COMBINED REMEDIAL ACTION PROGRESS REPORT, 4th QUARTER 2018, AND REVISED REMEDIAL ACTION PLAN

Shenango Township Municipal Building
3439 Hubbard- West Middlesex Road, West
Middlesex, PA 16159
Shenango Township, Mercer County
PADEP FACILITY ID #43-04177
PAUSTIF CLAIM #2016-008

Prepared For:

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Prepared on behalf of:

Municipality of Shenango Township 3439 Hubbard- West Middlesex Road West Middlesex, PA 16159 Mercer County

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TABLE OF CONTENTS

INTRODUCTION	1
SITE HISTORY / BACKGROUND	
SITE DESCRIPTION	3
SITE ACTIVITIES THIS QUARTER	6
	6
OVERALL TRENDS	8
REMEDIAL ACTIONS PERFORMED	8
OFF-SITE WATER WELL	9
SEPARATE PHASE LIQUID	10
PROPOSED ADDITIONAL REMEDIAL ACTION	10
CONCLUSIONS	14

FIGURES

FIGURE 1 – TOPOGRAPHIC SITE LOCATION MAP	ATTACHED
FIGURE 2 – PARCEL MAP	
FIGURE 3 – AERIAL SITE MAP	
FIGURE 4 – SURVEYED BASE MAP	ATTACHED
FIGURE 5A - GROUNDWATER CONTOUR MAP FOR SHALLOW WELLS	ATTACHED
FIGURE 5B - GROUNDWATER CONTOUR MAP FOR DEEP WELLS	ATTACHED
FIGURE 6A - ISOCONCENTRATION MAP OF BENZENE IN SHALLOW WELLS	ATTACHED
FIGURE 6B - ISOCONCENTRATION MAP OF 1,2,4- TMB IN SHALLOW WELLS	ATTACHED
FIGURE 6C - ISOCONCENTRATION MAP OF 1,3,5-TMB IN SHALLOW WELLS	ATTACHED
FIGURE 6D - ISOCONCENTRATION MAP OF TOLUENE IN SHALLOW WELLS	ATTACHED
FIGURE 6E – ISOCONCENTRATION MAP OF ETHYLBENZENE IN SHALLOW	
WELLS	ATTACHED
FIGURE 6F - ISOCONCENTRATION MAP OF MTBE IN SHALLOW WELLS	ATTACHED
FIGURE 6G – ISOCONCENTRATION MAP OF NAPHTHALENE IN SHALLOW	
WELLS	ATTACHED
FIGURE 6H - ISOCONCENTRATION MAP OF XYLENES (TOTAL) IN SHALLOW	
WELLS	ATTACHED
FIGURE 6I - ISOCONCENTRATION MAP OF MTBE IN DEEP WELLS	ATTACHED
FIGURE 7A – TIME TREND OF BENZENE IN MW-3	ATTACHED
FIGURE 7B - TIME TREND OF 1,2,4-TRIMETHYLBENZENE IN MW-3	ATTACHED
FIGURE 7C - TIME TREND OF 1,3,5-TRIMETHYLBENZENE IN MW-3	ATTACHED
FIGURE 7D - TIME TREND OF TOLUENE IN MW-3	ATTACHED
FIGURE 7E - TIME TREND OF ETHYLBENZENE IN MW-3	ATTACHED
FIGURE 7F – TIME TREND OF MTBE IN MW-3	ATTACHED
FIGURE 7G - TIME TREND OF NAPHTHALENE IN MW-3	ATTACHED

FIGURES (Cont.)

FIGURE 7H - TIME TREND OF TOTAL XYLENES IN MW-3	ATTACHED
FIGURE 7I - TIME TREND OF MTBE IN MW-23	ATTACHED
FIGURE 8 - PROPOSED RECOVERY WELL LOCATION MAP	ATTACHED

TABLES

TABLE I - MONITORING WELL GAUGING AND ANALYTICAL DATA	ATTACHED
TABLE 2 – SOIL DISPOSAL DATA	ATTACHED
TABLE 3 - EXCAVATION SOIL SAMPLE ANALYTICAL RESULTS	ATTACHED
TABLE 4 - ANALYTICAL RESULTS FOR VAPOR INTRUSION (AIR MATRIX)ATTACHED

ATTACHMENTS

ATTACHMENT 1 – ANALYTICAL REPORTS	ATTACHED
ATTACHMENT 2 – WASTE MANIFEST.	ATTACHED

COMBINED REMEDIAL ACTION PROGRESS REPORT, 4th QUARTER 2018, AND PROPOSED REVISED REMEDIAL ACTION PLAN SHENANGO TOWNSHIP MUNICIPAL BUILDING PA FACILITY I.D. - 43-04177 PAUSTIF CLAIM NO. – 2016-008

INTRODUCTION

Compliance Environmental Services ("CES") is pleased to submit this Combined Remedial Action Progress Report ("RAPR") for the Fourth Quarter of 2018 and proposed Revised Remedial Action Plan (RRAP), prepared for the Shenango Township Municipal Building complex (the "Site"), which is located at 3439 Hubbard West Middlesex Road, West Middlesex, Mercer County, Pennsylvania. Figure 1 shows a portion of the Sharon East, U.S. Geological Survey 7.5 Minute Topographic Quadrangle Map, illustrating the location of the site.

