acrylonitrile	N.D.	2000	2024.94	2000	2029.99	101	101	64-121	0	30
Benzene	N.D.	400	425.42	400	420.5	106	105	78-120	1	30
Bromodichloromethane	N.D.	400	397.64	400	390.46	99	98	80-120	2	30
Bromoform	N.D.	400	326.86	400	322.31	82	81	64-120	1	30
Bromomethane	N.D.	400	267.37	400	269.9	67	67	49-121	1	30
Carbon Tetrachloride	N.D.	400	418.64	400	411.77	105	103	76-123	2	30
Chlorobenzene	N.D.	400	406.8	400	404.92	102	101	80-120	0	30
Chloroethane	N.D.	400	252.44	400	257.74	63	64	51-121	2	30
2-Chloroethyl Vinyl Ether	N.D.	400	338.33	400	358.29	85	90	55-121	6	30
Chloroform	N.D.	400	417.11	400	410.17	104	103	80-120	2	30
Chloromethane	N.D.	400	339.92	400	329.65	85	82	57-120	3	30
Dibromochloromethane	N.D.	400	354.92	400	352.96	89	88	78-120	1	30
1,1-Dichloroethane	N.D.	400	421.17	400	413.83	105	103	80-120	2	30
1,2-Dichloroethane	N.D.	400	400.4	400	390.02	100	98	66-128	3	30

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

MS/MSD (continued)

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

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4,6-Trichlorophenol	N.D.	1.64	N.D.	1.64	N.D.	0*	0*	81-123	0	30
	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 17159SLK026	Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724,9026727-9026728 UNSPK: 9026716									
Acenaphthene	3.53	1656.18	1579.95	1650.71	1392.11	95	84	83-116	13	30
Acenaphthylene	50.38	1656.18	1528.35	1650.71	1365.85	89	80*	83-119	11	30
Anthracene	36.92	1656.18	1526.95	1650.71	1384.15	90	82	82-118	10	30
Benzidine	N.D.	8280.89	823.23	8253.55	710.95	10*	9*	17-105	15	30
Benzo(a)anthracene	188.13	1656.18	1478.06	1650.71	1416.03	78	74*	76-119	4	30
Benzo(a)pyrene	190.26	1656.18	1331.18	1650.71	1375.02	69*	72*	78-117	3	30
Benzo(b)fluoranthene	244.82	1656.18	1484.68	1650.71	1490.1	75*	75*	79-121	0	30
Benzo(g,h,i)perylene	144.27	1656.18	1320.74	1650.71	1445.37	71	79	71-123	9	30
Benzo(k)fluoranthene	109.52	1656.18	1297.96	1650.71	1287.49	72	71	71-123	1	30
4-Bromophenyl-phenylether	N.D.	1656.18	1761.21	1650.71	1524.65	106	92	78-122	14	30
Butylbenzylphthalate	N.D.	1656.18	1455.15	1650.71	1268.17	88	77*	80-118	14	30
Di-n-butylphthalate	N.D.	1656.18	1536.55	1650.71	1326.98	93	80*	84-120	15	30
4-Chloro-3-methylphenol	N.D.	1656.18	1354.3	1650.71	1238.07	82	75*	78-124	9	30
bis(2-Chloroethoxy)methane	N.D.	1656.18	1371.77	1650.71	1197.1	83	73*	77-116	14	30
bis(2-Chloroethyl)ether	N.D.	1656.18	1257.55	1650.71	1156.3	76	70	68-115	8	30
bis(2-Chloroisopropyl)ether	N.D.	1656.18	1165.15	1650.71	1056.45	70	64	51-129	10	30
2-Chloronaphthalene	N.D.	1656.18	1390.78	1650.71	1262.23	84	76	57-148	10	30
2-Chlorophenol	N.D.	1656.18	1442.33	1650.71	1333.95	87	81	80-121	8	30
4-Chlorophenyl-phenylether	N.D.	1656.18	1533.71	1650.71	1348.11	93	82	73-119	13	30
Chrysene	206.41	1656.18	1412.96	1650.71	1354.72	73	70*	72-121	4	30
Dibenz(a,h)anthracene	38.06	1656.18	1420.88	1650.71	1427.66	83	84	72-129	0	30
1,2-Dichlorobenzene	N.D.	1656.18	1467.12	1650.71	1360.36	89	82	77-113	8	30
1,3-Dichlorobenzene	N.D.	1656.18	1454.05	1650.71	1350.2	88	82	79-113	7	30
1,4-Dichlorobenzene	N.D.	1656.18	1454.71	1650.71	1348.5	88	82	79-112	8	30
3,3'-Dichlorobenzidine	N.D.	1656.18	918.44	1650.71	748.92	55	45	12-125	20	30
2,4-Dichlorophenol	N.D.	1656.18	1543.23	1650.71	1362.35	93	83*	86-125	12	30
Diethylphthalate	N.D.	1656.18	1461.83	1650.71	1281.99	88	78*	81-118	13	30
2,4-Dimethylphenol	N.D.	1656.18	1002.53	1650.71	882.65	61	53*	57-109	13	30
Dimethylphthalate	N.D.	1656.18	1512.4	1650.71	1312.41	91	80*	82-113	14	30
4,6-Dinitro-2-methylphenol	N.D.	1656.18	493.43	1650.71	455.07	30*	28*	53-130	8	30
2,4-Dinitrophenol	N.D.	3312.35	564.06	3301.42	525.2	17*	16*	27-136	7	30
2,4-Dinitrotoluene	N.D.	1656.18	1487.22	1650.71	1314.69	90	80*	81-122	12	30
2,6-Dinitrotoluene	N.D.	1656.18	1580.4	1650.71	1393.23	95	84	80-120	13	30
1,2-Diphenylhydrazine	N.D.	1656.18	1453.92	1650.71	1259.04	88	76	72-125	14	30
bis(2-Ethylhexyl)phthalate	N.D.	1656.18	1413.24	1650.71	1248.05	85	76*	81-121	12	30
Fluoranthene	287.26	1656.18	1583.86	1650.71	1500.49	78	73	72-120	5	30
Fluorene	9.19	1656.18	1509.74	1650.71	1360.77	91	82	75-118	10	30
Hexachlorobenzene	N.D.	1656.18	1747.14	1650.71	1529.16	105	93	73-120	13	30
Hexachlorobutadiene	N.D.	1656.18	1719.88	1650.71	1492.91	104	90	72-120	14	30
Hexachlorocyclopentadiene	N.D.	3312.35	N.D.	3301.42	N.D.	0*	0*	57-142	0	30

*- Outside of specification

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

MS/MSD (continued)

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

Analysis Name	Unspiked Conc ug/kg	MS Spike Added ug/kg	MS Conc ug/kg	MSD Spike Added ug/kg	MSD Conc ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 171560032A	Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724 UNSPK: P026373									
PCB-1016	N.D.	165	140.97	167	144.79	85	87	76-121	3	50
PCB-1260	N.D.	166	135.82	168	143.57	82	85	79-130	6	50
Batch number: 171590001A	Sample number(s): 9026727-9026728 UNSPK: P029414									
PCB-1016	N.D.	167	67.47	166	55.59	40*	33*	76-121	19	50
PCB-1260	N.D.	168	68.98	168	54.48	41*	32*	79-130	23	50
Batch number: 171590039A	Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724,9026727-9026728 UNSPK: P029414									
Aldrin	N.D.	3.32	11.54	3.33	N.D.	347*	0*	60-117	200*	50
Alpha BHC	N.D.	3.26	N.D.	3.27	N.D.	0*	0*	65-124	0	50
Beta BHC	93.22	3.26	73.02	3.27	43.11	-618 (2)	-1531 (2)	68-129	52*	50
Gamma BHC - Lindane	N.D.	3.26	14.45	3.27	16.05	443*	491*	47-140	10	50
p,p-DDD	33.78	6.51	32.43	6.53	35.1	-20 (2)	20 (2)	69-138	8	50
p,p-DDE	N.D.	6.58	52.46	6.60	N.D.	797*	0*	68-146	200*	50
p,p-DDT	N.D.	6.51	82.43	6.53	99.49	1266*	1524*	67-135	19	50
Delta BHC	29.79	3.26	N.D.	3.27	N.D.	0 (2)	0 (2)	45-151	0	50
Dieldrin	18.71	6.44	N.D.	6.47	21.85	0*	49*	63-126	200*	50
Endosulfan I	N.D.	3.26	31.04	3.27	31.3	952*	957*	62-119	1	50
Endosulfan II	N.D.	6.64	N.D.	6.67	24.89	0*	373*	65-126	200*	50
Endosulfan Sulfate	N.D.	6.58	N.D.	6.60	18.34	0*	278*	71-132	200*	50
Endrin	96.42	6.51	93.56	6.53	178.62	-43 (2)	1259 (2)	65-125	63*	50
Endrin Aldehyde	N.D.	6.58	37.84	6.60	N.D.	575*	0*	59-122	200*	35
Heptachlor	201.67	3.26	99.5	3.27	128.92	-3133 (2)	-2224 (2)	66-118	26	50
Heptachlor Epoxide	33.24	3.32	26.67	3.33	29.26	-197 (2)	-118 (2)	74-128	9	50
Methoxychlor	480.42	32.7	306.6	32.8	396.16	-531 (2)	-256 (2)	65-131	25	50
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
Batch number: 171520571103	Sample number(s): 9026727-9026728 UNSPK: P017503									
Mercury	0.0108	0.167	0.199	0.167	0.205	113	116	80-120	3	20
Batch number: 171560571101	Sample number(s): 9026713,9026716,9026719-9026720 UNSPK: P024365									
Mercury	0.0284	0.167	0.187	0.164	0.181	95	93	80-120	3	20
Batch number: 171570570806	Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724,9026727-9026728 UNSPK: P026857									
Antimony	N.D.	40.98	32.63	38.46	27.5	80	72*	75-125	17	20
Arsenic	0.956	12.3	13.17	11.54	12.69	99	102	75-125	4	20

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

MS/MSD (continued)

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

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Beryllium	0.0944	4.10	4.35	3.85	4.05	104	103	75-125	7	20
Cadmium	0.163	4.10	4.37	3.85	4.05	103	101	75-125	8	20
Chromium	8.15	16.39	24.32	15.38	24.58	99	107	75-125	1	20
Copper	2.68	20.49	23.88	19.23	22.57	103	103	75-125	6	20
Lead	2.67	12.3	15.77	11.54	14.8	107	105	75-125	6	20
Nickel	1.44	40.98	43.39	38.46	40.24	102	101	75-125	8	20
Selenium	N.D.	12.3	12.06	11.54	10.89	98	94	75-125	10	20
Silver	N.D.	4.10	4.92	3.85	4.60	120	120	75-125	7	20
Thallium	N.D.	12.3	14.12	11.54	12.68	115	110	75-125	11	20
Zinc	4.94	40.98	49.81	38.46	44.43	109	103	75-125	11	20
Batch number: 171570571101	Sample number(s): 9026710,9026723-9026724 UNSPK: P026510									
Mercury	N.D.	0.164	0.171	0.161	0.160	104	99	80-120	6	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 171580570505	Sample number(s): 9026711,9026714,9026717,9026721,9026725,9026729 UNSPK: 9026711									
Antimony	N.D.	5.00	4.54	5.00	4.50	91	90	75-125	1	20
Arsenic	N.D.	5.00	4.60	5.00	4.55	92	91	75-125	1	20
Beryllium	N.D.	5.00	4.18	5.00	4.18	84	84	75-125	0	20
Cadmium	0.000590	1.00	0.893	1.00	0.881	89	88	75-125	1	20
Chromium	N.D.	5.00	4.31	5.00	4.58	86	92	75-125	6	20
Copper	N.D.	5.00	4.37	5.00	4.66	87	93	75-125	6	20
Lead	N.D.	5.00	4.43	5.00	4.36	89	87	75-125	1	20
Nickel	N.D.	5.00	4.39	5.00	4.34	88	87	75-125	1	20
Selenium	N.D.	1.00	0.918	1.00	0.912	92	91	75-125	1	20
Silver	N.D.	5.00	1.18	5.00	1.55	24*	31*	75-125	27*	20
Thallium	N.D.	5.00	4.38	5.00	4.40	88	88	75-125	0	20
Zinc	N.D.	5.00	4.46	5.00	4.40	89	88	75-125	1	20
Batch number: 171580571305	Sample number(s): 9026711,9026714,9026717,9026721,9026725,9026729 UNSPK: 9026711									
Mercury	N.D.	0.0200	0.0168	0.0200	0.0175	84	88	80-120	4	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 171520571103	Sample number(s): 9026727-9026728 BKG: P017503			
Mercury	0.0108	N.D.	200* (1)	20
Batch number: 171560571101	Sample number(s): 9026713,9026716,9026719-9026720 BKG: P024365			
Mercury	0.0284	0.0195	37* (1)	20

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Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 171570570806 Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724,9026727-9026728 BKG: P026857				
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	0.956	1.32	32* (1)	20
Beryllium	0.0944	0.0846	11 (1)	20
Cadmium	0.163	0.146	11 (1)	20
Chromium	8.15	6.77	19	20
Copper	2.68	2.38	12 (1)	20
Lead	2.67	2.46	8 (1)	20
Nickel	1.44	1.20	18 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	4.94	4.62	7 (1)	20
Batch number: 171570571101 Sample number(s): 9026710,9026723-9026724 BKG: P026510				
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 171580570505 Sample number(s): 9026711,9026714,9026717,9026721,9026725,9026729 BKG: 9026711				
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	0.000590	0.000740	23* (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Copper	N.D.	N.D.	0 (1)	20
Lead	N.D.	N.D.	0 (1)	20
Nickel	N.D.	N.D.	0 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	N.D.	N.D.	0 (1)	20
Batch number: 171580571305 Sample number(s): 9026711,9026714,9026717,9026721,9026725,9026729 BKG: 9026711				
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 17159820012B Sample number(s): 9026710,9026713,9026716,9026719-9026720,9026723-9026724,9026727-9026728 BKG: 9026723				
Moisture	16.42	15.1	8*	5

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

Surrogate Quality Control (continued)

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

Analysis Name: PCBs in Soil (microwave)
Batch number: 171590001A

	Tetrachloro-m-xylene	Decachlorobiphenyl
LCS	107	105
MS	22*	60
MSD	21*	46
Limits:	53-140	45-143

Analysis Name: Pesticides in Soil (microwave)
Batch number: 171590039A

	Tetrachloro-m-xylene	Decachlorobiphenyl
9026710	84	396*
9026713	99	156*
9026716	97	121
9026719	102	99
9026720	92	334*
9026723	99	95
9026724	90	490*
9026727	111	105
9026728	114	90
Blank	99	108
LCS	100	103
MS	5912*	126
MSD	5672*	140
Limits:	26-145	39-152

Analysis Name: Herbicide soils 8151A Master
Batch number: 171600029A

	2,4-Dichlorophenylacetic acid
9026710	60
9026713	66
9026716	53
9026719	62
9026720	64
Blank	60
LCS	73
MS	69
MSD	66
Limits:	30-117

Analysis Name: Herbicide soils 8151A Master
Batch number: 171640005A

	2,4-Dichlorophenylacetic acid
9026723	67
9026724	72

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 06/28/2017 13:14

Group Number: 1808709

Surrogate Quality Control (continued)

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

Analysis Name: Herbicide soils 8151A Master

Batch number: 171640005A

	2,4-Dichlorophenylacetic acid
9026727	64
9026728	61
Blank	60
LCS	78
MS	69
MSD	70

Limits: 30-117

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

eurofins Lancaster Laboratories Environmental
 Acct. # 721 Group # 1808705 Sample # 9026683-93 CH 6/21/17
 For Eurofins Lancaster Laboratories Environmental use 9026683-93
 COC # 530575

Client Information		Matrix		Analysis Requested		For Lab Use Only	
Client: <u>RETION ASSOCIATES, INC</u> Project Name #: <u>MCGINNESS PROPERTY</u> Project Manager: <u>ED DZIEDZICZ</u> Sampler: <u>GUENTER MILLER</u>		Matrix: <input type="checkbox"/> Tissue <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Surface <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Sediment		Preservation Codes: H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other		FSC: _____ SCR#: _____	
Sample Identification		Total # of Containers		Date		Time	
State where samples were collected:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Composite	Grab	Received by		Time	
				Date	Time	Date	Time
TP-3 @ 14 ft		X	X	6/21/17	9:15	6/21/17	14:20
TP-2 @ 14 ft		X	X	6/21/17	10:15		
TP-1 @ 10 ft		X	X	6/21/17	11:10		
TP-4 @ 9 ft		X	X	6/21/17	11:45		
TP-4 @ 4 ft		X	X	6/21/17	12:00		
TP-5 @ 10 ft		X	X	6/21/17	12:30		
TP-5 @ 5 ft		X	X	6/21/17	12:45		
TP-6 @ 10 ft		X	X	6/21/17	13:00		
TP-6 @ 5 ft		X	X	6/21/17	13:15		

Turnaround Time (TAT) Requested (please circle) Standard _____ Rush _____ (Rush TAT is subject to laboratory approval and surcharge.)	Relinquished by: <u>[Signature]</u> Date: _____ Time: _____
Date results are needed: _____	Relinquished by: _____ Date: _____ Time: _____
E-mail address: <u>ED@RETION.COM</u>	Relinquished by: _____ Date: _____ Time: _____
Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type III (Reduced non-CLP) NYSDEC Category A or B	Relinquished by: _____ Date: _____ Time: _____
NJ DKQP TX TRRP-13 MA MCP CT RCP	Relinquished by: _____ Date: _____ Time: _____
EDD Required? <u>EXCEL</u> Yes No	Relinquished by: _____ Date: _____ Time: _____
Site-Specific QC (MS/MSD/Dup)? Yes No	Relinquished by: _____ Date: _____ Time: _____
If yes, format: _____	Relinquished by: _____ Date: _____ Time: _____
Relinquished upon receipt: _____ °C	Relinquished by: _____ Date: _____ Time: _____



Client: Rettew Assoc.

Delivery and Receipt Information

Delivery Method:	<u>Client Drop Off</u>	Arrival Timestamp:	<u>06/02/2017 9:30</u>
Number of Packages:	<u>2</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>PA</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace \geq 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 14:46 on 06/02/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	5.6	DT	Wet	Y	Bagged	N
2	DT131	4.1	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

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

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	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.		

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) 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.