The Site is owned by the municipality of Shenango Township, Mercer County, Pennsylvania. The primary contact for the Township is Ms. Lynnett Beck (724) 528-9571.

SITE HISTORY / BACKGROUND

1966 – Property purchased by Shenango Township.

1968 - Construction of the current Township municipal building was completed.

1979 - Two underground storage tank (UST) systems were installed.

December 4, 2015 – Discolored soil was evident at this location during removal of the UST. Soil and groundwater samples above PADEP Statewide Health Standards (SHS) were collected by the tank remover A. Graziani and Company, Inc. upon removal of the UST. PADEP representative Andrew Sepos was on-site during the removal of the tank and a Storage System Report Form was prepared that stated: "heavy dark staining and odors to 12' depth. Staining was observed across top of tank on west end".

December 7, 2015 – The Notification of Reportable Release was submitted to PADEP, estimated that 30 gallons of product were released.

2016 – CES began Site Characterization activities.

May 18-19, 2016 – CES collected the first round of soil samples and SB-1 (MW-1), SB-2 (MW-2), SB-3 (MW-3), SB-4 (MW-4), SB-5, SB-6 (MW-6), SB-7, SB-8, SV-1, and SV-2 were installed.

June 15, 2016 - Monitoring wells were gauged and sampled.

July 11, 2016 - Soil vapor/air phase samples collected.

July 26, 2016 - Monitoring wells were gauged and sampled, and the on-site water well was sampled.

August 2, 2016 - Soil vapor/air phase samples collected.

September 13, 2016 – CES collected the second round of soil samples and SB-9 (MW-9), SB-10 (MW-10), SB-11 (MW-11), SB-12 (MW-12), SB-13, SB-14, SB-15, SB-16, and SB-17 were installed.

September 26, 2016 - Monitoring wells were gauged and sampled.

November 1, 2016 - Monitoring wells were gauged and sampled.

December 22, 2016 - SCR submitted to PADEP.

January 19, 2017 - Soil vapor/air phase samples collected.

February 7, 2017 – CES collected the third round of soil samples and SB-18 (MW-18), SB-19 (MW-19), SB-20 (MW-20), SB-21 (MW-21), SB-22 (MW-22), SB-23 (MW-23), SB-24 (MW-24), and RW-1 were installed.

February 17, 2017 - Monitoring wells were gauged and sampled.

February 24, 2017 -On-site water well was sampled.

March 15, 2017 - SCR/RAP submitted to PADEP.

March 23, 2017 -On-site water well was sampled, and MW-23 was gauged and sampled.

May 2, 2017 - SCR/RAP approved by PADEP.

May 23, 2017 - Monitoring wells were gauged and sampled.

July 5-11, 2017 – Soil removal remedial action performed at the Site. RW-2 & RW-3 installed during backfilling. 558.93 tons of contaminated soil and 1,900 gallons of impacted groundwater removed.

August 15, 2017 – Monitoring wells were gauged and sampled.

September 5 & 6, 2017 - 3,800 gallons of water removed from RW-3 with vacuum trucks.

September 22, 2017 – Point of Entry water treatment system installed at offsite property.

October 10, 2017 – 2,800 gallons of water removed from RW-3 using a vacuum truck.

December 5, 2017 – 3,500 gallons of water removed from RW-3 using vacuum trucks.

December 6, 2017 - Monitoring wells were gauged and sampled.

March 8, 2018 – CES directed the drilling of monitoring wells MW-25 and MW-26 located off the Shenango Township property along the west side of Jackson road.

March 13, 2018 - Monitoring wells were gauged and sampled.

June 8, 2018 - Monitoring wells were gauged and sampled.

September 5, 2018 - Monitoring wells were gauged and sampled.

December 3, 2018 – Monitoring wells were gauged and sampled.

January 30, 2019 - Submitted Combined RAPR-Proposed Revised RAP

SITE DESCRIPTION

Shenango Township utilizes the property for various Township purposes such as administrative offices, meetings, police headquarters, fire station, and as the township maintenance garage and vehicle base since 1966. Prior to 1966, the property appears to have been used for agricultural purposes, evident in aerial photographs provided in Sheet Number 43 of Soil Survey, Mercer County, PA; U.S.D.A. Soil Conservation Service (1971) dating back to the 1960s. The existing municipal building on the property was originally constructed in 1968. The Shenango Township Municipal Building complex property consists of one parcel of land containing 9.74 acres. The shape of the property and property boundary are shown on the Parcel Map (Figure 2). Site features are shown on the Aerial Site Map (Figure 3). Figure 4 is a surveyed site map showing monitoring well locations, the excavation area, utilities, and other site features. The Site is located at the southeast corner of the intersection of Hubbard-Middlesex Road and Jackson Road. The property is somewhat irregular in shape, having approximately 668 feet fronting Jackson Road at the west side of the Site and approximately 285 feet fronting Hubbard-Middlesex Road to the north of the Site. The maximum east-west length of the Site is approximately 900 feet. The property is bordered by single family residences to the north, east, and south. A paving company and residential house are located to the northwest of the Site. Wooded property borders part of the Site to the south, and agricultural fields are located east and west of the Site. Approximately 8 acres of the property to the south and east of the USTs area are utilized as the Shenango Township Community Park. The Shenango Township Community Park (the "Park") portion of the property is hydraulically up-gradient and at a higher elevation than the former unleaded gasoline UST and no impact from the release is anticipated in the Park area. It should be noted that the Park utilizes the same water well as the municipal building. The Township Water Well is located down-gradient from the former unleaded gasoline UST.

The two underground storage tank (UST) systems were installed in August 1979. Underground fiberglass piping extends/extended a short distance from the top of the tanks to the gasoline and diesel fuel dispensers that are/were located at the southeast corner of the municipal building. The dispenser and the majority of the underground piping serving the former unleaded gasoline UST have been removed. The diesel fuel tank system is still active. The soil removal action was limited to the north by the presence of the diesel fuel UST.

Surface Soil Description (USDA)

The soil type occupying the entire area of concern for SC is listed in Soil Survey of Mercer County, PA (U.S.D.A Soil Conservation Service, 1971) as RaB2, Ravenna silt loam, 3-8% slopes, moderately eroded; and CdB2, Canfield silt loam, 3-8% slopes, moderately eroded. Both soil types are very similar. For both soil types, it is described that because of erosion the upper soil layer now consists partly of brighter colored subsoil

but originally had a dark grayish-brown silt loam surface layer and mottled firm silt loam yellowish-brown subsoil. The water table is seasonally high with slow permeability. Both soil types are developed on firm glacial till that normally occurs at a depth of 6 to 9 feet, as has been documented by drilling. Much of the area containing both soil types is or has been cultivated in the area.

Types of Unconsolidated Materials

The thickness of unconsolidated materials above bedrock, as determined by direct observation during drilling, ranges from approximately 6 to 11.7 feet.

Glacial Geology of Northwestern Pennsylvania (Bulletin G-32, Pennsylvania Topographic and Geologic Survey, 1959) shows that beneath the soil column the entire area is underlain by glacial till belonging to the Pleistocene Age Kent End Moraine system. This silt loam till is very dense in part and of low permeability. Where the till contains more sand and gravel, permeability can be moderately good within thin discontinuous lenses, as found at MW-4. In general, contaminants coming into contact with these lenses can migrate, mostly horizontally and typically only for short distances. Based on the writer's knowledge of the area, glacial till typically varies from 8 to 25 feet thick, with the bottom several feet containing a substantial percentage of weathered bedrock. This weathered bedrock zone can also display higher permeability and conductivity than the glacial till.

Bedrock Geology

The top of bedrock was found to occur at a depth of approximately 6 to 11.7 feet. There are no known geologic structures in the area that would have a bearing on the migration of any hydrocarbons. There are no significant karst features in shallow bedrock strata. Bedrock over a short distance is relatively flat, having local dips of variable direction and typically less than 2 degrees. The regional dip is approximately 90 feet/mile or less to the south-southeast. The potential for migration of liquids within bedrock is dependent on the orientation, continuity and frequency of horizontal partings and vertical joint sets. Out of the five monitoring wells that are screened entirely in bedrock (MW-9, MW-18, MW-20, MW-23, and MW-25) only MW-23 (located 35 feet from the USTs) has shown any groundwater exceedance of SHSs.

Hydrogeology

The primary water source aquifers in the area are bedrock sandstone units of the Pottsville Group (lowermost Pennsylvanian System) and the Shenango Formation (uppermost Mississippian System). Most water wells in the area have a total depth of between 65 to 215 feet. It is possible to have shallow water supply wells in the

unconsolidated glacial till deposits above bedrock where the till has an abundance of sand and gravel lenses, however, none are reported in the PAGWIS database within 0.5 mile of the Site. Wells completed in sandstone bedrock aquifers within 0.5 mile radius of the Site reportedly yield from 5 to 20 gallons per minute (gpm) as reported in the PAGWIS database. Wells completed within the unconsolidated deposits are of greatest concern for hydrocarbon impacts. The topography does not show any nearby features that appear suitable to contain sufficient sand and gravel deposits for a usable water source.

The shallowest groundwater flow at the Site, based on water table elevations from monitoring wells, is to the north-northwest at a hydraulic gradient of 2 to 3 percent, as shown in Figures 5A (for shallow overburden wells) and 5B (for deeper/bedrock wells). Regional groundwater flow varies greatly and typically is in the direction of the regional and local surface water drainage systems. Deep groundwater movement (below the level of the major surface water drainage systems) has not been evaluated but would be expected to be to the south-southeast, the regional dip direction of bedrock. Shenango River, the major regional surface water body, is located within 2 miles to the north, east, and southeast of the Site. Shallow groundwater flow is typically toward the most local surface water drainage system where discharge of groundwater to surface water would be expected. The nearest surface water to the Site is an ephemeral stream that begins at the north side of Route 318 at an elevation of approximately 1,103 feet above sea level and has a well defined channel flowing in a north-northwesterly direction (before turning north-northeasterly). This ephemeral stream becomes part of an unnamed perennial stream that is a tributary of Shenango River, entering the river approximately 1.5 miles from the Site.