Additional Data Qualifiers

Qualifier	Definition
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q4	MS/MSD Out of Range
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD
Z	Laboratory Defined - see analysis report

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

Report Date: July 19, 2017

Project: 1020 Manor Street

Submittal Date: 07/05/2017

Group Number: 1821787

PO Number: 026852001

State of Sample Origin: PA

Client Sample DescriptionWS-1 Grab Surface Water
WS-1 Grab Surface Water
TP-1 15' Grab Soil
TP-1 15' Grab Soil
TP-2 4.5' Grab Soil
TP-2 2' Grab Soil
TP-2 2' Grab Soil
TP-3 8' Grab Soil
TP-3 8' Grab Soil
TP-4 6' Grab Soil
TP-4 6' Grab Soil
TP-4 8' Grab Soil
TP-4 8' Grab Soil
TP-5 8' Grab Soil

Lancaster Labs

(LL) #9087758
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The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

1 Copy To

Rettew Associates

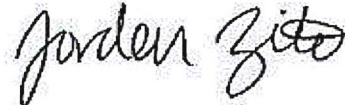
Attn: John Stipe

Electronic Copy To

Rettew Associates

Attn: Ed Dziedzic

Respectfully Submitted,



Jordan Zito
Project Manager

(717) 556-7289

Sample Description: WS-1 Grab Surface Water
1020 Manor Street

LL Sample # WW 9087758
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 14:30 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

MSWS1

CAT No.	Analysis Name	CAS Number	Result	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. Q4	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	1	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	
14240	Acenaphthene	83-32-9	N.D.	0.1	1
14240	Acenaphthylene	208-96-8	N.D.	0.1	1
14240	Anthracene	120-12-7	N.D.	0.1	1
14240	Benzidine	92-87-5	N.D.	20	1
14240	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
14240	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
14240	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
14240	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
14240	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
14240	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1
14240	Butylbenzylphthalate	85-68-7	N.D.	2	1
14240	Di-n-butylphthalate	84-74-2	N.D.	2	1
14240	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1
14240	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1

Sample Description: WS-1 Grab Surface Water
1020 Manor Street

LL Sample # WW 9087758

LL Group # 1821787

Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 14:30 by JS

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

MSWS1

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	
14240	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	1
14240	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.				
14240	2-Chloronaphthalene	91-58-7	N.D.	0.4	1
14240	2-Chlorophenol	95-57-8	N.D.	0.5	1
14240	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1
14240	Chrysene	218-01-9	N.D.	0.1	1
14240	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
14240	1,2-Dichlorobenzene	95-50-1	N.D.	0.5	1
14240	1,3-Dichlorobenzene	541-73-1	N.D.	0.5	1
14240	1,4-Dichlorobenzene	106-46-7	N.D.	0.5	1
14240	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	1
14240	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1
14240	Diethylphthalate	84-66-2	N.D.	2	1
14240	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1
14240	Dimethylphthalate	131-11-3	N.D.	2	1
14240	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	1
14240	2,4-Dinitrophenol	51-28-5	N.D.	10	1
14240	2,4-Dinitrotoluene	121-14-2	N.D.	1	1
14240	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1
14240	1,2-Diphenylhydrazine	122-66-7	N.D.	0.5	1
14240	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	1
14240	Fluoranthene	206-44-0	N.D.	0.1	1
14240	Fluorene	86-73-7	N.D.	0.1	1
14240	Hexachlorobenzene	118-74-1	N.D.	0.1	1
14240	Hexachlorobutadiene	87-68-3	N.D.	0.5	1
14240	Hexachlorocyclopentadiene	77-47-4	N.D.	5	1
14240	Hexachloroethane	67-72-1	N.D.	1	1
14240	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
14240	Isophorone	78-59-1	N.D.	0.5	1
14240	Naphthalene	91-20-3	N.D.	0.1	1
14240	Nitrobenzene	98-95-3	N.D.	0.5	1
14240	2-Nitrophenol	88-75-5	N.D.	0.5	1
14240	4-Nitrophenol	100-02-7	N.D.	10	1
14240	N-Nitrosodimethylamine	62-75-9	N.D.	2	1
14240	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1
14240	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.				
14240	Di-n-octylphthalate	117-84-0	N.D.	2	1
14240	Pentachlorophenol	87-86-5	N.D.	1	1
14240	Phenanthrene	85-01-8	N.D.	0.1	1
14240	Phenol	108-95-2	N.D.	0.5	1
14240	Pyrene	129-00-0	N.D.	0.1	1
14240	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.5	1
14240	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1

Sample Description: WS-1 Grab Surface Water
1020 Manor Street

LL Sample # WW 9087758
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 14:30 by JS

Retnew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

MSWS1

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Herbicides		SW-846 8151A	ug/l	ug/l	
10407	2,4-D	94-75-7	N.D.	1.8	10
10407	Dalapon	75-99-0	N.D.	2.8	10
10407	2,4-DB	94-82-6	N.D.	3.4	10
10407	Dicamba	1918-00-9	N.D.	0.91	10
10407	Dinoseb	88-85-7	N.D.	1.4	10

The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.

10407	2,4-DP (Dichlorprop)	120-36-5	N.D.	1.8	10
10407	MCPA	94-74-6	N.D.	570	10
10407	MCPP	93-65-2	N.D.	570	10
10407	Pentachlorophenol	87-86-5	N.D.	0.31	10
10407	2,4,5-T	93-76-5	N.D.	0.17	10
10407	2,4,5-TP	93-72-1	N.D.	0.11	10

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

Pesticides/PCBs		SW-846 8081A	ug/l	ug/l	
00177	Aldrin	309-00-2	N.D.	0.080	50
00177	Alpha BHC	319-84-6	N.D.	0.12	50
00177	Beta BHC	319-85-7	N.D.	0.14	50
00177	Gamma BHC - Lindane	58-89-9	N.D.	0.080	50
00177	Chlordane	57-74-9	N.D.	6.4	50
00177	p,p-DDD	72-54-8	N.D.	0.20	50
00177	p,p-DDE	72-55-9	N.D.	0.20	50
00177	p,p-DDT	50-29-3	N.D. V	2.2	50
00177	Delta BHC	319-86-8	N.D.	0.14	50
00177	Dieldrin	60-57-1	N.D.	0.21	50
00177	Endosulfan I	959-98-8	N.D.	0.17	50
00177	Endosulfan II	33213-65-9	N.D.	0.60	50
00177	Endosulfan Sulfate	1031-07-8	N.D.	0.23	50
00177	Endrin	72-20-8	N.D.	0.33	50
00177	Endrin Aldehyde	7421-93-4	N.D.	0.80	50
00177	Heptachlor	76-44-8	N.D.	0.080	50
00177	Heptachlor Epoxide	1024-57-3	N.D.	0.092	50
00177	Methoxychlor	72-43-5	N.D.	1.2	50
00177	Toxaphene	8001-35-2	N.D.	12	50

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

Pesticides/PCBs		SW-846 8082	ug/l	ug/l	
10227	PCB-1016	12674-11-2	N.D.	0.081	1
10227	PCB-1221	11104-28-2	N.D.	0.081	1
10227	PCB-1232	11141-16-5	N.D.	0.16	1
10227	PCB-1242	53469-21-9	N.D.	0.081	1
10227	PCB-1248	12672-29-6	N.D.	0.081	1
10227	PCB-1254	11097-69-1	N.D.	0.081	1
10227	PCB-1260	11096-82-5	N.D.	0.12	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.

Metals		SW-846 6010B	mg/l	mg/l	
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Sample Description: WS-1 Grab Surface Water
1020 Manor Street

LL Sample # WW 9087758
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 14:30 by JS

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

MSWS1

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals			mg/l	mg/l	
		SW-846 6010B			
07044	Antimony	7440-36-0	N.D.	0.0087	1
07035	Arsenic	7440-38-2	N.D.	0.0096	1
07047	Beryllium	7440-41-7	N.D.	0.0020	1
07049	Cadmium	7440-43-9	N.D.	0.0018	1
07051	Chromium	7440-47-3	N.D.	0.0033	1
07053	Copper	7440-50-8	0.0122	0.0040	1
07055	Lead	7439-92-1	0.0118 J	0.0060	1
07061	Nickel	7440-02-0	0.0080 J	0.0040	1
07036	Selenium	7782-49-2	N.D.	0.0093	1
07066	Silver	7440-22-4	N.D.	0.0024	1
07022	Thallium	7440-28-0	N.D.	0.0137	1
07072	Zinc	7440-66-6	0.101	0.0065	1
		SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	W171912AA	07/11/2017 04:53	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W171912AA	07/11/2017 04:53	Kevin D Kelly	1
14240	TCL SW846 8270C MINI	SW-846 8270C	1	17187WAF026	07/13/2017 23:29	Kira N Klaassen	1
00813	BNA Water Extraction	SW-846 3510C	1	17187WAF026	07/07/2017 08:00	Bradley W VanLeuven	1
10407	Herb water 8151A Master	SW-846 8151A	1	171920004A	07/17/2017 21:49	Heather M Miller	10
00177	OC Pesticides in Water	SW-846 8081A	1	171910017A	07/12/2017 16:10	Jessica M Cook	50
10227	PCBs in Water	SW-846 8082	1	171910011A	07/11/2017 22:46	Jessica L Miller	1
11117	PCB Waters Extraction	SW-846 3510C	1	171910011A	07/10/2017 17:30	Kate E Lutte	1
11118	Pesticide Screen Waters Ext	SW-846 3510C	1	171910017A	07/11/2017 01:15	Sherry L Morrow	1
00816	Water Sample Herbicide Extract	SW-846 8151A	1	171920004A	07/11/2017 16:00	Ryan J Dowdy	1
07044	Antimony	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07035	Arsenic	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07047	Beryllium	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1

Sample Description: WS-1 Grab Surface Water
1020 Manor Street

LL Sample # WW 9087758
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 14:30 by JS

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

MSWS1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07049	Cadmium	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07051	Chromium	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07053	Copper	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07055	Lead	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07061	Nickel	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07036	Selenium	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07066	Silver	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07022	Thallium	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
07072	Zinc	SW-846 6010B	1	171880184803	07/10/2017 15:38	Elaine F Stoltzfus	1
00259	Mercury	SW-846 7470A	1	171880571304	07/11/2017 11:04	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	171880184803	07/10/2017 04:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171880571304	07/11/2017 07:43	James L Mertz	1

Sample Description: WS-1 Grab Surface Water
SPLP NVE
1020 Manor Street

LL Sample # TL 9087759
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 14:30 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

MSW1N

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals		SW-846 6010B	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0096	1
07046	Barium	7440-39-3	0.0312	0.00085	1
07049	Cadmium	7440-43-9	N.D.	0.0018	1
07051	Chromium	7440-47-3	N.D.	0.0033	1
07055	Lead	7439-92-1	N.D.	0.0060	1
07036	Selenium	7782-49-2	N.D.	0.0093	1
07066	Silver	7440-22-4	N.D. Q4Q9	0.0024	1
		SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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
07035	Arsenic	SW-846 6010B	1	171910570501	07/11/2017 12:36	Suzanne M Will	1
07046	Barium	SW-846 6010B	1	171910570501	07/11/2017 12:36	Suzanne M Will	1
07049	Cadmium	SW-846 6010B	1	171910570501	07/11/2017 12:36	Suzanne M Will	1
07051	Chromium	SW-846 6010B	1	171910570501	07/11/2017 12:36	Suzanne M Will	1
07055	Lead	SW-846 6010B	1	171910570501	07/11/2017 12:36	Suzanne M Will	1
07036	Selenium	SW-846 6010B	1	171910570501	07/11/2017 12:36	Suzanne M Will	1
07066	Silver	SW-846 6010B	1	171910570501	07/11/2017 12:36	Suzanne M Will	1
00259	Mercury	SW-846 7470A	1	171910571301	07/11/2017 10:34	Damary Valentin	1
05705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171910570501	07/11/2017 06:10	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171910571301	07/11/2017 07:17	James L Mertz	1
01339	Leachate Filtration	SW-846 1311	1	17188-9169-1339	07/07/2017 11:30	Craig S Pfautz	n.a.

Sample Description: TP-1 15' Grab Soil
1020 Manor Street

LL Sample # SW 9087760
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:30 by JS

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP115

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	1.05
10237	Acrylonitrile	107-13-1	N.D.	5	1.05
10237	Benzene	71-43-2	N.D.	0.6	1.05
10237	Bromodichloromethane	75-27-4	N.D.	1	1.05
10237	Bromoform	75-25-2	N.D.	1	1.05
10237	Bromomethane	74-83-9	N.D.	2	1.05
10237	Carbon Tetrachloride	56-23-5	N.D.	1	1.05
10237	Chlorobenzene	108-90-7	N.D.	1	1.05
10237	Chloroethane	75-00-3	N.D.	2	1.05
10237	Chloroform	67-66-3	N.D.	1	1.05
10237	Chloromethane	74-87-3	N.D.	2	1.05
10237	Dibromochloromethane	124-48-1	N.D.	1	1.05
10237	1,1-Dichloroethane	75-34-3	N.D.	1	1.05
10237	1,2-Dichloroethane	107-06-2	N.D.	1	1.05
10237	1,1-Dichloroethene	75-35-4	N.D.	1	1.05
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	1.05
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	1.05
10237	1,2-Dichloropropane	78-87-5	N.D.	1	1.05
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	1.05
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	1.05
10237	Ethylbenzene	100-41-4	N.D.	1	1.05
10237	Methylene Chloride	75-09-2	N.D.	2	1.05
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	1.05
10237	Tetrachloroethene	127-18-4	N.D.	1	1.05
10237	Toluene	108-88-3	N.D.	1	1.05
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	1.05
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	1.05
10237	Trichloroethene	79-01-6	N.D.	1	1.05
10237	Trichlorofluoromethane	75-69-4	N.D.	2	1.05
10237	Vinyl Chloride	75-01-4	N.D.	1	1.05
10237	Xylene (Total)	1330-20-7	N.D.	1	1.05

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	7	J	1
10727	Anthracene	120-12-7	12	J	1
10727	Benzidine	92-87-5	N.D.	Q4	260
10727	Benzo(a)anthracene	56-55-3	14	J	1
10727	Benzo(a)pyrene	50-32-8	N.D.	Q4	1
10727	Benzo(b)fluoranthene	205-99-2	16	J	1
10727	Benzo(g,h,i)perylene	191-24-2	N.D.	Q4	1
10727	Benzo(k)fluoranthene	207-08-9	N.D.	Q4	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D.	Q4	18
10727	Butylbenzylphthalate	85-68-7	N.D.	Q4	71
10727	Di-n-butylphthalate	84-74-2	N.D.	Q4	71
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	Q4	18
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	Q4	18

Sample Description: TP-1 15' Grab Soil
1020 Manor Street

LL Sample # SW 9087760
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:30 by JS

Retnew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP115

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-Chloroethyl) ether	111-44-4	N.D.	18	1
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.	7	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	34	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.	71	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	18	1
10727	Dimethylphthalate	131-11-3	N.D.	71	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.	71	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.	71	1
10727	Fluoranthene	206-44-0	41	4	1
10727	Fluorene	86-73-7	9 J	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. Q4	180	1
10727	Hexachloroethane	67-72-1	N.D.	35	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	170	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.	71	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.	71	1
10727	Pentachlorophenol	87-86-5	N.D.	35	1
10727	Phenanthrene	85-01-8	200	4	1
10727	Phenol	108-95-2	21 J	18	1
10727	Pyrene	129-00-0	28	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

Sample Description: TP-1 15' Grab Soil
1020 Manor Street

LL Sample # SW 9087760

LL Group # 1821787

Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:30 by JS

Retnew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP115

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Herbicides					
		SW-846 8151A	ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D. Q4	13	1
10401	Dalapon	75-99-0	N.D. Q4	47	1
10401	2,4-DB	94-82-6	N.D. Q4	6.7	1
10401	Dicamba	1918-00-9	N.D. Q4	4.3	1
10401	Dinoseb	88-85-7	N.D. Q4Q9	9.7	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					
10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	9.7	1
10401	MCPA	94-74-6	N.D. Q4	820	1
10401	MCPP (Mecoprop)	93-65-2	N.D. Q4	810	1
10401	Pentachlorophenol	87-86-5	N.D.	0.35	1
10401	2,4,5-T	93-76-5	N.D. Q4	0.88	1
10401	2,4,5-TP	93-72-1	N.D.	0.81	1
Pesticides/PCBs					
		SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D.	0.18	1
10738	Alpha BHC	319-84-6	0.64 J	0.18	1
10738	Beta BHC	319-85-7	N.D.	0.32	1
10738	Gamma BHC - Lindane	58-89-9	N.D. V	0.23	1
10738	Chlordane	57-74-9	N.D.	4.3	1
10738	p,p-DDD	72-54-8	1.5 JP	0.35	1
10738	p,p-DDE	72-55-9	N.D.	0.35	1
10738	p,p-DDT	50-29-3	0.95 J	0.38	1
10738	Delta BHC	319-86-8	N.D.	0.48	1
10738	Dieldrin	60-57-1	N.D.	0.35	1
10738	Endosulfan I	959-98-8	0.46 J	0.24	1
10738	Endosulfan II	33213-65-9	N.D.	0.35	1
10738	Endosulfan Sulfate	1031-07-8	N.D.	0.35	1
10738	Endrin	72-20-8	N.D.	0.35	1
10738	Endrin Aldehyde	7421-93-4	1.5 J Q4	0.35	1
10738	Heptachlor	76-44-8	0.27 J	0.18	1
10738	Heptachlor Epoxide	1024-57-3	N.D.	0.18	1
10738	Methoxychlor	72-43-5	N.D.	1.8	1
10738	Toxaphene	8001-35-2	N.D.	15	1
Reporting limits were raised due to interference from the sample matrix.					
Pesticides/PCBs					
		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	3.8	1
10736	PCB-1221	11104-28-2	N.D.	4.9	1
10736	PCB-1232	11141-16-5	N.D.	8.5	1
10736	PCB-1242	53469-21-9	N.D.	3.5	1
10736	PCB-1248	12672-29-6	N.D.	3.5	1
10736	PCB-1254	11097-69-1	N.D.	3.5	1
10736	PCB-1260	11096-82-5	N.D. Q4	5.2	1
Metals					
		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D. Q4	0.850	1
06935	Arsenic	7440-38-2	4.83 Q4Q8Q9	0.938	1
06947	Beryllium	7440-41-7	0.218 J	0.0772	1

Sample Description: TP-1 15' Grab Soil
1020 Manor Street

LL Sample # SW 9087760
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:30 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP115

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	
06949	Cadmium	7440-43-9	0.408 J	0.0528	1
06951	Chromium	7440-47-3	11.9 Q4Q8Q9	0.166	1
06953	Copper	7440-50-8	25.1 Q4	0.235	1
06955	Lead	7439-92-1	14.1 Q4Q8	0.587	1
06961	Nickel	7440-02-0	13.8 Q4Q9	0.147	1
06936	Selenium	7782-49-2	3.28 Q8	0.909	1
06966	Silver	7440-22-4	N.D.	0.235	1
06925	Thallium	7440-28-0	N.D.	1.34	1
06972	Zinc	7440-66-6	29.1 BQ4	0.235	1
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0106	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171921AA	07/11/2017 10:37	Jennifer K Howe	1.05
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201718846085	07/05/2017 08:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201718846085	07/05/2017 08:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201718846085	07/05/2017 08:30	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17192SLM026	07/14/2017 21:39	William H Saadeh	1
10809	BNA Soil Microwave	SW-846 3546	1	17192SLM026	07/12/2017 07:00	Joshua S Ruth	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171930038A	07/13/2017 23:16	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171870040A	07/12/2017 13:04	Andrea L Jones	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	171910014A	07/12/2017 01:49	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171910014A	07/10/2017 23:00	Samantha M Metzgar	1

Sample Description: TP-1 15' Grab Soil
1020 Manor Street

LL Sample # SW 9087760
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:30 by JS

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP115

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	171870040A	07/07/2017 07:15	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	171930038A	07/13/2017 08:00	David S Schrum	1
06944	Antimony	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06935	Arsenic	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06947	Beryllium	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06949	Cadmium	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06951	Chromium	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06953	Copper	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06955	Lead	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06961	Nickel	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06936	Selenium	SW-846 6010B	1	171910570802	07/12/2017 16:55	Cindy M Gehman	1
06966	Silver	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06925	Thallium	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
06972	Zinc	SW-846 6010B	1	171910570802	07/11/2017 13:34	Suzanne M Will	1
00159	Mercury	SW-846 7471A	1	171910571101	07/11/2017 10:14	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171910570802	07/10/2017 22:55	Denise L Trimby	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171910571101	07/10/2017 17:55	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	3	17195820005A	07/14/2017 21:07	Scott W Freisher	1

Sample Description: TP-1 15' Grab Soil
SPLP NVE
1020 Manor Street

LL Sample # TL 9087761
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:30 by JS

Rettew Associates

Submitted: 07/05/2017 17:20

3020 Columbia Avenue
Lancaster PA 17603-4011

Reported: 07/19/2017 14:10

T115N

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals					
		SW-846 6010B		mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0096	1
07046	Barium	7440-39-3	0.0073 B	0.00085	1
07049	Cadmium	7440-43-9	N.D.	0.0018	1
07051	Chromium	7440-47-3	N.D.	0.0033	1
07055	Lead	7439-92-1	N.D.	0.0060	1
07036	Selenium	7782-49-2	N.D.	0.0093	1
07066	Silver	7440-22-4	N.D. Q4	0.0024	1
		SW-846 7470A		mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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
07035	Arsenic	SW-846 6010B	1	171910570503	07/11/2017 20:25	Cindy M Gehman	1
07046	Barium	SW-846 6010B	1	171910570503	07/11/2017 20:25	Cindy M Gehman	1
07049	Cadmium	SW-846 6010B	1	171910570503	07/11/2017 20:25	Cindy M Gehman	1
07051	Chromium	SW-846 6010B	1	171910570503	07/11/2017 20:25	Cindy M Gehman	1
07055	Lead	SW-846 6010B	1	171910570503	07/11/2017 20:25	Cindy M Gehman	1
07036	Selenium	SW-846 6010B	1	171910570503	07/11/2017 20:25	Cindy M Gehman	1
07066	Silver	SW-846 6010B	1	171910570503	07/11/2017 20:25	Cindy M Gehman	1
00259	Mercury	SW-846 7470A	1	171910571303	07/11/2017 07:41	Damary Valentin	1
05705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171910570503	07/10/2017 22:00	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171910571303	07/11/2017 00:30	Annamaria Kuhns	1
01567	Synthetic Precipitation Leach	SW-846 1312	1	17188-10253-15 67	07/07/2017 13:28	Scarlett M Barrett	n.a.

Sample Description: TP-2 4.5' Grab Soil
1020 Manor Street

LL Sample # SW 9087762
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:55 by JS

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP245

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.	20	0.84
10237	Acrylonitrile	107-13-1	N.D.	4	0.84
10237	Benzene	71-43-2	N.D.	0.5	0.84
10237	Bromodichloromethane	75-27-4	N.D.	1	0.84
10237	Bromoform	75-25-2	N.D.	1	0.84
10237	Bromomethane	74-83-9	N.D.	2	0.84
10237	Carbon Tetrachloride	56-23-5	N.D.	1	0.84
10237	Chlorobenzene	108-90-7	N.D.	1	0.84
10237	Chloroethane	75-00-3	N.D.	2	0.84
10237	Chloroform	67-66-3	N.D.	1	0.84
10237	Chloromethane	74-87-3	N.D.	2	0.84
10237	Dibromochloromethane	124-48-1	N.D.	1	0.84
10237	1,1-Dichloroethane	75-34-3	N.D.	1	0.84
10237	1,2-Dichloroethane	107-06-2	N.D.	1	0.84
10237	1,1-Dichloroethene	75-35-4	N.D.	1	0.84
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	0.84
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	0.84
10237	1,2-Dichloropropane	78-87-5	N.D.	1	0.84
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	0.84
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	0.84
10237	Ethylbenzene	100-41-4	N.D.	1	0.84
10237	Methylene Chloride	75-09-2	N.D.	2	0.84
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	0.84
10237	Tetrachloroethene	127-18-4	N.D.	1	0.84
10237	Toluene	108-88-3	N.D.	1	0.84
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	0.84
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	0.84
10237	Trichloroethene	79-01-6	N.D.	1	0.84
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.84
10237	Vinyl Chloride	75-01-4	N.D.	1	0.84
10237	Xylene (Total)	1330-20-7	N.D.	1	0.84

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. Q4	300	1
10727	Benzo(a)anthracene	56-55-3	N.D.	4	1
10727	Benzo(a)pyrene	50-32-8	N.D. Q4	4	1
10727	Benzo(b)fluoranthene	205-99-2	N.D.	4	1
10727	Benzo(g,h,i)perylene	191-24-2	N.D. Q4	4	1
10727	Benzo(k)fluoranthene	207-08-9	N.D.	4	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D. Q4	20	1
10727	Butylbenzylphthalate	85-68-7	N.D.	80	1
10727	Di-n-butylphthalate	84-74-2	N.D.	80	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	20	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	20	1

Sample Description: TP-2 4.5' Grab Soil
1020 Manor Street

LL Sample # SW 9087762
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:55 by JS

Rettew Associates

Submitted: 07/05/2017 17:20

3020 Columbia Avenue

Reported: 07/19/2017 14:10

Lancaster PA 17603-4011

TP245

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-Chloroethyl) ether	111-44-4	N.D.	20	1
10727	bis(2-Chloroisopropyl) ether	39638-32-9	N.D.	20	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.	20	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	20	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.	20	1
10727	1,3-Dichlorobenzene	541-73-1	N.D.	20	1
10727	1,4-Dichlorobenzene	106-46-7	N.D.	20	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	120	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	20	1
10727	Diethylphthalate	84-66-2	N.D.	80	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	20	1
10727	Dimethylphthalate	131-11-3	N.D.	80	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	200	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	360	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	80	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	20	1
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	20	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	80	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.	20	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q4	200	1
10727	Hexachloroethane	67-72-1	N.D.	40	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	4	1
10727	Isophorone	78-59-1	N.D.	20	1
10727	Naphthalene	91-20-3	N.D.	4	1
10727	Nitrobenzene	98-95-3	N.D.	20	1
10727	2-Nitrophenol	88-75-5	N.D.	20	1
10727	4-Nitrophenol	100-02-7	N.D.	200	1
10727	N-Nitrosodimethylamine	62-75-9	N.D.	80	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	20	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	20	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.	80	1
10727	Pentachlorophenol	87-86-5	N.D.	40	1
10727	Phenanthrene	85-01-8	N.D.	4	1
10727	Phenol	108-95-2	23 J	20	1
10727	Pyrene	129-00-0	N.D.	4	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	20	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	20	1

Sample Description: TP-2 4.5' Grab Soil
1020 Manor Street

LL Sample # SW 9087762
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:55 by JS

Rettew Associates

Submitted: 07/05/2017 17:20

3020 Columbia Avenue

Reported: 07/19/2017 14:10

Lancaster PA 17603-4011

TP245

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Herbicides					
		SW-846 8151A	ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D. Q4	15	1
10401	Dalapon	75-99-0	N.D. Q4	53	1
10401	2,4-DB	94-82-6	N.D. V Q4	10	1
10401	Dicamba	1918-00-9	N.D. Q4	4.8	1
10401	Dinoseb	88-85-7	N.D. Q4Q9	11	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					
10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	11	1
10401	MCPA	94-74-6	N.D. Q4	920	1
10401	MCPP (Mecoprop)	93-65-2	N.D. Q4	910	1
10401	Pentachlorophenol	87-86-5	N.D.	0.40	1
10401	2,4,5-T	93-76-5	N.D. Q4	0.99	1
10401	2,4,5-TP	93-72-1	N.D.	0.91	1
Reporting limits were raised due to interference from the sample matrix.					
Pesticides/PCBs					
		SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D.	0.20	1
10738	Alpha BHC	319-84-6	N.D.	0.20	1
10738	Beta BHC	319-85-7	N.D.	0.36	1
10738	Gamma BHC - Lindane	58-89-9	N.D.	0.20	1
10738	Chlordane	57-74-9	N.D.	4.8	1
10738	p,p-DDD	72-54-8	N.D.	0.40	1
10738	p,p-DDE	72-55-9	N.D.	0.40	1
10738	p,p-DDT	50-29-3	N.D.	0.42	1
10738	Delta BHC	319-86-8	N.D.	0.54	1
10738	Dieldrin	60-57-1	N.D.	0.40	1
10738	Endosulfan I	959-98-8	N.D.	0.26	1
10738	Endosulfan II	33213-65-9	N.D.	0.40	1
10738	Endosulfan Sulfate	1031-07-8	N.D.	0.40	1
10738	Endrin	72-20-8	N.D.	0.40	1
10738	Endrin Aldehyde	7421-93-4	N.D. Q4	0.40	1
10738	Heptachlor	76-44-8	N.D.	0.20	1
10738	Heptachlor Epoxide	1024-57-3	N.D.	0.20	1
10738	Methoxychlor	72-43-5	N.D.	2.0	1
10738	Toxaphene	8001-35-2	N.D.	17	1
Pesticides/PCBs					
		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	4.3	1
10736	PCB-1221	11104-28-2	N.D.	5.5	1
10736	PCB-1232	11141-16-5	N.D.	9.6	1
10736	PCB-1242	53469-21-9	N.D.	4.0	1
10736	PCB-1248	12672-29-6	N.D.	4.0	1
10736	PCB-1254	11097-69-1	N.D.	4.0	1
10736	PCB-1260	11096-82-5	N.D. Q4	5.9	1
Metals					
		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	1.68 J Q8Q9	0.966	1
06935	Arsenic	7440-38-2	12.1 Q8	1.07	1
06947	Beryllium	7440-41-7	0.894 Q8	0.0877	1

Sample Description: TP-2 4.5' Grab Soil
1020 Manor Street

LL Sample # SW 9087762
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:55 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP245

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals		SW-846 6010B	mg/kg	mg/kg	
06949	Cadmium	7440-43-9	0.113 J Q9	0.0600	1
06951	Chromium	7440-47-3	16.2 Q4	0.189	1
06953	Copper	7440-50-8	27.4 BQ4Q8	0.267	1
06955	Lead	7439-92-1	18.2 Q4Q8	0.666	1
06961	Nickel	7440-02-0	22.3 Q4Q9	0.167	1
06936	Selenium	7782-49-2	N.D. Q8	1.03	1
06966	Silver	7440-22-4	N.D.	0.267	1
06925	Thallium	7440-28-0	2.15 J Q8	1.52	1
06972	Zinc	7440-66-6	65.4 BQ4Q9	0.267	1
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0159 J	0.0115	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	17.4	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171901AA	07/09/2017 22:28	Stephen C Nolte	0.84
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201718846085	07/05/2017 08:55	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201718846085	07/05/2017 08:55	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201718846085	07/05/2017 08:55	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17192SLM026	07/14/2017 22:03	William H Saadeh	1
10809	BNA Soil Microwave	SW-846 3546	1	17192SLM026	07/12/2017 07:00	Joshua S Ruth	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171930038A	07/13/2017 23:49	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171870040A	07/12/2017 13:31	Andrea L Jones	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	171910014A	07/12/2017 02:12	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171910014A	07/10/2017 23:00	Samantha M Metzgar	1

Sample Description: TP-2 4.5' Grab Soil
1020 Manor Street

LL Sample # SW 9087762
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:55 by JS

Rettew Associates

Submitted: 07/05/2017 17:20

3020 Columbia Avenue

Reported: 07/19/2017 14:10

Lancaster PA 17603-4011

TP245

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	171870040A	07/07/2017 07:15	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	171930038A	07/13/2017 08:00	David S Schrum	1
06944	Antimony	SW-846 6010B	1	171920570801	07/14/2017 03:25	Scott R Yanos	1
06935	Arsenic	SW-846 6010B	1	171920570801	07/14/2017 03:25	Scott R Yanos	1
06947	Beryllium	SW-846 6010B	1	171920570801	07/12/2017 05:51	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	171920570801	07/14/2017 03:25	Scott R Yanos	1
06951	Chromium	SW-846 6010B	1	171920570801	07/12/2017 05:51	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	171920570801	07/12/2017 05:51	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	171920570801	07/14/2017 03:25	Scott R Yanos	1
06961	Nickel	SW-846 6010B	1	171920570801	07/14/2017 03:25	Scott R Yanos	1
06936	Selenium	SW-846 6010B	1	171920570801	07/14/2017 03:25	Scott R Yanos	1
06966	Silver	SW-846 6010B	1	171920570801	07/12/2017 05:51	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	171920570801	07/14/2017 03:25	Scott R Yanos	1
06972	Zinc	SW-846 6010B	1	171920570801	07/14/2017 03:25	Scott R Yanos	1
00159	Mercury	SW-846 7471A	1	171910571101	07/11/2017 17:44	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171920570801	07/11/2017 15:55	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171910571101	07/10/2017 17:55	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	3	17195820005A	07/14/2017 21:07	Scott W Freisher	1

Sample Description: TP-2 2' Grab Soil
1020 Manor Street

LL Sample # SW 9087763
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:45 by JS

Rettew Associates

Submitted: 07/05/2017 17:20

3020 Columbia Avenue

Reported: 07/19/2017 14:10

Lancaster PA 17603-4011

TP2-2

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.	21	1.02
10237	Acrylonitrile	107-13-1	N.D.	4	1.02
10237	Benzene	71-43-2	2 J	0.5	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.	2	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.	2	1.02
10237	Chloroform	67-66-3	N.D.	1	1.02
10237	Chloromethane	74-87-3	N.D.	2	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.	2	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	2 J	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.	2	1.02
10237	Vinyl Chloride	75-01-4	N.D.	1	1.02
10237	Xylene (Total)	1330-20-7	N.D.	1	1.02

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.

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.	3	1
10727	Acenaphthylene	208-96-8	N.D.	3	1
10727	Anthracene	120-12-7	N.D.	3	1
10727	Benzidine	92-87-5	N.D. Q4	260	1
10727	Benzo(a)anthracene	56-55-3	7 J	3	1
10727	Benzo(a)pyrene	50-32-8	N.D. Q4	3	1
10727	Benzo(b)fluoranthene	205-99-2	11 J	3	1
10727	Benzo(g,h,i)perylene	191-24-2	6 J Q4	3	1

Sample Description: TP-2 2' Grab Soil
1020 Manor Street

LL Sample # SW 9087763
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:45 by JS

Rettew Associates

Submitted: 07/05/2017 17:20

3020 Columbia Avenue

Reported: 07/19/2017 14:10

Lancaster PA 17603-4011

TP2-2

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	Benzo(k) Fluoranthene	207-08-9	N.D.	3	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D. Q4	17	1
10727	Butylbenzylphthalate	85-68-7	N.D.	69	1
10727	Di-n-butylphthalate	84-74-2	N.D.	69	1
10727	4-Chloro-3-methylphenol	59-50-7	N.D.	17	1
10727	bis(2-Chloroethoxy)methane	111-91-1	N.D.	17	1
10727	bis(2-Chloroethyl) ether	111-44-4	N.D.	17	1
10727	bis(2-Chloroisopropyl) ether	39638-32-9	N.D.	17	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.	7	1
10727	2-Chlorophenol	95-57-8	N.D.	17	1
10727	4-Chlorophenyl-phenylether	7005-72-3	N.D.	17	1
10727	Chrysene	218-01-9	13 J	3	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	3	1
10727	1,2-Dichlorobenzene	95-50-1	N.D.	17	1
10727	1,3-Dichlorobenzene	541-73-1	N.D.	17	1
10727	1,4-Dichlorobenzene	106-46-7	N.D.	17	1
10727	3,3'-Dichlorobenzidine	91-94-1	N.D.	100	1
10727	2,4-Dichlorophenol	120-83-2	N.D.	17	1
10727	Diethylphthalate	84-66-2	N.D.	69	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	17	1
10727	Dimethylphthalate	131-11-3	N.D.	69	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	170	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	310	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	69	1
10727	2,6-Dinitrotoluene	606-20-2	N.D.	17	1
10727	1,2-Diphenylhydrazine	122-66-7	N.D.	17	1
10727	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	69	1
10727	Fluoranthene	206-44-0	13 J	3	1
10727	Fluorene	86-73-7	N.D.	3	1
10727	Hexachlorobenzene	118-74-1	N.D.	3	1
10727	Hexachlorobutadiene	87-68-3	N.D.	17	1
10727	Hexachlorocyclopentadiene	77-47-4	N.D. Q4	170	1
10727	Hexachloroethane	67-72-1	N.D.	34	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	3	1
10727	Isophorone	78-59-1	N.D.	17	1
10727	Naphthalene	91-20-3	36	3	1
10727	Nitrobenzene	98-95-3	N.D.	17	1
10727	2-Nitrophenol	88-75-5	N.D.	17	1
10727	4-Nitrophenol	100-02-7	N.D.	170	1
10727	N-Nitrosodimethylamine	62-75-9	N.D.	69	1
10727	N-Nitroso-di-n-propylamine	621-64-7	N.D.	17	1
10727	N-Nitrosodiphenylamine	86-30-6	N.D.	17	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.	69	1

Sample Description: TP-2 2' Grab Soil
1020 Manor Street

LL Sample # SW 9087763
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:45 by JS

Rettew Associates

3020 Columbia Avenue

Submitted: 07/05/2017 17:20

Lancaster PA 17603-4011

Reported: 07/19/2017 14:10

TP2-2

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	Pentachlorophenol	87-86-5	N.D.	34	1
10727	Phenanthrene	85-01-8	47	3	1
10727	Phenol	108-95-2	19 J	17	1
10727	Pyrene	129-00-0	11 J	3	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	17	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	17	1

Herbicides		SW-846 8151A	ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D. Q4	12	1
10401	Dalapon	75-99-0	52 JP Q4	45	1
10401	2,4-DB	94-82-6	18 Q4	6.3	1
10401	Dicamba	1918-00-9	N.D. Q4	4.1	1
10401	Dinoseb	88-85-7	N.D. Q4Q9	9.2	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					

10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	9.2	1
10401	MCPA	94-74-6	N.D. Q4	780	1
10401	MCPP (Mecoprop)	93-65-2	N.D. Q4	770	1
10401	Pentachlorophenol	87-86-5	N.D.	0.34	1
10401	2,4,5-T	93-76-5	N.D. Q4	0.84	1
10401	2,4,5-TP	93-72-1	N.D.	0.77	1

Pesticides/PCBs		SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D.	0.17	1
10738	Alpha BHC	319-84-6	N.D.	0.17	1
10738	Beta BHC	319-85-7	N.D.	0.31	1
10738	Gamma BHC - Lindane	58-89-9	N.D.	0.17	1
10738	Chlordane	57-74-9	N.D.	4.1	1
10738	p,p-DDD	72-54-8	1.3 J	0.34	1
10738	p,p-DDE	72-55-9	N.D.	0.34	1
10738	p,p-DDT	50-29-3	0.56 J	0.36	1
10738	Delta BHC	319-86-8	N.D.	0.46	1
10738	Dieldrin	60-57-1	0.67 JP	0.34	1
10738	Endosulfan I	959-98-8	N.D.	0.23	1
10738	Endosulfan II	33213-65-9	N.D.	0.34	1
10738	Endosulfan Sulfate	1031-07-8	N.D. V	0.60	1
10738	Endrin	72-20-8	N.D.	0.34	1
10738	Endrin Aldehyde	7421-93-4	0.35 JP Q4	0.34	1
10738	Heptachlor	76-44-8	N.D.	0.17	1
10738	Heptachlor Epoxide	1024-57-3	N.D.	0.17	1
10738	Methoxychlor	72-43-5	N.D.	1.7	1
10738	Toxaphene	8001-35-2	N.D.	14	1
Reporting limits were raised due to interference from the sample matrix.					