VAPOR INTRUSION / INDOOR AIR QUALITY

Table 4 provides the results of air phase testing that has been performed to date to evaluate whether or not there is a concern for indoor air quality. The most recent testing performed was on April 25, 2017, at which time two sub-slab and two indoor air samples were collected and tested. Samples were collected in 3-liter summa canisters and tested at an accredited laboratory. The two sub-slab samples showed no exceedance of PADEP sub-slab nonresidential screening values. The two indoor air samples showed only a slight exceedance of the indoor air screening value for Naphthalene, the highest being 12.7 ug/m³ in the garage area. The nonresidential screening value is 3.6 ug/m³. This slight exceedance of Naphthalene is likely due to vehicles starting within the garage. Air phase test results do not indicate any imminent threat to indoor air quality.

SITE ACTIVITIES THIS QUARTER

- December 3, 2018 Monitoring wells were gauged and sampled. SPL was found at MW-3 (first SPL occurrence at the Site).
- MW-3 was again monitored for SPL on December 7, December 10, December 20, and December 27, 2018. No additional SPL was found on these dates. The total amount of SPL recovered was ≤ 3 ounces. The SPL displayed a distinct gasoline odor.
- The Township water well and the off-site water well ("3706 Hubbard-West Middlesex Road") were sampled on October 26, November 30, and December 20, 2018. Analytical results are provided in Table 1. Only low level MTBE was detected and only at the offsite well on each occasion.

GROUNDWATER SAMPLING, TESTING AND FLOW

On December 3, 2018, a groundwater sampling event for the Fourth Quarter of 2018 was performed. Water level measurements were collected from the top of well casing from each of the wells in the monitoring network. Figure 5A is a "shallow" groundwater elevation contour map and Figure 5B is a "deep wells" groundwater elevation contour map for the December 3, 2018 groundwater sampling event. Figures 5A and 5B show groundwater flow is generally to the northwest across the site in the "shallow" and "deeper" groundwater zones. A slight anomaly (reversal) in groundwater flow is shown in the shallow wells to the south of the former UST, explainable by a "bathtub effect" from excessive water accumulation in the former and existing UST cavities. This is the first time that groundwater flow to the southeast has been observed in this limited area. The "shallow" wells are screened in unconsolidated materials above bedrock. "Shallow" wells include MW-1; MW-2; MW-3; MW-4; MW-6; MW-10; MW-11; MW-12; MW-19; MW-21; MW-22; MW-24; MW-26; RW-1; RW-2; and RW-3. Wells in the "deeper" groundwater zone are screened solely in bedrock and extend to a maximum depth of 40 feet. The "deeper" wells include MW-9; MW-18; MW-20; MW-23; and MW-25.

One water supply well is present on the Shenango Township Municipal Building complex property. This well is located west of the office section of the main building, down-gradient from the UST cavity (Figure 4). This well has a reported total depth of 125 feet with surface casing extending to 27 feet. This Township Water Well has been sampled 23 times since July 2016. No detectable COC concentrations have been reported with the exception of MTBE in the sample collected on March 24, 2017 (1.13 ug/L). The analytical results are provided in Table 1. The Township Water Well is not used for consumption purposes and signs have been posted at sinks advising not to drink the water. A water cooler is provided for drinking water within the

main Township building. The Township water well has been sampled approximately once per month since February 2017.

Groundwater samples were collected from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-9, MW-10, MW-11, MW-12, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, RW-1, and RW-3. Analytical testing data are provided in **Table 1**. Analytical results where the value of the reporting limit is greater than the remedial standard are considered an exceedance of the remedial standard.

Attachment 1 contains a copy of the laboratory analytical reports from the October 26, 2018 sampling of the Township Water Well and off-site water well, the November 30, 2018 sampling of the Township Water Well and the off-site water well, the December 3, 2018 quarterly groundwater sampling event, and the December 20, 2018 sampling of the Township Water Well and the off-site well. All water samples were analyzed for the PADEP's New Short List of Petroleum Products for Unleaded Gasoline parameters: Benzene; Toluene; Ethylbenzene; Isopropylbenzene (Cumene); MTBE; Naphthalene; 1,2,4-Trimethylbenzene; and 1,3,5-Trimethylbenzene. All water results were compared to the PADEP Statewide Health Standard (SHS) Residential Used Aquifer Medium-Specific Concentration ("MSCs") for Organic Regulated Substances in Groundwater, the remedial standard selected for groundwater at the site.

Figures 6A through 6I show the horizontal extent of the plumes for the December 3, 2018 groundwater sampling event. The outermost isoconcentration line corresponds with the Used Aquifer, Residential SHS for the corresponding constituents of concern. The Isoconcentration Maps show the exceedances for Benzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Toluene, Ethylbenzene, MTBE, Naphthalene, and Xylenes (total) in the "shallow" groundwater zone (Figures 6A through 6H, respectively), and MTBE in the "deep" groundwater zone (Figure 6I). Four of the sampled shallow monitoring/recovery wells had exceedances of the selected remedial standard in groundwater sampled at the site this quarter: MW-3 (Benzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Toluene, Ethylbenzene, MTBE, Naphthalene, and Total Xylenes); MW-21 (Benzene); RW-1 (Benzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Toluene, Ethylbenzene, MTBE, Naphthalene and Xylenes (total)), and RW-3 (Benzene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene. One of the deep monitoring wells had an exceedance of the selected remedial standard in groundwater sampled at the Site this quarter: MW-23 (MTBE).

OVERALL TRENDS

The COC concentrations in the groundwater samples collected from MW-3 have been trending upwards since the last vacuum truck event in December 2017 (Figures 7A through 7I). The MTBE concentration in MW-23 is slightly down this quarter, but it has been displayed an upward trend overall after soil removal and the three vacuum truck events. The COC concentrations in the other monitoring points have remained stable or have decreased based on the December 3, 2018 sampling results.

MW-3 and MW-23 are located approximately 20 feet apart, just north of the in-service diesel fuel tank and east of the Parks Garage building, within the heart of the approximately 40-foot diameter area of the greatest remaining COC concentrations. This area is the focus for additional remedial actions presented in this RRAP.

REMEDIAL ACTIONS PERFORMED

Soil removal remedial action was performed at the Site on July 5 through 11, 2017. 558.93 tons of contaminated soil were excavated and disposed at a licensed non-hazardous residual waste landfill. **Table 2** provides a record of loads of soil removed from the Site. **Table 3** provides confirmatory soil analytical results from samples collected upon completion of the excavation. **Figure 4** shows the boundary of the source removal excavation of the former unleaded gasoline UST. Soil removal was restricted on the north side by the presence of an in-service diesel fuel UST. RW-2 & RW-3 were installed during backfilling for potential use as recovery or injection wells. These wells replaced MW-6 which was located within the excavated area. During the soil removal action, 1,900 gallons of impacted groundwater were removed from the excavated area and properly disposed. A combination of vacuum trucks and trash pumps were used for dewatering the excavation.

In addition to initial soil and liquid removal event discussed in the previous paragraph, vacuum trucks removed 3,800 gallons of water from RW-2 and RW-3 on September 5 and 6, 2017 (Vac Event 1). During the groundwater removal event, MW-3, MW-4, MW-19, MW-21, MW-23, and RW-1 were all bailed by hand. The water bailed from these wells was added to the total load.

During a second vacuum event on October 10, 2017, a vacuum truck removed 2,800 gallons of water from RW-2 and RW-3 (Vac Event 2). During the groundwater removal event, MW-3, MW-4, MW-19, MW-21, MW-23, and RW-1 were all bailed by hand. The water bailed from these wells was added to the total load.

A third vacuum event was conducted on December 5, 2017 (Vac Event 3). Vacuum trucks removed 3,500 gallons of water from RW-2 and RW-3. Groundwater was also removed from MW-3, MW-4, MW-19, MW-21, MW-23, and RW-1 by hand bailing. The water bailed from these wells was added to the total load.

Environmental Specialists, Inc. transported the water removed during all removal events to their licensed facility in Youngstown, Ohio, for treatment.

Purge water generated during sampling events is being containerized in 55-gallon drums. Upon filling, the drums are being transported from the site for proper treatment and disposal. Five drums filled with gasoline contaminated water were transported off off-site this quarter by Environmental Specialists, Inc. A copy of the waste manifest is included as **Attachment 2**.

OFF-SITE WATER WELL

The offsite water well was previously referred to as "3706 Hubbard Middlesex Rd" because that is the address listed for the parcel owner. The physical address is 3462 Hubbard Middlesex Road. The location of this well is shown in Figure 3. The paving company located immediately west of this residence utilizes the same water well that supplies the residence. Analytical testing of water samples (named "Raw Water") from this offsite water well has shown a detection of MTBE in fifteen of the sixteen samples collected as of September 25, 2018, none of which exceed the SHS.

During the ongoing evaluation of whether or not the gasoline release at the Shenango Township Municipal property has affected this offsite well, a point-of-entry treatment ("POET") system was installed on September 22, 2017 to protect users of the well.

The POET system, which was installed in the basement of the house, consists of a pre-filter, a pair of 75 pound activated carbon vessels, and a flow totalizer.

Water samples were collected October 26, 2018, November 30, 2018, and December 20, 2018 from before the carbon filters ("Raw Water"), and after the second carbon filter ("Discharge"). Attachment 1 contains a copy of the laboratory analytical report from the October 26, 2018, November 30, 2018, and December 20, 2018 sampling of the off-site water well. These offsite water well analytical results are summarized in Table 1.

A bedrock well, MW-25, was installed during the First Quarter of 2018 at the request of PADEP. MTBE was previously detected in the samples collected on 6/8/2018 (1.2 ug/l) and 9/5/18 (1.2

Shenango Township Municipal Building Combined 4th Quarter 2018 Remedial Action Progress Report and Revised Remedial Action Plan Page 9 ug/l). This well has been sampled four times as of the date of this report, with MTBE detected in two of those samples. MW-25 is located directly between the former gasoline UST location and the offsite well. MTBE was not detected in the December 3, 2018 groundwater sample.