Pesticides/PCBs		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	3.7	1
10736	PCB-1221	11104-28-2	N.D.	4.7	1
10736	PCB-1232	11141-16-5	N.D.	8.2	1
10736	PCB-1242	53469-21-9	N.D.	3.4	1

Sample Description: TP-2 2' Grab Soil
1020 Manor Street

LL Sample # SW 9087763
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:45 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP2-2

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1248	12672-29-6	N.D.	3.4	1
10736	PCB-1254	11097-69-1	N.D.	3.4	1
10736	PCB-1260	11096-82-5	N.D. Q4	5.0	1
Metals		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	1.18 J Q8Q9	0.883	1
06935	Arsenic	7440-38-2	1.49 J Q8	0.974	1
06947	Beryllium	7440-41-7	0.527 Q8	0.0802	1
06949	Cadmium	7440-43-9	0.103 J Q9	0.0548	1
06951	Chromium	7440-47-3	21.1 Q4	0.173	1
06953	Copper	7440-50-8	17.3 BQ4Q8	0.244	1
06955	Lead	7439-92-1	5.78 Q4Q8	0.609	1
06961	Nickel	7440-02-0	7.59 Q4Q9	0.152	1
06936	Selenium	7782-49-2	1.21 J Q8	0.944	1
06966	Silver	7440-22-4	N.D.	0.244	1
06925	Thallium	7440-28-0	1.94 J Q8	1.39	1
06972	Zinc	7440-66-6	15.9 BQ4Q9	0.244	1
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	N.D.	0.0099	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	3.4	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.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171901AA	07/09/2017 22:52	Stephen C Nolte	1.02
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201718846085	07/05/2017 08:45	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201718846085	07/05/2017 08:45	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201718846085	07/05/2017 08:45	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17192SLM026	07/14/2017 22:28	William H Saadeh	1

Sample Description: TP-2 2' Grab Soil
1020 Manor Street

LL Sample # SW 9087763
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:45 by JS

Rettew Associates

3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP2-2

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	17192SLM026	07/12/2017	07:00	Joshua S Ruth	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171930038A	07/14/2017	01:28	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171870040A	07/12/2017	13:45	Andrea L Jones	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	171910014A	07/12/2017	02:23	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171910014A	07/10/2017	23:00	Samantha M Metzgar	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	171870040A	07/07/2017	07:15	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	171930038A	07/13/2017	08:00	David S Schrum	1
06944	Antimony	SW-846 6010B	1	171920570801	07/14/2017	03:34	Scott R Yanos	1
06935	Arsenic	SW-846 6010B	1	171920570801	07/14/2017	03:34	Scott R Yanos	1
06947	Beryllium	SW-846 6010B	1	171920570801	07/12/2017	06:00	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	171920570801	07/14/2017	03:34	Scott R Yanos	1
06951	Chromium	SW-846 6010B	1	171920570801	07/12/2017	06:00	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	171920570801	07/12/2017	06:00	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	171920570801	07/14/2017	03:34	Scott R Yanos	1
06961	Nickel	SW-846 6010B	1	171920570801	07/14/2017	03:34	Scott R Yanos	1
06936	Selenium	SW-846 6010B	1	171920570801	07/14/2017	03:34	Scott R Yanos	1
06966	Silver	SW-846 6010B	1	171920570801	07/12/2017	06:00	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	171920570801	07/14/2017	03:34	Scott R Yanos	1
06972	Zinc	SW-846 6010B	1	171920570801	07/14/2017	03:34	Scott R Yanos	1
00159	Mercury	SW-846 7471A	1	171910571102	07/11/2017	17:49	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171920570801	07/11/2017	15:55	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171910571102	07/11/2017	03:20	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	3	17195820005A	07/14/2017	21:07	Scott W Freisher	1

Sample Description: TP-2 2' Grab Soil
SPLP NVE
1020 Manor Street

LL Sample # TL 9087764
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 08:45 by JS

Retnew Associates

Submitted: 07/05/2017 17:20

3020 Columbia Avenue

Reported: 07/19/2017 14:10

Lancaster PA 17603-4011

TP22N

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals		SW-846 6010B	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0096	1
07046	Barium	7440-39-3	0.0078 B	0.00085	1
07049	Cadmium	7440-43-9	N.D.	0.0018	1
07051	Chromium	7440-47-3	N.D.	0.0033	1
07055	Lead	7439-92-1	N.D.	0.0060	1
07036	Selenium	7782-49-2	N.D.	0.0093	1
07066	Silver	7440-22-4	N.D. Q4	0.0024	1
		SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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
07035	Arsenic	SW-846 6010B	1	171910570503	07/11/2017 21:02	Cindy M Gehman	1
07046	Barium	SW-846 6010B	1	171910570503	07/11/2017 21:02	Cindy M Gehman	1
07049	Cadmium	SW-846 6010B	1	171910570503	07/11/2017 21:02	Cindy M Gehman	1
07051	Chromium	SW-846 6010B	1	171910570503	07/11/2017 21:02	Cindy M Gehman	1
07055	Lead	SW-846 6010B	1	171910570503	07/11/2017 21:02	Cindy M Gehman	1
07036	Selenium	SW-846 6010B	1	171910570503	07/11/2017 21:02	Cindy M Gehman	1
07066	Silver	SW-846 6010B	1	171910570503	07/11/2017 21:02	Cindy M Gehman	1
00259	Mercury	SW-846 7470A	1	171910571303	07/11/2017 07:56	Damary Valentin	1
05705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171910570503	07/10/2017 22:00	Annamaria Kuhns	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	171910571303	07/11/2017 00:30	Annamaria Kuhns	1
01567	Synthetic Precipitation Leach	SW-846 1312	1	17188-10253-1567	07/07/2017 13:28	Scarlett M Barrett	n.a.

Sample Description: TP-3 8' Grab Soil
1020 Manor Street

LL Sample # SW 9087765
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 09:45 by JS

Rettew Associates

Submitted: 07/05/2017 17:20

3020 Columbia Avenue

Reported: 07/19/2017 14:10

Lancaster PA 17603-4011

TP3-8

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.	21	0.93
10237	Acrylonitrile	107-13-1	N.D.	4	0.93
10237	Benzene	71-43-2	6	0.5	0.93
10237	Bromodichloromethane	75-27-4	N.D.	1	0.93
10237	Bromoform	75-25-2	N.D.	1	0.93
10237	Bromomethane	74-83-9	N.D.	2	0.93
10237	Carbon Tetrachloride	56-23-5	N.D.	1	0.93
10237	Chlorobenzene	108-90-7	N.D.	1	0.93
10237	Chloroethane	75-00-3	N.D.	2	0.93
10237	Chloroform	67-66-3	N.D.	1	0.93
10237	Chloromethane	74-87-3	N.D.	2	0.93
10237	Dibromochloromethane	124-48-1	N.D.	1	0.93
10237	1,1-Dichloroethane	75-34-3	N.D.	1	0.93
10237	1,2-Dichloroethane	107-06-2	N.D.	1	0.93
10237	1,1-Dichloroethene	75-35-4	N.D.	1	0.93
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	0.93
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	0.93
10237	1,2-Dichloropropane	78-87-5	N.D.	1	0.93
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	0.93
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	0.93
10237	Ethylbenzene	100-41-4	N.D.	1	0.93
10237	Methylene Chloride	75-09-2	N.D.	2	0.93
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	0.93
10237	Tetrachloroethene	127-18-4	N.D.	1	0.93
10237	Toluene	108-88-3	5 J	1	0.93
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	0.93
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	0.93
10237	Trichloroethene	79-01-6	N.D.	1	0.93
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.93
10237	Vinyl Chloride	75-01-4	N.D.	1	0.93
10237	Xylene (Total)	1330-20-7	1 J	1	0.93

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	89	4	1
10727	Acenaphthylene	208-96-8	54	4	1
10727	Anthracene	120-12-7	120	4	1
10727	Benzidine	92-87-5	N.D.	Q4	280
10727	Benzo(a)anthracene	56-55-3	88	4	1
10727	Benzo(a)pyrene	50-32-8	73	Q4	4
10727	Benzo(b)fluoranthene	205-99-2	100	4	1
10727	Benzo(g,h,i)perylene	191-24-2	34	Q4	4

Sample Description: TP-3 8' Grab Soil
1020 Manor Street

LL Sample # SW 9087765
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 09:45 by JS

Rettew Associates

Submitted: 07/05/2017 17:20

3020 Columbia Avenue

Reported: 07/19/2017 14:10

Lancaster PA 17603-4011

TP3-8

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	Benzo(k) fluoranthene	207-08-9	N.D.	4	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D. Q4	18	1
10727	Butylbenzylphthalate	85-68-7	N.D.	74	1
10727	Di-n-butylphthalate	84-74-2	100 J	74	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
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.	7	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	190	4	1
10727	Dibenz(a,h)anthracene	53-70-3	N.D.	4	1
10727	1,2-Dichlorobenzene	95-50-1	26 J	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.	74	1
10727	2,4-Dimethylphenol	105-67-9	180	18	1
10727	Dimethylphthalate	131-11-3	N.D.	74	1
10727	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	180	1
10727	2,4-Dinitrophenol	51-28-5	N.D.	330	1
10727	2,4-Dinitrotoluene	121-14-2	N.D.	74	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	840	74	1
10727	Fluoranthene	206-44-0	210	4	1
10727	Fluorene	86-73-7	200	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. Q4	180	1
10727	Hexachloroethane	67-72-1	N.D.	37	1
10727	Indeno(1,2,3-cd)pyrene	193-39-5	17 J	4	1
10727	Isophorone	78-59-1	N.D.	18	1
10727	Naphthalene	91-20-3	410	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.	74	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.	74	1

Sample Description: TP-3 8' Grab Soil
1020 Manor Street

LL Sample # SW 9087765
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 09:45 by JS

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP3-8

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	Pentachlorophenol	87-86-5	N.D.	37	1
10727	Phenanthrene	85-01-8	710	4	1
10727	Phenol	108-95-2	2,400	18	1
10727	Pyrene	129-00-0	230	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

Herbicides		SW-846 8151A	ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D. Q4	13	1
10401	Dalapon	75-99-0	N.D. Q4	49	1
10401	2,4-DB	94-82-6	N.D. Q4	6.9	1
10401	Dicamba	1918-00-9	N.D. Q4	4.4	1
10401	Dinoseb	88-85-7	N.D. Q4Q9	10	1
The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.					

10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	10	1
10401	MCPA	94-74-6	N.D. Q4	840	1
10401	MCPP (Mecoprop)	93-65-2	N.D. Q4	830	1
10401	Pentachlorophenol	87-86-5	2.9	0.37	1
10401	2,4,5-T	93-76-5	1.9 J Q4	0.91	1
10401	2,4,5-TP	93-72-1	8.1	0.83	1

Pesticides/PCBs		SW-846 8081A	ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D.	0.95	5
10738	Alpha BHC	319-84-6	N.D.	0.95	5
10738	Beta BHC	319-85-7	N.D.	1.7	5
10738	Gamma BHC - Lindane	58-89-9	7.7	0.95	5
10738	Chlordane	57-74-9	N.D.	22	5
10738	p,p-DDD	72-54-8	N.D.	1.8	5
10738	p,p-DDE	72-55-9	N.D.	1.8	5
10738	p,p-DDT	50-29-3	N.D. V	2.2	5
10738	Delta BHC	319-86-8	7.9	2.5	5
10738	Dieldrin	60-57-1	N.D.	1.8	5
10738	Endosulfan I	959-98-8	N.D.	1.2	5
10738	Endosulfan II	33213-65-9	N.D.	1.8	5
10738	Endosulfan Sulfate	1031-07-8	N.D. V	3.4	5
10738	Endrin	72-20-8	N.D.	1.8	5
10738	Endrin Aldehyde	7421-93-4	5.2 J Q4	1.8	5
10738	Heptachlor	76-44-8	N.D. V	2.2	5
10738	Heptachlor Epoxide	1024-57-3	N.D.	0.95	5
10738	Methoxychlor	72-43-5	N.D.	9.5	5
10738	Toxaphene	8001-35-2	N.D.	78	5

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

Pesticides/PCBs		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	4.0	1
10736	PCB-1221	11104-28-2	N.D.	5.1	1
10736	PCB-1232	11141-16-5	N.D.	8.8	1
10736	PCB-1242	53469-21-9	N.D.	3.6	1

Sample Description: TP-3 8' Grab Soil
1020 Manor Street

LL Sample # SW 9087765
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 09:45 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

FP3-8

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs					
	SW-846 8082		ug/kg	ug/kg	
10736	PCB-1248	12672-29-6	71	3.6	1
10736	PCB-1254	11097-69-1	38	3.6	1
10736	PCB-1260	11096-82-5	N.D. Q4	5.4	1
Metals					
	SW-846 6010B		mg/kg	mg/kg	
06944	Antimony	7440-36-0	2.78 Q8Q9	0.926	1
06935	Arsenic	7440-38-2	4.34 Q8	1.02	1
06947	Beryllium	7440-41-7	0.663 Q8	0.0841	1
06949	Cadmium	7440-43-9	0.686 Q9	0.0575	1
06951	Chromium	7440-47-3	143 Q4	0.181	1
06953	Copper	7440-50-8	206 BQ4Q8	0.255	1
06955	Lead	7439-92-1	96.8 Q4Q8	0.638	1
06961	Nickel	7440-02-0	29.4 Q4Q9	0.160	1
06936	Selenium	7782-49-2	2.49 Q8	0.990	1
06966	Silver	7440-22-4	N.D.	0.255	1
06925	Thallium	7440-28-0	7.39 Q8	1.46	1
06972	Zinc	7440-66-6	2,160 BQ4Q9	1.28	5
	SW-846 7471A		mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0369 J	0.0108	1
Wet Chemistry					
	SM 2540 G-1997		%	%	
00111	Moisture	n.a.	10.5	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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

Lab No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
0237	PPL/TCL Volatiles in Soil	SW-846 8260B	1	X171901AA	07/09/2017 23:15	Stephen C Nolte	0.93
2392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201718846085	07/05/2017 09:45	Client Supplied	1
2392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201718846085	07/05/2017 09:45	Client Supplied	1
7579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201718846085	07/05/2017 09:45	Client Supplied	1
0727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17192SLM026	07/14/2017 22:52	William H Saadeh	1

Sample Description: TP-3 8' Grab Soil
1020 Manor Street

LL Sample # SW 9087765
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 09:45 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP3-8

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	17192570801	07/12/2017 07:00	Joshua S Ruth	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171930038A	07/14/2017 02:01	Heather M Miller	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171930038A	07/17/2017 17:58	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171870040A	07/12/2017 22:40	Andrea L Jones	5
10736	PCBs in Soil (microwave)	SW-846 8082	1	171910014A	07/12/2017 02:35	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171910014A	07/10/2017 23:00	Samantha M Metzgar	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	171870040A	07/07/2017 07:15	Joshua S Ruth	1
14181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	171930038A	07/13/2017 08:00	David S Schrum	1
16944	Antimony	SW-846 6010B	1	171920570801	07/14/2017 03:38	Scott R Yanos	1
16935	Arsenic	SW-846 6010B	1	171920570801	07/14/2017 03:38	Scott R Yanos	1
16947	Beryllium	SW-846 6010B	1	171920570801	07/12/2017 06:03	Jonathan J Allen	1
16949	Cadmium	SW-846 6010B	1	171920570801	07/14/2017 03:38	Scott R Yanos	1
16951	Chromium	SW-846 6010B	1	171920570801	07/12/2017 06:03	Jonathan J Allen	1
16953	Copper	SW-846 6010B	1	171920570801	07/12/2017 06:03	Jonathan J Allen	1
16955	Lead	SW-846 6010B	1	171920570801	07/14/2017 03:38	Scott R Yanos	1
16961	Nickel	SW-846 6010B	1	171920570801	07/14/2017 03:38	Scott R Yanos	1
16936	Selenium	SW-846 6010B	1	171920570801	07/14/2017 03:38	Scott R Yanos	1
16966	Silver	SW-846 6010B	1	171920570801	07/12/2017 06:03	Jonathan J Allen	1
16925	Thallium	SW-846 6010B	1	171920570801	07/14/2017 03:38	Scott R Yanos	1
16972	Zinc	SW-846 6010B	1	171920570801	07/14/2017 03:41	Scott R Yanos	5
10159	Mercury	SW-846 7471A	1	171910571102	07/11/2017 17:51	Damary Valentin	1
15708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171920570801	07/11/2017 15:55	JoElla L Rice	1
15711	Hg-SW, 7471A - U3	SW-846 7471A	1	171910571102	07/11/2017 03:20	Denise L Trimby	1
10111	Moisture	SM 2540 G-1997	3	17195820005A	07/14/2017 21:07	Scott W Freisher	1

Sample Description: TP-3 8' Grab Soil
SPLP NVE
1020 Manor Street

LL Sample # TL 9087766
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 09:45 by JS

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP38N

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals				mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0096	1
07046	Barium	7440-39-3	0.0192 B	0.00085	1
07049	Cadmium	7440-43-9	N.D.	0.0018	1
07051	Chromium	7440-47-3	N.D.	0.0033	1
07055	Lead	7439-92-1	N.D.	0.0060	1
07036	Selenium	7782-49-2	N.D.	0.0093	1
07066	Silver	7440-22-4	N.D. Q4	0.0024	1
SW-846 6010B				mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	1
SW-846 7470A				mg/l	

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

Lab No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
7035	Arsenic	SW-846 6010B	1	171910570503	07/11/2017 21:06	Cindy M Gehman	1
7046	Barium	SW-846 6010B	1	171910570503	07/11/2017 21:06	Cindy M Gehman	1
7049	Cadmium	SW-846 6010B	1	171910570503	07/11/2017 21:06	Cindy M Gehman	1
7051	Chromium	SW-846 6010B	1	171910570503	07/11/2017 21:06	Cindy M Gehman	1
7055	Lead	SW-846 6010B	1	171910570503	07/11/2017 21:06	Cindy M Gehman	1
7036	Selenium	SW-846 6010B	1	171910570503	07/11/2017 21:06	Cindy M Gehman	1
7066	Silver	SW-846 6010B	1	171910570503	07/11/2017 21:06	Cindy M Gehman	1
0259	Mercury	SW-846 7470A	1	171910571303	07/11/2017 07:59	Damary Valentin	1
5705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171910570503	07/10/2017 22:00	Annamaria Kuhns	1
5713	WW SW846 Hg Digest	SW-846 7470A	1	171910571303	07/11/2017 00:30	Annamaria Kuhns	1
1567	Synthetic Precipitation Leach	SW-846 1312	1	17188-10253-15 67	07/07/2017 13:28	Scarlett M Barrett	n.a.