Based on the consistent analytical results from the monthly sampling of the off-site potable water well, sampling and testing will be reduced to once per quarter.

SEPARATE PHASE LIQUID

Separate phase liquid ("SPL") was noted in MW-3 during the December 3, 2018 groundwater sampling event. This light non-aqueous phase liquid ("LNAPL") was measured to be 0.01 feet on top of the water column within the monitoring well. MW-3 is located immediately north of the diesel UST as shown in Figure 4. It appears that as the backfilled excavated area of the former gasoline UST and the in-service diesel fuel UST fill with water during wet periods ("bathtub effect"), residual contamination from the gasoline UST is being conveyed from the diesel UST backfill towards MW-3. However, the tight nature of the shallow soil above bedrock to the north of the diesel fuel UST, as observed at MW-3, also serves to limit further migration of shallow contaminants to the north. The only notable exception is MTBE in bedrock, where it has migrated as far as MW-23 (screened in bedrock only). Some contaminants are depicted on Isoconcentration Maps in this report to have moved beneath the building in a northwesterly direction, though with the exception of Benzene, there is no groundwater data to support this.

The volume of SPL generated during the purging of the monitoring well on December 3, 2018 was ≤ 3 ounces. CES personnel checked for SPL on the following dates after the Fourth Quarter 2018 sampling event: December 7, 2018, December 10, 2018, December 20, 2018, December 27, 2018, January 4, 2019, and January 10, 2019. No measurable SPL was detected any time after December 3, 2018. MW-3 was purged dry on December 3, December 7, and December 10, 2018. All purge water and SPL was placed into 55-gallon drums for proper disposal.

No other SPL has been encountered at the Site except as described above.

PROPOSED ADDITIONAL REMEDIAL ACTION

Considering the increasing trend of the concentration of COCs in groundwater within a limited area (from the former gasoline UST to MW-23), as shown in the Isoconcentration Maps in this report, and the first occurrence of SPL (MW-3 on 12/3/2108), additional remedial action is being

Shenango Township Municipal Building Combined 4th Quarter 2018 Remedial Action Progress Report and Revised Remedial Action Plan Page 10 proposed to address the remaining dissolved contaminants in groundwater above Statewide Health Standards. COC remaining above SHSs, based on the Fourth Quarter 2018 groundwater testing results, include Benzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Toluene, Ethylbenzene, MTBE, Naphthalene and Xylene.

The area of focus of additional remedial action includes the former gasoline UST excavation; the tank cavity surrounding the in-service diesel fuel UST; and area to the north of the diesel fuel UST surrounding MW-3 and MW-23. The dimension of the area of focus is approximately 60 feet x 50 feet (3,000 ft²).

Proposed Remedial Action - Combined Groundwater Extraction and Enhanced Bioremediation

CES is proposing a combination of Groundwater Extraction (GE) and Enhanced Bioremediation (EB) as the means for additional remediation to remove the remaining dissolved contaminants in groundwater. Enhanced Bioremediation was originally CES's preferred method for remediation but source removal was chosen as the initial remedial action method following discussions with PADEP.

Remedial actions performed to date are described in the Remedial Action Performed section and included source/soil removal (558.93 tons of soil and 12,000 gallons of impacted groundwater). Remedial action was limited to the north of the gasoline UST due to the presence of diesel fuel UST that is still in use.

CES proposes conducting a 6-month field test/remedial action program using GE-EB that has been proven successful at several other sites for unleaded gasoline. CES proposes utilizing existing wells MW-3, MW-23, RW-1, RW-2, RW-3 and three proposed shallow recovery wells that will be installed by hand (because of safety) within the existing diesel fuel UST cavity at the approximate locations shown on the attached **Figure 8**. In order to achieve cleanup goals it is critical to treat groundwater contaminants around the diesel fuel tank that is hydraulically connected to the former unleaded gasoline tank area. The spacing of these wells will enable CES to circulate liquids/groundwater within the entire area of the former and existing USTs.

Water will be extracted from some of the wells, conveyed to a portable treatment unit, and cleaned by means of granular activated carbon. The water will then be augmented with proprietary nutrients (provided by sub-contractor BioRemedial Technologies) and oxygen, then returned to the other wells "injection wells" named above. The objective will be to utilize natural groundwater at the Site, degrade the contaminants in place by biological decomposition by means of establishing a groundwater circulatory system that will cover the entire area of both (former and current) UST cavities. Wells used for recovery and groundwater return may be alternated based on observations and testing data. Wells initially to be used for groundwater

extraction will be MW-3, MW-23 and RW-2 (3 total). Wells initially to be used for groundwater injection will be the three proposed wells at the north side of the diesel fuel UST, RW-1 and RW-3 (5 total). Except on the day of field events, there will be no equipment in the way of Township operations. The portable treatment system will be positioned in the grassy area on the south side of the Parks Garage building, near MW-2. From the treatment system injection and extraction hoses (½ to ¾ inches diameter) will be attached to the appropriate wells and then removed at the conclusion of the event. This approach will permit remediation to take place without the need for expensive infrastructure.

The field test/remedial action is proposed for a period of six months, after which the GE-EB system could be continued based on its merits (positive results) without the need for adding any additional infrastructure. Operation of the GE-EB system would take place for a full day during each field event, once every two weeks. This would amount for a total of 12 operation events during the 6-month field test. To achieve attainment of SHSs Used Aquifer Residential for groundwater CES estimates it would take 2 to 2.5 years using the proposed GE-EB method.

CES believes that the remediation method being proposed offers the best opportunity to progress toward attainment of SHSs for groundwater without further delays that could cause additional on-site and off-site impacts to groundwater wells. A cost estimate for performing the field test/remedial action will be provided to the PA Underground Storage Tank Indemnification Fund for approval prior to initiating the remedial action presented herein.

Groundwater Extraction

The GE portion of the remediation system will utilize granular activated carbon (GAC) to remove contaminants being extracted in groundwater from the extraction wells. GAC is a proven method for removing dissolved contaminants from groundwater, widely used in the industry. Air activated pumps will extract groundwater from the extraction wells. The amount of water being extracted will be dependent on the hydraulic capability of the extraction wells, which CES will attempt to maximize to an estimated 2 to 4 gallons per minute (2,889 to 5,760 gallons per day). The water will enter the system, pass through filters to remove particulates, and then pass through granular active carbon. The carbon will remove residual contaminants and ensure clean water for re-injection purposes.

The following are additional technical explanations of the EB remedial method being proposed:

Enhanced Bioremediation - Biological Treatment System

Dissolved oxygen ("DO") is the most thermodynamically favored electron acceptor used in the biodegradation of fuel hydrocarbons. Biodegradation of hydrocarbons typically require 3.5 pounds of oxygen per pound of contaminant. Oxygen is considered by many to be the primary

Shenango Township Municipal Building Combined 4th Quarter 2018 Remedial Action Progress Report and Revised Remedial Action Plan Page 12 growth-limiting factor for hydrocarbon degrading bacteria, and it is normally depleted in zones that have been contaminated with hydrocarbons. CES will utilize an oxygen delivery system to increase the DO levels at the site to accelerate bioremediation and reduce remediation time.

Based on CES's knowledge of the Site, it is determined that direct oxygen injection will provide the most efficient process for removing COC to the selected remediation standard compared with other technologies, as were reviewed in the original RAP approved by PADEP. CES will provide a proprietary aqueous-based Biological Oxygen Supply System ("BOSS") that can deliver, on average, ≥ 45 mg/L dissolved oxygen (on a continuous or semi-continuous basis) up to 12-gallons per minute for a total of ~7.5 pounds of usable oxygen per day. The BOSS can be implemented as either a mobile or semi-permanent system. Both have unique benefits. Given the site constraints, it was determined that a mobile approach would be the efficient means of oxygen supply.

Prior to reinjection, the water will pass through the BOSS where dissolved oxygen is added to obtain a concentration of no less that 45 mg/L of dissolved oxygen. Once the water is enriched in oxygen, it will be injected into the three proposed wells at the north side of the diesel fuel tank, RW-1 and RW-3. RW-1 and RW-3 are located in the fill of the former gasoline UST excavation area.

Eight hour mobile treatment events will be performed twice each month.

Enhanced Bioremediation - Nutrient Supplements

All biological systems require a balanced blend of macro- and micro-nutrients as metabolic stimulants and growth enhancers. Biological activity can fail to effectively degrade the contaminants of concern if this nutritional ratio is improperly balanced; therefore, nutrient concentrations are a growth-limiting factor. CES's subcontractor BioRemedial Technologies specially formulates a nutrient blend of macro- and micro- elements to enhance the bioremediation process specific to each site. The nutrient formula incorporates a site-specific ratio of elements to target a specific group of organisms that will enhance growth and increase hydrocarbon degradation. It is important to note that not all bacteria require the same nutrients nor can any one type of bacteria utilize all types of nutrients. Thus, the proprietary site-specific blend of nutrients is essential for efficient degradation of contaminants.

Nutrients will be added in aqueous form and follow the same pathways as the oxygenated water described above. Proprietary nutrient concentrations will be at concentrations that are below applicable drinking water standards. CES's nutrient blend consists of non-regulated substances with the exception of nitrate. Amendments will be carefully calculated and monitored so as not to exceed 10-mg/L, the EPA limit for drinking water for nitrogen. Nutrients will be formulated

in CES's lab and delivered in a concentrated liquid form. These nutrients will be injected twice a month during the mobile treatment events.

Site / Biological Monitoring

Monitoring wells and injection points will be sampled regularly for biological monitoring, nutrient assays, and field parameters (including pH, temperature, dissolved oxygen and ORP). The biological monitoring component includes an enumeration of the overall bacterial population as well as contaminant degraders. Nutrient assays allow for monitoring of macronutrient supplementation. In combination, the biological, nutrient, and field data are analyzed to determine the distribution and consumption of biological amendments. As biodegradation proceeds, nutrient and oxygen concentrations can become limiting, thereby negatively impacting the contaminant-degrading bacterial populations and stalling the remediation process. The monitoring protocol implemented by CES provides a more efficient use of amendments and faster degradation of the constituents. Monitoring will also include a quarterly operations report that details performance of the remediation system and approximate gallons injected.