Sample Description: TP-4 6' Grab Soil
1020 Manor Street

LL Sample # SW 9087767
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 10:25 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP4-6

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.	21	0.99
10237	Acrylonitrile	107-13-1	N.D.	4	0.99
10237	Benzene	71-43-2	1 J	0.5	0.99
10237	Bromodichloromethane	75-27-4	N.D.	1	0.99
10237	Bromoform	75-25-2	N.D.	1	0.99
10237	Bromomethane	74-83-9	N.D.	2	0.99
10237	Carbon Tetrachloride	56-23-5	N.D.	1	0.99
10237	Chlorobenzene	108-90-7	N.D.	1	0.99
10237	Chloroethane	75-00-3	N.D.	2	0.99
10237	Chloroform	67-66-3	N.D.	1	0.99
10237	Chloromethane	74-87-3	N.D.	2	0.99
10237	Dibromochloromethane	124-48-1	N.D.	1	0.99
10237	1,1-Dichloroethane	75-34-3	N.D.	1	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	1	0.99
10237	1,1-Dichloroethene	75-35-4	N.D.	1	0.99
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	0.99
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	0.99
10237	1,2-Dichloropropane	78-87-5	N.D.	1	0.99
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	1	0.99
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	1	0.99
10237	Ethylbenzene	100-41-4	N.D.	1	0.99
10237	Methylene Chloride	75-09-2	N.D.	2	0.99
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	1	0.99
10237	Tetrachloroethene	127-18-4	N.D.	1	0.99
10237	Toluene	108-88-3	N.D.	1	0.99
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	0.99
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	0.99
10237	Trichloroethene	79-01-6	N.D.	1	0.99
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.99
10237	Vinyl Chloride	75-01-4	N.D.	1	0.99
10237	Xylene (Total)	1330-20-7	N.D.	1	0.99

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	9 J	4	1
10727	Benzidine	92-87-5	N.D. Q4	270	1
10727	Benzo (a) anthracene	56-55-3	19	4	1
10727	Benzo (a) pyrene	50-32-8	11 J Q4	4	1
10727	Benzo (b) fluoranthene	205-99-2	19	4	1
10727	Benzo (g,h,i) perylene	191-24-2	8 J Q4	4	1
10727	Benzo (k) fluoranthene	207-08-9	6 J	4	1
10727	4-Bromophenyl-phenylether	101-55-3	N.D. Q4	18	1
10727	Butylbenzylphthalate	85-68-7	N.D.	71	1
10727	Di-n-butylphthalate	84-74-2	N.D.	71	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

Sample Description: TP-4 6' Grab Soil
1020 Manor Street

LL Sample # SW 9087767
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 10:25 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP4-6

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-Chloroethyl)ether	111-44-4	N.D.	18	1
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.	7	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	31	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.	71	1
10727	2,4-Dimethylphenol	105-67-9	N.D.	18	1
10727	Dimethylphthalate	131-11-3	N.D.	71	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.	71	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.	71	1
10727	Fluoranthene	206-44-0	36	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	110	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.	71	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.	71	1
10727	Pentachlorophenol	87-86-5	N.D.	36	1
10727	Phenanthrene	85-01-8	100	4	1
10727	Phenol	108-95-2	30	18	1
10727	Pyrene	129-00-0	28	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

Sample Description: TP-4 8' Grab Soil
1020 Manor Street

LL Sample # SW 9087769
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 10:20 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP4-8

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1242	53469-21-9	N.D.	4.3	1
10736	PCB-1248	12672-29-6	N.D.	4.3	1
10736	PCB-1254	11097-69-1	N.D.	4.3	1
10736	PCB-1260	11096-82-5	N.D. Q4	6.4	1
Metals		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	N.D. Q8Q9	5.31	5
06935	Arsenic	7440-38-2	N.D. Q8	5.86	5
06947	Beryllium	7440-41-7	1.45 J Q8	0.483	5
06949	Cadmium	7440-43-9	N.D. Q9	0.330	5
06951	Chromium	7440-47-3	17.8 Q4	1.04	5
06953	Copper	7440-50-8	19.9 BQ4Q8	1.47	5
06955	Lead	7439-92-1	17.3 Q4Q8	3.67	5
06961	Nickel	7440-02-0	21.1 Q4Q9	0.916	5
06936	Selenium	7782-49-2	N.D. Q8	5.68	5
06966	Silver	7440-22-4	N.D.	1.47	5
06925	Thallium	7440-28-0	N.D. Q8	8.37	5
Reporting limits for metals were raised due to interference from the sample matrix.					
06972	Zinc	7440-66-6	69.7 BQ4Q9	1.47	5
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0300 J	0.0131	1
Vet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	23.5	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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

AT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
0237	PPL/TCL Volatiles in Soil	SW-846 8260B	1	X171921AA	07/11/2017 12:09	Jennifer K Howe	0.91
2392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201718846085	07/05/2017 10:20	Client Supplied	1
2392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201718846085	07/05/2017 10:20	Client Supplied	1

Sample Description: TP-4 8' Grab Soil
1020 Manor Street

LL Sample # SW 9087769
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 10:20 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP4-8

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201718846085	07/05/2017 10:20	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17192SLM026	07/15/2017 00:31	William H Saadeh	1
10809	BNA Soil Microwave	SW-846 3546	1	17192SLM026	07/12/2017 07:00	Joshua S Ruth	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171930038A	07/14/2017 03:07	Heather M Miller	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171930038A	07/17/2017 18:31	Heather M Miller	1
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171870040A	07/12/2017 15:18	Andrea L Jones	1
10736	PCBs in Soil (microwave)	SW-846 8082	1	171910014A	07/12/2017 02:58	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171910014A	07/10/2017 23:00	Samantha M Metzgar	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	171870040A	07/07/2017 07:15	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	171930038A	07/13/2017 08:00	David S Schrum	1
06944	Antimony	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06935	Arsenic	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06947	Beryllium	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06949	Cadmium	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06951	Chromium	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06953	Copper	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06955	Lead	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06961	Nickel	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06936	Selenium	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06966	Silver	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06925	Thallium	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
06972	Zinc	SW-846 6010B	1	171920570801	07/14/2017 03:48	Scott R Yanos	5
00159	Mercury	SW-846 7471A	1	171910571102	07/11/2017 17:56	Damary Valentin	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171920570801	07/11/2017 15:55	JoElla L Rice	1
05711	Hg-SW, 7471A - U3	SW-846 7471A	1	171910571102	07/11/2017 03:20	Denise L Trimby	1
00111	Moisture	SM 2540 G-1997	3	17195820005A	07/14/2017 21:07	Scott W Freisher	1

Sample Description: TP-4 8' Grab Soil
SPLP NVE
1020 Manor Street

LL Sample # TL 9087770
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 10:20 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP48N

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals		SW-846 6010B	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0096	1
07046	Barium	7440-39-3	0.0223 B	0.00085	1
07049	Cadmium	7440-43-9	N.D.	0.0018	1
07051	Chromium	7440-47-3	N.D.	0.0033	1
07055	Lead	7439-92-1	N.D.	0.0060	1
07036	Selenium	7782-49-2	N.D.	0.0093	1
07066	Silver	7440-22-4	N.D. Q4	0.0024	1
		SW-846 7470A	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000050	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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

AT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
7035	Arsenic	SW-846 6010B	1	171910570503	07/11/2017 21:13	Cindy M Gehman	1
7046	Barium	SW-846 6010B	1	171910570503	07/11/2017 21:13	Cindy M Gehman	1
7049	Cadmium	SW-846 6010B	1	171910570503	07/11/2017 21:13	Cindy M Gehman	1
7051	Chromium	SW-846 6010B	1	171910570503	07/11/2017 21:13	Cindy M Gehman	1
7055	Lead	SW-846 6010B	1	171910570503	07/11/2017 21:13	Cindy M Gehman	1
7036	Selenium	SW-846 6010B	1	171910570503	07/11/2017 21:13	Cindy M Gehman	1
7066	Silver	SW-846 6010B	1	171910570503	07/11/2017 21:13	Cindy M Gehman	1
0259	Mercury	SW-846 7470A	1	171910571303	07/11/2017 08:04	Damary Valentin	1
5705	ICP-WW/TL, 3010A (tot) - U3	SW-846 3010A	1	171910570503	07/10/2017 22:00	Annamaria Kuhns	1
5713	WW SW846 Hg Digest	SW-846 7470A	1	171910571303	07/11/2017 00:30	Annamaria Kuhns	1
1567	Synthetic Precipitation Leach	SW-846 1312	1	17188-10253-1567	07/07/2017 13:28	Scarlett M Barrett	n.a.

Sample Description: TP-5 8' Grab Soil
1020 Manor Street

LL Sample # SW 9087771

LL Group # 1821787

Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 10:54 by JS

Rettew Associates

3020 Columbia Avenue

Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP5-8

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.	21	0.93
10237	Acrylonitrile	107-13-1	N.D.	4	0.93
10237	Benzene	71-43-2	14	0.5	0.93
10237	Bromodichloromethane	75-27-4	N.D.	1	0.93
10237	Bromoform	75-25-2	N.D.	1	0.93
10237	Bromomethane	74-83-9	N.D.	2	0.93
10237	Carbon Tetrachloride	56-23-5	N.D.	1	0.93
10237	Chlorobenzene	108-90-7	N.D.	1	0.93
10237	Chloroethane	75-00-3	N.D.	2	0.93
10237	Chloroform	67-66-3	N.D.	1	0.93
10237	Chloromethane	74-87-3	N.D.	2	0.93
10237	Dibromochloromethane	124-48-1	N.D.	1	0.93
10237	1,1-Dichloroethane	75-34-3	N.D.	1	0.93
10237	1,2-Dichloroethane	107-06-2	N.D.	1	0.93
10237	1,1-Dichloroethene	75-35-4	N.D.	1	0.93
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	1	0.93
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	1	0.93
10237	1,2-Dichloropropane	78-87-5	N.D.	1	0.93
10237	cis-1,3-Dichloropropane	10061-01-5	N.D.	1	0.93
10237	trans-1,3-Dichloropropane	10061-02-6	N.D.	1	0.93
10237	Ethylbenzene	100-41-4	5 J	1	0.93
10237	Methylene Chloride	75-09-2	N.D.	2	0.93
10237	1,1,1,2-Tetrachloroethane	79-34-5	N.D.	1	0.93
10237	Tetrachloroethene	127-18-4	N.D.	1	0.93
10237	Toluene	108-88-3	18	1	0.93
10237	1,1,1-Trichloroethane	71-55-6	N.D.	1	0.93
10237	1,1,2-Trichloroethane	79-00-5	N.D.	1	0.93
10237	Trichloroethene	79-01-6	N.D.	1	0.93
10237	Trichlorofluoromethane	75-69-4	N.D.	2	0.93
10237	Vinyl Chloride	75-01-4	N.D.	1	0.93
10237	Xylene (Total)	1330-20-7	19	1	0.93

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.

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.

IC/MS	Semivolatiles	SW-846 8270C	ug/kg	ug/kg	
10727	Acenaphthene	83-32-9	2,000	11	1
10727	Acenaphthylene	208-96-8	76	11	1
10727	Anthracene	120-12-7	1,300	11	1
10727	Benzidine	92-87-5	N.D.	Q4 830	1
10727	Benzo(a)anthracene	56-55-3	5,400	11	1
10727	Benzo(a)pyrene	50-32-8	5,000	Q4 11	1
10727	Benzo(b)fluoranthene	205-99-2	6,300	11	1
10727	Benzo(g,h,i)perylene	191-24-2	2,800	Q4 11	1

Analysis Report

eurofins

Lancaster Laboratories
Environmental

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LL Sample # SW 9087771
LL Group # 1821787
Account # 00721

Description: TP-5 8' Grab Soil
1020 Manor Street

Site Name: 1020 Manor Street

Collected: 07/05/2017 10:54 by JS

Filtered: 07/05/2017 17:20

Reported: 07/19/2017 14:10

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Analysis Name	CAS Number	Dry Result ug/kg	Dry Method Detection Limit ug/kg	Dilution Factor
/MS Semivolatiles SW-846 8270C				
10727 Benzo(k) fluoranthene	207-08-9	2,300		1
10727 4-Bromophenyl-phenylether	101-55-3	N.D.		1
10727 Butylbenzylphthalate	85-68-7	N.D.		1
10727 Di-n-butylphthalate	84-74-2	N.D.		1
10727 4-Chloro-3-methylphenol	59-50-7	N.D.		1
10727 bis(2-Chloroethyl) ether	111-91-1	N.D.		1
10727 bis(2-Chloroisopropyl) ether	111-44-4	N.D.		1
10727 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.	39638-32-9	N.D.		1
10727 2-Chloronaphthalene	91-58-7	N.D.		1
10727 2-Chlorophenol	95-57-8	N.D.		1
10727 4-Chlorophenyl-phenylether	7005-72-3	5,300		1
10727 Chrysene	218-01-9	790		1
10727 Dibenz(a,h)anthracene	53-70-3	N.D.		1
10727 1,2-Dichlorobenzene	95-50-1	N.D.		1
10727 1,3-Dichlorobenzene	541-73-1	N.D.		1
10727 1,4-Dichlorobenzene	106-46-7	N.D.		1
10727 3,3'-Dichlorobenzidine	91-94-1	N.D.		1
10727 2,4-Dichlorophenol	120-83-2	N.D.		1
10727 Diethylphthalate	84-66-2	110		1
10727 2,4-Dimethylphenol	105-67-9	N.D.		1
10727 Dimethylphthalate	131-11-3	N.D.		1
10727 4,6-Dinitro-2-methylphenol	534-52-1	N.D.		1
10727 2,4-Dinitrophenol	51-28-5	N.D.		1
10727 2,4-Dinitrotoluene	121-14-2	N.D.		1
10727 2,6-Dinitrotoluene	606-20-2	N.D.		1
10727 1,2-Diphenylhydrazine	122-66-7	940		1
10727 bis(2-Ethylhexyl)phthalate	117-81-7	8,700		1
10727 Fluoranthene	206-44-0	750		1
10727 Fluorene	86-73-7	N.D.		1
10727 Hexachlorobenzene	118-74-1	N.D.		1
10727 Hexachlorobutadiene	87-68-3	N.D.		1
10727 Hexachlorocyclopentadiene	77-47-4	N.D.		1
10727 Hexachloroethane	67-72-1	2,700		1
10727 Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		1
10727 Isophorone	78-59-1	530		1
10727 Naphthalene	91-20-3	N.D.		1
10727 Nitrobenzene	98-95-3	N.D.		1
10727 2-Nitrophenol	88-75-5	N.D.		1
10727 4-Nitrophenol	100-02-7	N.D.		1
10727 N-Nitrosodimethylamine	62-75-9	N.D.		1
10727 N-Nitroso-di-n-propylamine	621-64-7	N.D.		1
10727 N-Nitrosodiphenylamine	86-30-6	N.D.		1
10727 N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.	117-84-0	N.D.	220	1
10727 Di-n-octylphthalate				

Sample Description: TP-5 8' Grab Soil
1020 Manor Street

LL Sample # SW 9087771
LL Group # 1821787
Account # 00721

Project Name: 1020 Manor Street

Collected: 07/05/2017 10:54 by JS

Rettew Associates
3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP5-8

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	Pentachlorophenol	87-86-5	N.D.	110	1
10727	Phenanthrene	85-01-8	5,600	11	1
10727	Phenol	108-95-2	850	56	1
10727	Pyrene	129-00-0	8,100	11	1
10727	1,2,4-Trichlorobenzene	120-82-1	N.D.	56	1
10727	2,4,6-Trichlorophenol	88-06-2	N.D.	56	1

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

Herbicides SW-846 8151A			ug/kg	ug/kg	
10401	2,4-D	94-75-7	N.D. Q4	140	10
10401	Dalapon	75-99-0	N.D. Q4	510	10
10401	2,4-DB	94-82-6	N.D. Q4	71	10
10401	Dicamba	1918-00-9	N.D. Q4	46	10
10401	Dinoseb	88-85-7	N.D. Q4Q9	100	10

The QC window for dinoseb is advisory due to the erratic performance of the analyte using this method.

10401	2,4-DP (Dichloroprop)	120-36-5	N.D.	100	10
10401	MCPA	94-74-6	N.D. Q4	8,700	10
10401	MCPP (Mecoprop)	93-65-2	N.D. Q4	8,600	10
10401	Pentachlorophenol	87-86-5	N.D.	3.8	10
10401	2,4,5-T	93-76-5	N.D. Q4	9.4	10
10401	2,4,5-TP	93-72-1	N.D.	8.6	10

Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.

Pesticides/PCBs SW-846 8081A			ug/kg	ug/kg	
10738	Aldrin	309-00-2	N.D.	1.9	10
10738	Alpha BHC	319-84-6	N.D.	1.9	10
10738	Beta BHC	319-85-7	N.D.	3.4	10
10738	Gamma BHC - Lindane	58-89-9	N.D.	3.9	20
10738	Chlordane	57-74-9	N.D.	45	10
10738	p,p-DDD	72-54-8	N.D.	3.7	10
10738	p,p-DDE	72-55-9	N.D.	3.7	10
10738	p,p-DDT	50-29-3	N.D.	4.0	10
10738	Delta BHC	319-86-8	N.D.	5.1	10
10738	Dieldrin	60-57-1	N.D.	3.7	10
10738	Endosulfan I	959-98-8	N.D.	2.5	10
10738	Endosulfan II	33213-65-9	N.D. V	7.7	10
10738	Endosulfan Sulfate	1031-07-8	N.D.	3.7	10
10738	Endrin	72-20-8	N.D.	3.7	10
10738	Endrin Aldehyde	7421-93-4	N.D. Q4	3.7	10
10738	Heptachlor	76-44-8	N.D.	1.9	10
10738	Heptachlor Epoxide	1024-57-3	N.D.	1.9	10
10738	Methoxychlor	72-43-5	N.D.	19	10
10738	Toxaphene	8001-35-2	N.D.	160	10

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

Pesticides/PCBs SW-846 8082			ug/kg	ug/kg	
10736	PCB-1016	12674-11-2	N.D.	4.1	1
10736	PCB-1221	11104-28-2	N.D.	5.2	1

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3020 Columbia Avenue
Lancaster PA 17603-4011

Submitted: 07/05/2017 17:20

Reported: 07/19/2017 14:10

TP5-8

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs		SW-846 8082	ug/kg	ug/kg	
10736	PCB-1232	11141-16-5	N.D.	9.1	1
10736	PCB-1242	53469-21-9	N.D.	3.7	1
10736	PCB-1248	12672-29-6	150	3.7	1
10736	PCB-1254	11097-69-1	92	3.7	1
10736	PCB-1260	11096-82-5	N.D. Q4	5.6	1
Metals		SW-846 6010B	mg/kg	mg/kg	
06944	Antimony	7440-36-0	1.59 J Q8Q9	0.808	1
06935	Arsenic	7440-38-2	3.85 Q8	0.892	1
06947	Beryllium	7440-41-7	0.409 J Q8	0.0734	1
06949	Cadmium	7440-43-9	0.839 Q9	0.0502	1
06951	Chromium	7440-47-3	57.9 Q4	0.158	1
06953	Copper	7440-50-8	156 BQ4Q8	0.223	1
06955	Lead	7439-92-1	58.3 Q4Q8	0.557	1
06961	Nickel	7440-02-0	31.1 Q4Q9	0.139	1
06936	Selenium	7782-49-2	1.53 J Q8	0.864	1
06966	Silver	7440-22-4	N.D.	0.223	1
06925	Thallium	7440-28-0	3.21 Q8	1.27	1
06972	Zinc	7440-66-6	429 BQ4Q9	0.223	1
		SW-846 7471A	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0581 J	0.0115	1
Wet Chemistry		SM 2540 G-1997	%	%	
00111	Moisture	n.a.	13.2	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.					

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

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	X171921AA	07/11/2017 16:01	Jennifer K Howe	0.93
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201718846085	07/05/2017 10:54	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201718846085	07/05/2017 10:54	Client Supplied	1

Sample Description: TP-5 8' Grab Soil
1020 Manor Street

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TP5-8

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201718846085	07/05/2017 10:54	Client Supplied	1
10727	PPL/TCL SVOCs in Soil	SW-846 8270C	1	17192SLM026	07/15/2017 00:55	William H Saadeh	1
10809	BNA Soil Microwave	SW-846 3546	1	17192SLM026	07/12/2017 07:00	Joshua S Ruth	1
10401	Herbicide soils 8151A Master	SW-846 8151A	1	171930038A	07/14/2017 03:40	Heather M Miller	10
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171870040A	07/12/2017 15:45	Andrea L Jones	10
10738	Pesticides in Soil (microwave)	SW-846 8081A	1	171870040A	07/12/2017 23:34	Andrea L Jones	20
10736	PCBs in Soil (microwave)	SW-846 8082	1	171910014A	07/12/2017 03:09	Jessica L Miller	1
10497	PCB Microwave Soil Extraction	SW-846 3546	1	171910014A	07/10/2017 23:00	Samantha M Metzgar	1
10496	PPL Pest. Microwave Extraction	SW-846 3546	1	171870040A	07/07/2017 07:15	Joshua S Ruth	1
04181	Herbicide Soil Extraction	SW-846 3550B/SW-846 8151A	1	171930038A	07/13/2017 08:00	David S Schrum	1
06944	Antimony	SW-846 6010B	1	171920570801	07/14/2017 03:02	Scott R Yanos	1
06935	Arsenic	SW-846 6010B	1	171920570801	07/14/2017 03:02	Scott R Yanos	1
06947	Beryllium	SW-846 6010B	1	171920570801	07/12/2017 05:28	Jonathan J Allen	1
06949	Cadmium	SW-846 6010B	1	171920570801	07/14/2017 03:02	Scott R Yanos	1
06951	Chromium	SW-846 6010B	1	171920570801	07/12/2017 05:28	Jonathan J Allen	1
06953	Copper	SW-846 6010B	1	171920570801	07/12/2017 05:28	Jonathan J Allen	1
06955	Lead	SW-846 6010B	1	171920570801	07/14/2017 03:02	Scott R Yanos	1
06961	Nickel	SW-846 6010B	1	171920570801	07/14/2017 03:02	Scott R Yanos	1
06936	Selenium	SW-846 6010B	1	171920570801	07/14/2017 03:02	Scott R Yanos	1
06966	Silver	SW-846 6010B	1	171920570801	07/12/2017 05:28	Jonathan J Allen	1
06925	Thallium	SW-846 6010B	1	171920570801	07/14/2017 03:02	Scott R Yanos	1
06972	Zinc	SW-846 6010B	1	171920570801	07/14/2017 03:02	Scott R Yanos	1
00159	Mercury	SW-846 7471A	1	171910571101	07/11/2017 17:46	Damary Valentin	1
5708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	171920570801	07/11/2017 15:55	JoElla L Rice	1
5711	Hg-SW, 7471A - U3	SW-846 7471A	1	171910571101	07/10/2017 17:55	JoElla L Rice	1
0111	Moisture	SM 2540 G-1997	3	17195820005A	07/14/2017 21:07	Scott W Freisher	1

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

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.

Method Blank

Analysis Name	Result	MDL
	ug/kg	ug/kg
Batch number: X171901AA	Sample number(s): 9087762-9087763,9087765	
Acrolein	N.D.	20
Acrylonitrile	N.D.	4
Benzene	N.D.	0.5
Bromodichloromethane	N.D.	1
Bromoform	N.D.	1
Bromomethane	N.D.	2
Carbon Tetrachloride	N.D.	1
Chlorobenzene	N.D.	1
Chloroethane	N.D.	2
Chloroform	N.D.	1
Chloromethane	N.D.	2
Dibromochloromethane	N.D.	1
1,1-Dichloroethane	N.D.	1
1,2-Dichloroethane	N.D.	1
1,1-Dichloroethene	N.D.	1
cis-1,2-Dichloroethene	N.D.	1
trans-1,2-Dichloroethene	N.D.	1
1,2-Dichloropropane	N.D.	1
cis-1,3-Dichloropropene	N.D.	1
trans-1,3-Dichloropropene	N.D.	1
Ethylbenzene	N.D.	1
Methylene Chloride	N.D.	2
1,1,2,2-Tetrachloroethane	N.D.	1
Tetrachloroethene	N.D.	1
Toluene	N.D.	1
1,1,1-Trichloroethane	N.D.	1
1,1,2-Trichloroethane	N.D.	1
Trichloroethene	N.D.	1
Trichlorofluoromethane	N.D.	2
Vinyl Chloride	N.D.	1
Xylene (Total)	N.D.	1
Batch number: X171921AA	Sample number(s): 9087760,9087767,9087769,9087771	
Acrolein	N.D.	20
Acrylonitrile	N.D.	4
Benzene	N.D.	0.5
Bromodichloromethane	N.D.	1
Bromoform	N.D.	1
Bromomethane	N.D.	2
Carbon Tetrachloride	N.D.	1
Chlorobenzene	N.D.	1

*- 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.

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Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

Method Blank (continued)

Analysis Name	Result	MDL
	ug/kg	ug/kg
Chloroethane	N.D.	2
Chloroform	N.D.	1
Chloromethane	N.D.	2
Dibromochloromethane	N.D.	1
1,1-Dichloroethane	N.D.	1
1,2-Dichloroethane	N.D.	1
1,1-Dichloroethene	N.D.	1
cis-1,2-Dichloroethene	N.D.	1
trans-1,2-Dichloroethene	N.D.	1
1,2-Dichloropropane	N.D.	1
cis-1,3-Dichloropropene	N.D.	1
trans-1,3-Dichloropropene	N.D.	1
Ethylbenzene	N.D.	1
Methylene Chloride	N.D.	2
1,1,2,2-Tetrachloroethane	N.D.	1
Tetrachloroethene	N.D.	1
Toluene	N.D.	1
1,1,1-Trichloroethane	N.D.	1
1,1,2-Trichloroethane	N.D.	1
Trichloroethene	N.D.	1
Trichlorofluoromethane	N.D.	2
Vinyl Chloride	N.D.	1
Xylene (Total)	N.D.	1
	ug/1	ug/1
Batch number: W171912AA	Sample number(s): 9087758	
Acrolein	N.D.	40
Acrylonitrile	N.D.	4
Benzene	N.D.	0.5
Bromodichloromethane	N.D.	0.5
Bromoform	N.D.	0.5
Bromomethane	N.D.	0.5
Carbon Tetrachloride	N.D.	0.5
Chlorobenzene	N.D.	0.5
Chloroethane	N.D.	0.5
2-Chloroethyl Vinyl Ether	N.D.	2
Chloroform	N.D.	0.5
Chloromethane	N.D.	0.5
Dibromochloromethane	N.D.	0.5
1,1-Dichloroethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
1,1-Dichloroethene	N.D.	0.5
cis-1,2-Dichloroethene	N.D.	0.5
trans-1,2-Dichloroethene	N.D.	0.5
1,2-Dichloropropane	N.D.	0.5
cis-1,3-Dichloropropene	N.D.	0.5
trans-1,3-Dichloropropene	N.D.	0.5
Ethylbenzene	N.D.	0.5
Methylene Chloride	N.D.	2

*- 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.

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Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
1,1,2,2-Tetrachloroethane	N.D.	0.5
Tetrachloroethene	N.D.	0.5
Toluene	N.D.	0.5
1,1,1-Trichloroethane	N.D.	0.5
1,1,2-Trichloroethane	N.D.	0.5
Trichloroethene	N.D.	0.5
Trichlorofluoromethane	N.D.	0.5
Vinyl Chloride	N.D.	0.5
Xylene (Total)	N.D.	0.5
	ug/kg	ug/kg
Batch number: 17192SLM026	Sample number(s):	9087760,9087762-9087763,9087765,9087767,9087769,9087771
Acenaphthene	N.D.	3
Acenaphthylene	N.D.	3
Anthracene	N.D.	3
Benzidine	N.D.	250
Benzo (a) anthracene	N.D.	3
Benzo (a) pyrene	N.D.	3
Benzo (b) fluoranthene	N.D.	3
Benzo (g, h, i) perylene	N.D.	3
Benzo (k) fluoranthene	N.D.	3
4-Bromophenyl-phenylether	N.D.	17
Butylbenzylphthalate	N.D.	67
Di-n-butylphthalate	N.D.	67
4-Chloro-3-methylphenol	N.D.	17
bis(2-Chloroethoxy)methane	N.D.	17
bis(2-Chloroethyl)ether	N.D.	17
bis(2-Chloroisopropyl)ether	N.D.	17
2-Chloronaphthalene	N.D.	7
2-Chlorophenol	N.D.	17
4-Chlorophenyl-phenylether	N.D.	17
Chrysene	N.D.	3
Dibenz (a, h) anthracene	N.D.	3
1,2-Dichlorobenzene	N.D.	17
1,3-Dichlorobenzene	N.D.	17
1,4-Dichlorobenzene	N.D.	17
3,3'-Dichlorobenzidine	N.D.	100
2,4-Dichlorophenol	N.D.	17
Diethylphthalate	N.D.	67
2,4-Dimethylphenol	N.D.	17
Dimethylphthalate	N.D.	67
4,6-Dinitro-2-methylphenol	N.D.	170
2,4-Dinitrophenol	N.D.	300
2,4-Dinitrotoluene	N.D.	67
2,6-Dinitrotoluene	N.D.	17
1,2-Diphenylhydrazine	N.D.	17
bis(2-Ethylhexyl)phthalate	N.D.	67
Fluoranthene	N.D.	3
Fluorene	N.D.	3

*- 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.

is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

Method Blank (continued)

Analysis Name	Result	MDL
	ug/kg	ug/kg
Hexachlorobenzene	N.D.	3
Hexachlorobutadiene	N.D.	17
Hexachlorocyclopentadiene	N.D.	170
Hexachloroethane	N.D.	33
Indeno (1,2,3-cd)pyrene	N.D.	3
Isophorone	N.D.	17
Naphthalene	N.D.	3
Nitrobenzene	N.D.	17
2-Nitrophenol	N.D.	17
4-Nitrophenol	N.D.	170
N-Nitrosodimethylamine	N.D.	67
N-Nitroso-di-n-propylamine	N.D.	17
N-Nitrosodiphenylamine	N.D.	17
Di-n-octylphthalate	N.D.	67
Pentachlorophenol	N.D.	33
Phenanthrene	N.D.	3
Phenol	N.D.	17
Pyrene	N.D.	3
1,2,4-Trichlorobenzene	N.D.	17
2,4,6-Trichlorophenol	N.D.	17
	ug/l	ug/l
Batch number: 17187WAF026	Sample number(s):	9087758
Acenaphthene	N.D.	0.1
Acenaphthylene	N.D.	0.1
Anthracene	N.D.	0.1
Benzidine	N.D.	20
Benzo (a) anthracene	N.D.	0.1
Benzo (a) pyrene	N.D.	0.1
Benzo (b) fluoranthene	N.D.	0.1
Benzo (g, h, i) perylene	N.D.	0.1
Benzo (k) fluoranthene	N.D.	0.1
4-Bromophenyl-phenylether	N.D.	0.5
Butylbenzylphthalate	N.D.	2
Di-n-butylphthalate	N.D.	2
4-Chloro-3-methylphenol	N.D.	0.5
bis (2-Chloroethoxy) methane	N.D.	0.5
bis (2-Chloroethyl) ether	N.D.	0.5
bis (2-Chloroisopropyl) ether	N.D.	0.5
2-Chloronaphthalene	N.D.	0.4
2-Chlorophenol	N.D.	0.5
4-Chlorophenyl-phenylether	N.D.	0.5
Chrysene	N.D.	0.1
Dibenz (a, h) anthracene	N.D.	0.1
1,2-Dichlorobenzene	N.D.	0.5
1,3-Dichlorobenzene	N.D.	0.5
1,4-Dichlorobenzene	N.D.	0.5
3,3'-Dichlorobenzidine	N.D.	2
2,4-Dichlorophenol	N.D.	0.5

*- Outside of specification

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Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
Diethylphthalate	N.D.	2
2,4-Dimethylphenol	N.D.	0.5
Dimethylphthalate	N.D.	2
4,6-Dinitro-2-methylphenol	N.D.	5
2,4-Dinitrophenol	N.D.	10
2,4-Dinitrotoluene	N.D.	1
2,6-Dinitrotoluene	N.D.	0.5
1,2-Diphenylhydrazine	N.D.	0.5
bis(2-Ethylhexyl) phthalate	N.D.	2
Fluoranthene	N.D.	0.1
Fluorene	N.D.	0.1
Hexachlorobenzene	N.D.	0.1
Hexachlorobutadiene	N.D.	0.5
Hexachlorocyclopentadiene	N.D.	5
Hexachloroethane	N.D.	1
Indeno (1,2,3-cd) pyrene	N.D.	0.1
Isophorone	N.D.	0.5
Naphthalene	N.D.	0.1
Nitrobenzene	N.D.	0.5
2-Nitrophenol	N.D.	0.5
4-Nitrophenol	N.D.	10
N-Nitrosodimethylamine	N.D.	2
N-Nitroso-di-n-propylamine	N.D.	0.5
N-Nitrosodiphenylamine	N.D.	0.5
Di-n-octylphthalate	N.D.	2
Pentachlorophenol	N.D.	1
Phenanthrene	N.D.	0.1
Phenol	N.D.	0.5
Pyrene	N.D.	0.1
1,2,4-Trichlorobenzene	N.D.	0.5
2,4,6-Trichlorophenol	N.D.	0.5
	ug/kg	ug/kg
Batch number: 171930038A	Sample number(s): 9087760,9087762-9087763,9087765,9087767,9087769,9087771	
2,4-D	N.D.	12
Dalapon	N.D.	44
2,4-DB	N.D.	6.2
Dicamba	N.D.	4.0
Dinoseb	N.D.	9.0
2,4-DP (Dichloroprop)	N.D.	9.0
MCPA	N.D.	760
MCPP (Mecoprop)	N.D.	750
Pentachlorophenol	N.D.	0.33
2,4,5-T	N.D.	0.82
2,4,5-TP	N.D.	0.75
	ug/l	ug/l
Batch number: 171920004A	Sample number(s): 9087758	
2,4-D	N.D.	0.16

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
Dalapon	N.D.	0.25
2,4-DB	N.D.	0.30
Dicamba	N.D.	0.080
Dinoseb	N.D.	0.12
2,4-DP (Dichlorprop)	N.D.	0.16
MCPA	N.D.	50
MCPP	N.D.	50
Pentachlorophenol	N.D.	0.027
2,4,5-T	N.D.	0.015
2,4,5-TP	N.D.	0.010
	ug/kg	ug/kg
Batch number: 171870040A	Sample number(s): 9087760,9087762-9087763,9087765,9087767,9087769,9087771	
Aldrin	N.D.	0.17
Alpha BHC	N.D.	0.17
Beta BHC	N.D.	0.30
Gamma BHC - Lindane	N.D.	0.17
Chlordane	N.D.	4.0
p,p-DDD	N.D.	0.33
p,p-DDE	N.D.	0.33
p,p-DDT	N.D.	0.35
Delta BHC	N.D.	0.45
Dieldrin	N.D.	0.33
Endosulfan I	N.D.	0.22
Endosulfan II	N.D.	0.33
Endosulfan Sulfate	N.D.	0.33
Endrin	N.D.	0.33
Endrin Aldehyde	N.D.	0.33
Heptachlor	N.D.	0.17
Heptachlor Epoxide	N.D.	0.17
Methoxychlor	N.D.	1.7
Toxaphene	N.D.	14
Batch number: 171910014A	Sample number(s): 9087760,9087762-9087763,9087765,9087767,9087769,9087771	
PCB-1016	N.D.	3.6
PCB-1221	N.D.	4.6
PCB-1232	N.D.	8.0
PCB-1242	N.D.	3.3
PCB-1248	N.D.	3.3
PCB-1254	N.D.	3.3
PCB-1260	N.D.	4.9
	ug/l	ug/l
Batch number: 171910011A	Sample number(s): 9087758	
PCB-1016	N.D.	0.080
PCB-1221	N.D.	0.080
PCB-1232	N.D.	0.16
PCB-1242	N.D.	0.080
PCB-1248	N.D.	0.080

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,2-Dichloroethane	20	22.09	20	21.97	110	110	78-127	1	30
1,1-Dichloroethene	20	21.73	20	21.24	109	106	73-129	2	30
cis-1,2-Dichloroethene	20	21.19	20	21.11	106	106	80-120	0	30
trans-1,2-Dichloroethene	20	21.86	20	21.07	109	105	80-125	4	30
1,2-Dichloropropane	20	21.45	20	21.03	107	105	76-120	2	30
cis-1,3-Dichloropropene	20	17.88	20	17.96	89	90	74-120	0	30
trans-1,3-Dichloropropene	20	18.18	20	18.24	91	91	70-120	0	30
Ethylbenzene	20	18.72	20	18.33	94	92	80-120	2	30
Methylene Chloride	20	21.5	20	21.48	108	107	76-122	0	30
1,1,2,2-Tetrachloroethane	20	17.09	20	17.66	85	88	67-121	3	30
Tetrachloroethene	20	19.22	20	18.68	96	93	74-126	3	30
Toluene	20	18.8	20	18.53	94	93	80-120	1	30
1,1,1-Trichloroethane	20	20.73	20	19.88	104	99	66-128	4	30
1,1,2-Trichloroethane	20	18.77	20	19.19	94	96	80-120	2	30
Trichloroethene	20	20.77	20	20.21	104	101	80-120	3	30
Trichlorofluoromethane	20	22.17	20	20.83	111	104	63-132	6	30
Vinyl Chloride	20	18.17	20	17.44	91	87	59-120	4	30
Xylene (Total)	60	54.77	60	53.9	91	90	80-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: W171912AA	Sample number(s): 9087758								
Acrolein	150	137.19			91		50-129		
Acrylonitrile	100	76.23			76		64-121		
Benzene	20	19.54			98		78-120		
Bromodichloromethane	20	17.63			88		80-120		
Bromoform	20	16.22			81		64-120		
Bromomethane	20	18.09			90		49-121		
Carbon Tetrachloride	20	17.85			89		76-123		
Chlorobenzene	20	20.32			102		80-120		
Chloroethane	20	17.93			90		51-121		
2-Chloroethyl Vinyl Ether	20	15.6			78		55-121		
Chloroform	20	19.12			96		80-120		
Chloromethane	20	16.97			85		57-120		
Dibromochloromethane	20	18.01			90		78-120		
1,1-Dichloroethane	20	19.64			98		80-120		
1,2-Dichloroethane	20	18.67			93		66-128		
1,1-Dichloroethene	20	20.17			101		76-124		
cis-1,2-Dichloroethene	20	20.78			104		80-120		
trans-1,2-Dichloroethene	20	20.74			104		80-120		
1,2-Dichloropropane	20	19.1			95		80-120		
cis-1,3-Dichloropropene	20	17.81			89		75-120		
trans-1,3-Dichloropropene	20	17.19			86		76-120		
Ethylbenzene	20	19.51			98		78-120		
Methylene Chloride	20	19.4			97		80-120		
1,1,2,2-Tetrachloroethane	20	18.67			93		72-120		
Tetrachloroethene	20	21.65			108		80-129		
Toluene	20	19.65			98		80-120		
1,1,1-Trichloroethane	20	18.21			91		67-120		

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/kg	LCS Conc ug/kg	LCSD Spike Added ug/kg	LCSD Conc ug/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Hexachloroethane	1666.67	1545.35			93		69-116		
Indeno(1,2,3-cd)pyrene	1666.67	1727.8			104		69-125		
Isophorone	1666.67	1652.21			99		70-118		
Naphthalene	1666.67	1654.37			99		75-113		
Nitrobenzene	1666.67	1705.76			102		70-122		
2-Nitrophenol	1666.67	1699.28			102		83-120		
4-Nitrophenol	1666.67	1583.53			95		52-133		
N-Nitrosodimethylamine	1666.67	1604.61			96		49-119		
N-Nitroso-di-n-propylamine	1666.67	1470.01			88		67-121		
N-Nitrosodiphenylamine	1666.67	1753.33			105		83-118		
Di-n-octylphthalate	1666.67	1760.12			106		80-140		
Pentachlorophenol	1666.67	1587.52			95		56-131		
Phenanthrene	1666.67	1698.21			102		74-114		
Phenol	1666.67	1547.42			93		73-122		
Pyrene	1666.67	1632.05			98		74-112		
1,2,4-Trichlorobenzene	1666.67	1693.3			102		79-114		
2,4,6-Trichlorophenol	1666.67	1856.87			111		81-123		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17187WAF026	Sample number(s): 9087758								
Acenaphthene	50	47.8	50	43.44	96	87	64-121	10	30
Acenaphthylene	50	46.83	50	42.72	94	85	63-120	9	30
Anthracene	50	47.32	50	44.55	95	89	72-120	6	30
Benzydine	250	119.2	250	108.58	48	43	23-66	9	30
Benzo(a)anthracene	50	50.32	50	46.79	101	94	74-124	7	30
Benzo(a)pyrene	50	46.89	50	45.72	94	91	71-119	3	30
Benzo(b)fluoranthene	50	47.94	50	46.8	96	94	72-124	2	30
Benzo(g,h,i)perylene	50	45.97	50	44.93	92	90	61-124	2	30
Benzo(k)fluoranthene	50	48.56	50	47.61	97	95	73-121	2	30
4-Bromophenyl-phenylether	50	47.23	50	43.14	94	86	69-123	9	30
Butylbenzylphthalate	50	52.71	50	47.69	105	95	44-129	10	30
Di-n-butylphthalate	50	49.85	50	47.35	100	95	69-117	5	30
4-Chloro-3-methylphenol	50	48.37	50	45.45	97	91	62-119	6	30
bis(2-Chloroethoxy)methane	50	52.57	50	48.23	105	96	53-126	9	30
bis(2-Chloroethyl)ether	50	46.35	50	44.54	93	89	50-111	4	30
bis(2-Chloroisopropyl)ether	50	47.78	50	45.4	96	91	48-110	5	30
2-Chloronaphthalene	50	49.05	50	43.87	98	88	56-116	11	30
2-Chlorophenol	50	43.07	50	41.64	86	83	51-106	3	30
4-Chlorophenyl-phenylether	50	43.08	50	37.35	86	75	65-117	14	30
Chrysene	50	50.26	50	45.69	101	91	75-129	10	30
Dibenz(a,h)anthracene	50	48.78	50	45.52	98	91	65-126	7	30
1,2-Dichlorobenzene	50	40.51	50	39.43	81	79	47-104	3	30
1,3-Dichlorobenzene	50	38.43	50	37.88	77	76	42-101	1	30
1,4-Dichlorobenzene	50	39.63	50	38.66	79	77	41-104	2	30
3,3'-Dichlorobenzidine	50	34.62	50	31.85	69	64	30-108	8	30
2,4-Dichlorophenol	50	43.7	50	41.5	87	83	62-112	5	30
Diethylphthalate	50	41.17	50	38.96	82	78	47-122	6	30
2,4-Dimethylphenol	50	38.45	50	35.79	77	72	40-99	7	30

*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Dimethylphthalate	50	39.12	50	36.29	78	73	10-134	7	30
4,6-Dinitro-2-methylphenol	50	46.3	50	46.2	93	92	52-129	0	30
2,4-Dinitrophenol	100	69.91	100	71.24	70	71	29-139	2	30
2,4-Dinitrotoluene	50	43.53	50	40.8	87	82	76-122	6	30
2,6-Dinitrotoluene	50	46.55	50	44.08	93	88	80-120	5	30
1,2-Diphenylhydrazine	50	55.32	50	52.38	111	105	68-130	5	30
bis(2-Ethylhexyl)phthalate	50	56.12	50	52.25	112	105	64-126	7	30
Fluoranthene	50	47.27	50	43.99	95	88	74-126	7	30
Fluorene	50	44.09	50	39.19	88	78	67-120	12	30
Hexachlorobenzene	50	44.87	50	42.86	90	86	67-125	5	30
Hexachlorobutadiene	50	38.6	50	36.87	77	74	28-110	5	30
Hexachlorocyclopentadiene	100	52.87	100	51.82	53	52	10-81	2	30
Hexachloroethane	50	36.82	50	36.07	74	72	28-103	2	30
Indeno(1,2,3-cd)pyrene	50	46.79	50	44.63	94	89	63-122	5	30
Isophorone	50	52.27	50	48.09	105	96	54-117	8	30
Naphthalene	50	44	50	41.49	88	83	54-109	6	30
Nitrobenzene	50	46.07	50	43.86	92	88	53-119	5	30
2-Nitrophenol	50	45.46	50	43.66	91	87	56-125	4	30
4-Nitrophenol	50	21.21	50	21.02	42	42	22-78	1	30
N-Nitrosodimethylamine	50	28.92	50	28.83	58	58	10-90	0	30
N-Nitroso-di-n-propylamine	50	49.94	50	46.96	100	94	52-115	6	30
N-Nitrosodiphenylamine	50	46.34	50	43.43	93	87	75-116	6	30
Di-n-octylphthalate	50	53.73	50	51.75	107	104	61-133	4	30
Pentachlorophenol	50	44.61	50	43.7	89	87	59-134	2	30
Phenanthrene	50	44.68	50	44.48	89	89	72-117	0	30
Phenol	50	24.72	50	23.51	49	47	16-74	5	30
Pyrene	50	46.04	50	43.86	92	88	69-119	5	30
1,2,4-Trichlorobenzene	50	38.79	50	37.96	78	76	48-104	2	30
2,4,6-Trichlorophenol	50	49.15	50	45.58	98	91	68-125	8	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 171930038A	Sample number(s): 9087760,9087762-9087763,9087765,9087767,9087769,9087771								
2,4-D	83.7	71.68			86		57-142		
Dalapon	209	153.06			73		23-115		
2,4-DB	83.7	83.65			100		71-146		
Dicamba	8.33	6.28			75		48-129		
Dinoseb	142	16.08			11		10-38		
2,4-DP (Dichloroprop)	83.2	66.02			79		65-143		
MCPA	8340	6038.48			72		26-118		
MCPP (Mecoprop)	8340	7146.37			86		50-122		
Pentachlorophenol	33	27.53			83		49-137		
2,4,5-T	8.33	8.62			104		59-137		
2,4,5-TP	8.33	7.63			92		65-158		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171920004A	Sample number(s): 9087758								
2,4-D	2.51	2.03	2.51	2.01	81	80	68-155	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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

LCS/LCSD (continued)

Analysis Name	LCS Spike	LCS	LCSD Spike	LCSD	LCS	LCSD	LCS/LCSD	RPD	RPD
	Added	Conc	Added	Conc	%REC	%REC	Limits		
	ug/l	ug/l	ug/l	ug/l					Max
Dalapon	6.27	2.76	6.27	2.04	44	33	27-127	30	30
2,4-DB	2.51	1.94	2.51	1.80	77	72	37-155	8	30
Dicamba	0.250	0.187	0.250	0.169	75	67	34-152	10	30
Dinoseb	4.28	2.00	4.28	2.44	47	57	16-163	19	30
2,4-DP (Dichlorprop)	2.50	2.00	2.50	2.00	80	80	72-150	0	30
MCPA	250	285.81	250	280.63	114	112	35-151	2	30
MCPP	250	201.48	250	173.84	81	70	66-116	15	30
Pentachlorophenol	0.990	0.694	0.990	0.695	70	70	37-153	0	30
2,4,5-T	0.250	0.184	0.250	0.178	74	71	70-139	3	30
2,4,5-TP	0.250	0.181	0.250	0.179	72	71	57-136	1	30
	ug/kg	ug/kg	ug/kg	ug/kg					
Batch number: 171870040A	Sample number(s): 9087760,9087762-9087763,9087765,9087767,9087769,9087771								
Aldrin	3.33	3.04			91		60-117		
Alpha BHC	3.27	3.09			94		65-124		
Beta BHC	3.27	3.49			107		68-129		
Gamma BHC - Lindane	3.27	3.38			103		47-140		
p,p-DDD	6.53	6.98			107		69-138		
p,p-DDE	6.60	6.43			97		68-146		
p,p-DDT	6.53	6.92			106		67-135		
Delta BHC	3.27	3.18			97		45-151		
Dieldrin	6.47	6.58			102		63-126		
Endosulfan I	3.27	3.09			95		62-119		
Endosulfan II	6.67	6.48			97		65-126		
Endosulfan Sulfate	6.60	6.79			103		71-132		
Endrin	6.53	6.78			104		65-125		
Endrin Aldehyde	6.60	6.57			100		59-122		
Heptachlor	3.27	3.24			99		66-118		
Heptachlor Epoxide	3.33	3.44			103		74-128		
Methoxychlor	32.8	36.53			111		65-131		
Batch number: 171910014A	Sample number(s): 9087760,9087762-9087763,9087765,9087767,9087769,9087771								
PCB-1016	167	153			92		76-121		
PCB-1260	168	157.04			93		79-130		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171910011A	Sample number(s): 9087758								
PCB-1016	5.01	4.06	5.01	4.13	81	82	60-117	2	30
PCB-1260	5.04	4.19	5.04	4.28	83	85	57-134	2	30
Batch number: 171910017A	Sample number(s): 9087758								
Aldrin	0.100	0.0880			88		28-119		
Alpha BHC	0.0980	0.0973			99		47-132		
Beta BHC	0.0980	0.105			107		56-125		
Gamma BHC - Lindane	0.0980	0.105			107		51-132		
p,p-DDD	0.196	0.206			105		42-148		
p,p-DDE	0.198	0.186			94		51-129		
p,p-DDT	0.196	0.204			104		40-145		

*. Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Delta BHC	0.0980	0.0969			99		49-140		
Dieldrin	0.194	0.197			102		54-126		
Endosulfan I	0.0980	0.0830			85		40-138		
Endosulfan II	0.200	0.182			91		54-124		
Endosulfan Sulfate	0.198	0.189			95		41-133		
Endrin	0.196	0.198			101		35-143		
Endrin Aldehyde	0.198	0.189			95		40-135		
Heptachlor	0.0980	0.0943			96		38-135		
Heptachlor Epoxide	0.100	0.0987			99		56-132		
Methoxychlor	0.984	1.02			104		39-143		

	mg/kg	mg/kg	mg/kg	mg/kg		
Batch number: 171910570802	Sample number(s): 9087760					
Antimony	50	50.08			100	80-120
Arsenic	15	14.34			96	80-120
Beryllium	5.00	4.94			99	80-120
Cadmium	5.00	5.06			101	80-120
Chromium	20	19.51			98	80-120
Copper	25	25.77			103	80-120
Lead	15	14.69			98	80-120
Nickel	50	50.98			102	80-120
Selenium	15	14.5			97	80-120
Silver	5.00	4.90			98	80-120
Thallium	15	16.99			113	80-120
Zinc	50	49.65			99	80-120

Batch number: 171910571101	Sample number(s): 9087760, 9087762, 9087771					
Mercury	0.100	0.0875			87	80-120

Batch number: 171910571102	Sample number(s): 9087763, 9087765, 9087767, 9087769					
Mercury	0.100	0.0998			100	80-120

Batch number: 171920570801	Sample number(s): 9087762-9087763, 9087765, 9087767, 9087769, 9087771					
Antimony	50	53.01			106	80-120
Arsenic	15	14.44			96	80-120
Beryllium	5.00	5.06			101	80-120
Cadmium	5.00	5.25			105	80-120
Chromium	20	19.63			98	80-120
Copper	25	25.3			101	80-120
Lead	15	15.52			103	80-120
Nickel	50	53.02			106	80-120
Selenium	15	16.41			109	80-120
Silver	5.00	4.65			93	80-120
Thallium	15	15.21			101	80-120
Zinc	50	51.76			104	80-120

	mg/l	mg/l	mg/l	mg/l		
Batch number: 171880184803	Sample number(s): 9087758					

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Antimony	0.500	0.506			101		80-120		
Arsenic	0.150	0.152			102		80-120		
Beryllium	0.0500	0.0498			100		80-120		
Cadmium	0.0500	0.0517			103		80-120		
Chromium	0.200	0.196			98		80-120		
Copper	0.250	0.259			103		80-120		
Lead	0.150	0.152			101		80-120		
Nickel	0.500	0.519			104		80-120		
Selenium	0.150	0.144			96		80-120		
Silver	0.0500	0.0508			102		80-120		
Thallium	0.150	0.178			119		80-120		
Zinc	0.500	0.500			100		80-120		
Batch number: 171880571304	Sample number(s): 9087758								
Mercury	0.00100	0.000951			95		80-120		
Batch number: 171910570501	Sample number(s): 9087759								
Arsenic	0.150	0.150			100		80-120		
Barium	2.00	2.01			100		80-120		
Cadmium	0.0500	0.0514			103		80-120		
Chromium	0.200	0.201			101		80-120		
Lead	0.150	0.158			105		80-120		
Selenium	0.150	0.157			105		80-120		
Silver	0.0500	0.0530			106		80-120		
Batch number: 171910570503	Sample number(s): 9087761,9087764,9087766,9087768,9087770								
Arsenic	0.150	0.155			103		80-120		
Barium	2.00	1.99			100		80-120		
Cadmium	0.0500	0.0505			101		80-120		
Chromium	0.200	0.199			100		80-120		
Lead	0.150	0.153			102		80-120		
Selenium	0.150	0.158			105		80-120		
Silver	0.0500	0.0520			104		80-120		
Batch number: 171910571301	Sample number(s): 9087759								
Mercury	0.00100	0.000945			94		80-120		
Batch number: 171910571303	Sample number(s): 9087761,9087764,9087766,9087768,9087770								
Mercury	0.00100	0.000920			92		80-120		
	%	%	%	%					
Batch number: 17195820005A	Sample number(s): 9087760,9087762-9087763,9087765,9087767,9087769,9087771								
Moisture	89.5	89.43			100		99-101		

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

MS/MSD

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

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: W171912AA	Sample number(s): 9087758 UNSPK: P082739									
Acrolein	N.D.	150	132.04	150	140.36	88	94	50-129	6	30
Acrylonitrile	N.D.	100	69.33	100	83.65	69	84	64-121	19	30
Benzene	N.D.	20	21.13	20	21.42	106	107	78-120	1	30
Bromodichloromethane	N.D.	20	18	20	18.21	90	91	80-120	1	30
Bromoform	N.D.	20	16.12	20	16.01	81	80	64-120	1	30
Bromomethane	N.D.	20	17.51	20	20.37	88	102	49-121	15	30
Carbon Tetrachloride	N.D.	20	20.07	20	20.19	100	101	76-123	1	30
Chlorobenzene	N.D.	20	21.43	20	21.57	107	108	80-120	1	30
Chloroethane	N.D.	20	18.33	20	21.01	92	105	51-121	14	30
2-Chloroethyl Vinyl Ether	N.D.	20	N.D.	20	N.D.	0*	0*	55-121	0	30
Chloroform	N.D.	20	20.44	20	20.47	102	102	80-120	0	30
Chloromethane	N.D.	20	17.17	20	19.41	86	97	57-120	12	30
Dibromochloromethane	N.D.	20	18.08	20	18.41	90	92	78-120	2	30
1,1-Dichloroethane	N.D.	20	21.35	20	21.43	107	107	80-120	0	30
1,2-Dichloroethane	N.D.	20	19.11	20	19.48	96	97	66-128	2	30
1,1-Dichloroethene	N.D.	20	23.45	20	23.25	117	116	76-124	1	30
cis-1,2-Dichloroethene	N.D.	20	21.93	20	22.25	110	111	80-120	1	30
trans-1,2-Dichloroethene	N.D.	20	23.09	20	22.73	115	114	80-120	2	30
1,2-Dichloropropane	N.D.	20	20.41	20	20.62	102	103	80-120	1	30
cis-1,3-Dichloropropene	N.D.	20	18.44	20	18.19	92	91	75-120	1	30
trans-1,3-Dichloropropene	N.D.	20	17.24	20	17.48	86	87	76-120	1	30
Ethylbenzene	N.D.	20	20.8	20	21.19	104	106	78-120	2	30
Methylene Chloride	N.D.	20	20.8	20	21.33	104	107	80-120	3	30
1,1,2,2-Tetrachloroethane	N.D.	20	17.99	20	18.28	90	91	72-120	2	30
Tetrachloroethene	N.D.	20	23.18	20	23.34	116	117	80-129	1	30
Toluene	N.D.	20	21.11	20	21.38	106	107	80-120	1	30
1,1,1-Trichloroethane	N.D.	20	20.06	20	20.33	100	102	67-120	1	30
1,1,2-Trichloroethane	N.D.	20	20.54	20	20.47	103	102	80-120	0	30
Trichloroethene	N.D.	20	21.57	20	21.48	108	107	80-120	0	30
Trichlorofluoromethane	N.D.	20	18.87	20	21.45	94	107	57-134	13	30
Vinyl Chloride	N.D.	20	18.21	20	21.04	91	105	63-121	14	30
Xylene (Total)	N.D.	60	63.15	60	63.52	105	106	80-120	1	30

Analysis Name	Unspiked ug/kg	MS Spike ug/kg	MS ug/kg	MSD Spike ug/kg	MSD ug/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17192SLM026	Sample number(s): 9087760,9087762-9087763,9087765,9087767,9087769,9087771 UNSPK: 9087767									
Acenaphthene	N.D.	1656.18	1680.84	1651.8	1645.57	101	100	83-116	2	30
Acenaphthylene	N.D.	1656.18	1638.4	1651.8	1641.91	99	99	83-119	0	30
Anthracene	7.94	1656.18	1764.85	1651.8	1628.43	106	98	82-118	8	30
Benzidine	N.D.	8280.89	N.D.	8259	N.D.	0*	0*	17-105	0	30
Benzo(a)anthracene	17.99	1656.18	1476.45	1651.8	1488.7	88	89	76-119	1	30
Benzo(a)pyrene	9.96	1656.18	1117.01	1651.8	1153.33	67*	69*	78-117	3	30
Benzo(b)fluoranthene	17.95	1656.18	1326.78	1651.8	1378.34	79	82	79-121	4	30
Benzo(g,h,i)perylene	7.76	1656.18	1034.94	1651.8	1080.45	62*	65*	71-123	4	30
Benzo(k)fluoranthene	5.38	1656.18	1192.11	1651.8	1219.67	72	74	71-123	2	30

*- Outside of specification

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Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

MS/MSD (continued)

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

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Lead	50.6	10.56	100.9	12.71	83	476 (2)	255*	75-125	19	20
Nickel	26.98	35.21	68.94	42.37	85.76	119	139*	75-125	22*	20
Selenium	1.33	10.56	11.86	12.71	13.68	100	97	75-125	14	20
Silver	N.D.	3.52	3.49	4.24	4.08	99	96	75-125	16	20
Thallium	2.78	10.56	14.13	12.71	15.63	107	101	75-125	10	20
Zinc	372.48	35.21	539.04	42.37	1294.62	473 (2)	2176 (2)	75-125	82*	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 171880184803	Sample number(s): 9087758 UNSPK: P087064									
Antimony	N.D.	0.500	0.520	0.500	0.519	104	104	75-125	0	20
Arsenic	N.D.	0.150	0.168	0.150	0.164	112	109	75-125	2	20
Beryllium	N.D.	0.0500	0.0511	0.0500	0.0511	102	102	75-125	0	20
Cadmium	N.D.	0.0500	0.0510	0.0500	0.0511	102	102	75-125	0	20
Chromium	N.D.	0.200	0.195	0.200	0.198	98	99	75-125	1	20
Copper	N.D.	0.250	0.265	0.250	0.265	106	106	75-125	0	20
Lead	N.D.	0.150	0.149	0.150	0.149	99	99	75-125	0	20
Nickel	N.D.	0.500	0.513	0.500	0.513	103	103	75-125	0	20
Selenium	N.D.	0.150	0.147	0.150	0.149	98	99	75-125	2	20
Silver	N.D.	0.0500	0.0499	0.0500	0.0503	100	101	75-125	1	20
Thallium	N.D.	0.150	0.170	0.150	0.170	113	113	75-125	0	20
Zinc	0.0169	0.500	0.524	0.500	0.525	101	102	75-125	0	20
Batch number: 171880571304	Sample number(s): 9087758 UNSPK: 9087758									
Mercury	N.D.	0.00100	0.000806	0.00100	0.000802	81	80	80-120	0	20
Batch number: 171910570501	Sample number(s): 9087759 UNSPK: 9087759									
Arsenic	N.D.	5.00	4.70	5.00	4.71	94	94	75-125	0	20
Barium	0.0312	100	90.48	100	92.25	90	92	75-125	2	20
Cadmium	N.D.	1.00	0.898	1.00	0.896	90	90	75-125	0	20
Chromium	N.D.	5.00	4.48	5.00	4.51	90	90	75-125	1	20
Lead	N.D.	5.00	4.50	5.00	4.51	90	90	75-125	0	20
Selenium	N.D.	1.00	0.928	1.00	0.931	93	93	75-125	0	20
Silver	N.D.	5.00	2.38	5.00	3.68	48*	74*	75-125	43*	20
Batch number: 171910570503	Sample number(s): 9087761,9087764,9087766,9087768,9087770 UNSPK: 9087761									
Arsenic	N.D.	5.00	4.50	5.00	4.50	90	90	75-125	0	20
Barium	0.00729	100	82.93	100	85.5	83	85	75-125	3	20
Cadmium	N.D.	1.00	0.877	1.00	0.882	88	88	75-125	1	20
Chromium	N.D.	5.00	4.27	5.00	4.27	85	85	75-125	0	20
Lead	N.D.	5.00	4.36	5.00	4.37	87	87	75-125	0	20
Selenium	N.D.	1.00	0.900	1.00	0.904	90	90	75-125	0	20
Silver	N.D.	5.00	0.207	5.00	0.223	4*	4*	75-125	8	20
Batch number: 171910571301	Sample number(s): 9087759 UNSPK: 9087759									
Mercury	N.D.	0.0200	0.0167	0.0200	0.0170	84	85	80-120	2	20

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Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

MS/MSD (continued)

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

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 171910571303	Sample number(s): 9087761,9087764,9087766,9087768,9087770 UNSPK: 9087761									
Mercury	N.D.	0.0200	0.0172	0.0200	0.0166	86	83	80-120	3	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 171910570802	Sample number(s): 9087760 BKG: P090341			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	8.68	11.64	29*	20
Beryllium	0.475	0.477	0 (1)	20
Cadmium	0.519	0.473	9 (1)	20
Chromium	46.36	70.61	41*	20
Copper	36.7	35.78	3	20
Lead	23.81	17.91	28*	20
Nickel	31.27	37.25	17	20
Selenium	1.78	2.25	23* (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	83.09	83.11	0	20
Batch number: 171910571101	Sample number(s): 9087760,9087762,9087771 BKG: 9087760			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 171910571102	Sample number(s): 9087763,9087765,9087767,9087769 BKG: P091226			
Mercury	0.0388	0.0407	5 (1)	20
Batch number: 171920570801	Sample number(s): 9087762-9087763,9087765,9087767,9087769,9087771 BKG: 9087771			
Antimony	1.38	1.96	35* (1)	20
Arsenic	3.34	5.18	43* (1)	20
Beryllium	0.355	0.471	28* (1)	20
Cadmium	0.728	0.891	20 (1)	20
Chromium	50.23	54.15	8	20
Copper	135.07	96.74	33*	20
Lead	50.6	132.75	90*	20
Nickel	26.98	23.78	13	20
Selenium	1.33	1.79	29* (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	2.78	3.63	26* (1)	20
Zinc	372.48	453.16	20	20

*- 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.

is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 171880184803	Sample number(s): 9087758 BKG: P087064			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Copper	N.D.	N.D.	0 (1)	20
Lead	N.D.	N.D.	0 (1)	20
Nickel	N.D.	N.D.	0 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Zinc	0.0169	0.0170	1 (1)	20
Batch number: 171880571304	Sample number(s): 9087758 BKG: 9087758			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 171910570501	Sample number(s): 9087759 BKG: 9087759			
Arsenic	N.D.	N.D.	0 (1)	20
Barium	0.0312	0.0315	1	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Lead	N.D.	N.D.	0 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Batch number: 171910570503	Sample number(s): 9087761,9087764,9087766,9087768,9087770 BKG: 9087761			
Arsenic	N.D.	N.D.	0 (1)	20
Barium	0.00729	0.00652	11 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	N.D.	0 (1)	20
Lead	N.D.	N.D.	0 (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Batch number: 171910571301	Sample number(s): 9087759 BKG: 9087759			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 171910571303	Sample number(s): 9087761,9087764,9087766,9087768,9087770 BKG: 9087761			
Mercury	N.D.	N.D.	0 (1)	20
	%	%		
Batch number: 17195820005A	Sample number(s): 9087760,9087762-9087763,9087765,9087767,9087769,9087771 BKG: 9087771			
Moisture	13.25	13.04	2	5

*- 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.

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Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

Surrogate Quality Control (continued)

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

Analysis Name: PPL/TCL SVOCs in Soil
Batch number: 17192SLM026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9087760	81	79	48	87	96	84
9087762	82	89	80	86	78	89
9087763	89	96	85	89	96	92
9087765	83	94	67	51	87	80
9087767	79	82	59	85	90	83
9087769	78	89	61	84	88	91
9087771	87	88	75	54	104	89
Blank	89	97	89	93	98	97
LCS	89	96	88	93	96	99
MS	87	93	65	101	84	77
MSD	89	96	71	93	97	93
Limits:	46-125	43-130	28-141	45-125	50-124	43-132

Analysis Name: Pesticides in Soil (microwave)
Batch number: 171870040A

	Tetrachloro-m-xylene	Decachlorobiphenyl
9087760	83	97
9087762	91	102
9087763	82	97
9087765	118	94
9087767	85	96
9087769	84	103
9087771	174*	110
Blank	97	111
LCS	94	108
MS	89	97
MSD	98	101
Limits:	26-145	39-152

Analysis Name: PCBs in Water
Batch number: 171910011A

	Tetrachloro-m-xylene	Decachlorobiphenyl
9087758	13*	7*
Blank	95	64
LCS	92	78
LCSD	92	65
Limits:	33-137	10-148

Analysis Name: PCBs in Soil (microwave)
Batch number: 171910014A

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

Surrogate Quality Control (continued)

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

Analysis Name: PCBs in Soil (microwave)
Batch number: 171910014A

	Tetrachloro-m-xylene	Decachlorobiphenyl
9087760	94	93
9087762	108	98
9087763	102	89
9087765	68	76
9087767	95	91
9087769	102	97
9087771	70	76
Blank	106	100
LCS	105	105
MS	80	70
MSD	71	69

Limits: 53-140 45-143

Analysis Name: OC Pesticides in Water
Batch number: 171910017A

	Tetrachloro-m-xylene	Decachlorobiphenyl
9087758	92	51
Blank	95	88
LCS	99	95
MS	94	58
MSD	101	64

Limits: 29-129 32-149

Analysis Name: Herb water 8151A Master
Batch number: 171920004A

	2,4-Dichlorophenylacetic acid
9087758	64
Blank	77
LCS	78
LCSD	75

Limits: 26-136

Analysis Name: Herbicide soils 8151A Master
Batch number: 171930038A

	2,4-Dichlorophenylacetic acid
9087760	74
9087762	75
9087763	89
9087765	95
9087767	76
9087769	75
9087771	100

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Rettew Associates
Reported: 07/19/2017 14:10

Group Number: 1821787

Surrogate Quality Control (continued)

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

Analysis Name: Herbicide soils 8151A Master
Batch number: 171930038A

	2,4-Dichlorophenylacetic acid
Blank	55
LCS	73
MS	194*
MSD	191*

Limits: 30-117

*- 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.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 721 Group # 1821787 Sample # 4067758-72

COC # 534653

Client Information				Matrix			Analysis Requested						For Lab Use Only		
Client: <u>Borough of Columbia</u>		Acct. #:		<input type="checkbox"/> Tissue	<input type="checkbox"/> Ground	<input checked="" type="checkbox"/> Surface	Preservation Codes						FSC: <u>208471</u>	SCR#: <u>208471</u>	
Project Name/ #: <u>1020 MANOR STREET</u>		PWSID #:					<input type="checkbox"/> Potable	<input type="checkbox"/> NPDES							Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other
Project Manager: <u>ED OZIEDZIC</u>		P.O. #:		<input type="checkbox"/> Sediment	<input type="checkbox"/> Water	Other:									Remarks
Sampler: <u>JOHN STIPE</u>		Quote #: <u>208471</u>													
State where samples were collected: <u>PA</u>		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Composite	Soil <input checked="" type="checkbox"/>	Water	Total # of Containers								
Sample Identification		Collected													
		Date	Time	Grab											
WS-1		7-5-17	1430	X		X	9	AS PER ORDER 208471							
TP-1 15'			830	X	X		6								
TP-2 4.5'			855	X	X		6								
TP-2 2'			845	X	X		6								
TP-3 8'		945	855	X	X		6								
TP-4 6'			1025	X	X		6								
TP-4 8'			1020	X	X		6								
TP-5 8'			1054	X	X		6								
TRIP BLANK							2								

Turnaround Time (TAT) Requested (please circle) Standard <u>Rush</u> (Rush TAT is subject to laboratory approval and surcharge.) Date results are needed: <u>7-14-17</u> E-mail address: <u>jstipe@retten.com</u> <u>edziedzic@retten.com</u>	Relinquished by: <u>Bottle Staged</u>	Date: <u>7/3/17</u>	Time: <u>12:10</u>	Received by: <u>[Signature]</u>	Date: <u>7/3/17</u>	Time: <u>12:10</u>
	Relinquished by: <u>[Signature]</u>	Date: <u>7/3/17</u>	Time: <u>12:40</u>	Received by:	Date:	Time:
	Relinquished by: <u>[Signature]</u>	Date: <u>7/5/17</u>	Time: <u>1545</u>	Received by:	Date:	Time:
	Relinquished by: <u>[Signature]</u>	Date: <u>7/5/17</u>	Time: <u>17:20</u>	Received by:	Date:	Time:
	Relinquished by: <u>[Signature]</u>	Date:	Time:	Received by:	Date:	Time:

Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP			EDD Required? <u>Yes</u> No If yes, format: _____		Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other <u>X</u>	
			Site-Specific QC (MS/MSD/Dup)? Yes No (If yes, indicate QC sample and submit triplicate sample volume.)		Temperature upon receipt <u>11.6-15.0</u>	



Client: Rettew

Delivery and Receipt Information

Delivery Method: Client Drop Off Arrival Timestamp: 07/05/2017 17:20
 Number of Packages: 2 Number of Projects: 1
 State/Province of Origin: PA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Karen Diem (3060) at 17:41 on 07/05/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?	Samples Collected Same Day as Receipt?
1	DT42-02	11.6	DT	Wet	Y	Bagged	Y	Y
2	DT42-02	15.2	DT	Wet	Y	Bagged	Y	Y

Explanation of Symbols and Abbreviations

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

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m³	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	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.		

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) 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.

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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.

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Additional Data Qualifiers

Qualifier	Definition
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q4	MS/MSD Out of Range
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD
Z	Laboratory Defined - see analysis report