Proposed Timeline

Once PADEP and USTIF approve this proposed remedial approach, CES can immediately begin implementing the proposed plan. The extraction wells will be installed within three weeks of approval. The first mobile treatment event can performed within a week of the extraction well installation. CES anticipates the duration of mobile treatments to be 24 to 30 months.

CONCLUSIONS

The current source area is backfill located within the active diesel UST cavity. The groundwater contamination plume follows the groundwater flow direction, which is to the northwest. MW-23 is the only monitoring well which is screened entirely within bedrock that has had an exceedance of COCs (Benzene on May 23, 2017; MTBE each of the nine times sampled). The remaining wells that have had exceedances are shallow wells screened within the glacial till. The water well on the site has been sampled twenty-three times and has not had any detection of COC with the exception of MTBE on March 24, 2017. The 1.13 ug/l result for MTBW is well below the SHS. This well has been on a monthly sampling schedule and signs are posted at sinks stating that the water is "non-potable". Given the consistent results of monthly samples from this well, CES will reduce the on-site water well sampling to once per quarter.

The water well of the adjoining, down-gradient property located at 3462 Hubbard Middlesex Road (Offsite Water Well) has been sampled nineteen times and had a POET system installed in

Shenango Township Municipal Building Combined 4th Quarter 2018 Remedial Action Progress Report and Revised Remedial Action Plan Page 14 September 2017. This well has been sampled once each month before and after the treatment system but given the consistent analytical results, samples will be collected once per quarter beginning in the First Quarter 2019. The remaining adjoining properties with water wells are abandoned, cross gradient, or upgradient to the Site; therefore they have not been sampled.

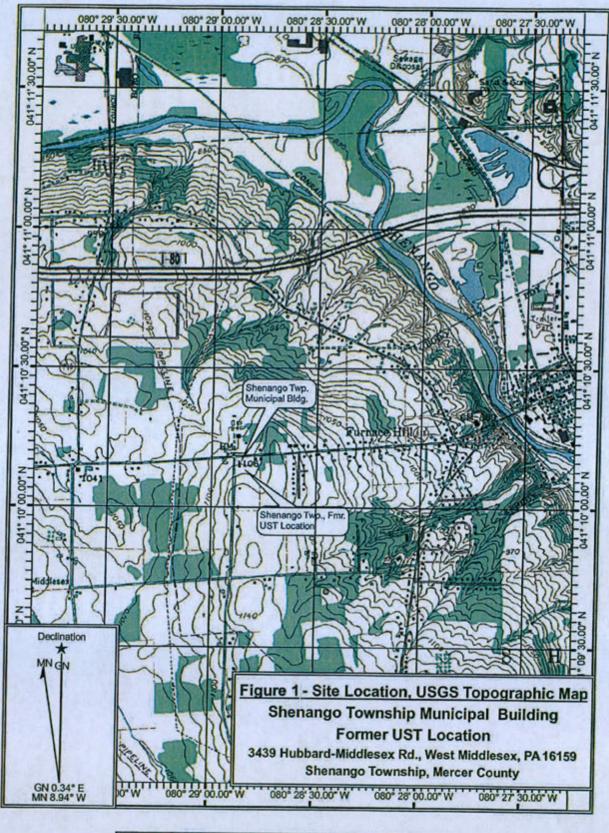
The primary remedial option that has been performed to date is Source Removal, involving both soil and groundwater. The excavation phase of the remedial action was completed in July 2017. 558.93 tons of soil and approximately 1,900 gallons of water were removed from the Site during the excavation activities. Three Vacuum Truck Liquid Removal events have taken place as of the date of this report, which removed another 10,100 gallons of contaminated water.

The concentrations had been trending downward after the soil removal event in July 2017 and the three vacuum truck water removal events that were completed in September, October, and December 2017. Many of the concentrations have been trending back upward following the last of the vacuum truck events. Measurable SPL was observed in MW-3 during the December 3, 2018 groundwater sampling event. MW-3 was purged three times in December to remove any SPL that may have accumulated. Monitoring for SPL was conducted six times following the initial discovery of SPL during the Fourth Quarter 2018 groundwater monitoring event. No measurable SPL was observed during any of these monitoring events.

It has been one year since soil and water removal events were completed. CES believes that additional remedial action as proposed herein (GE-EB) is necessary and the best method to address the groundwater contamination remaining at the site, including within the diesel UST cavity. CES is proposing a combination of Groundwater Extraction and Enhanced Bioremediation to remediate the remaining COC dissolved in groundwater, that will include the injection of oxygen enriched water and nutrients.

The Township water well and the off-site water well located at 3462 Hubbard Middlesex Road will be sampled quarterly beginning the First Quarter of 2019. The next groundwater sampling event is scheduled for the First Quarter of 2019. A RAPR will be submitted to the PADEP following this groundwater sampling event.

FIGURES



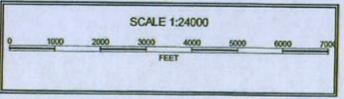
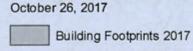
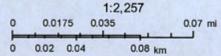


Figure 2 - Shenango Township Parcel Map

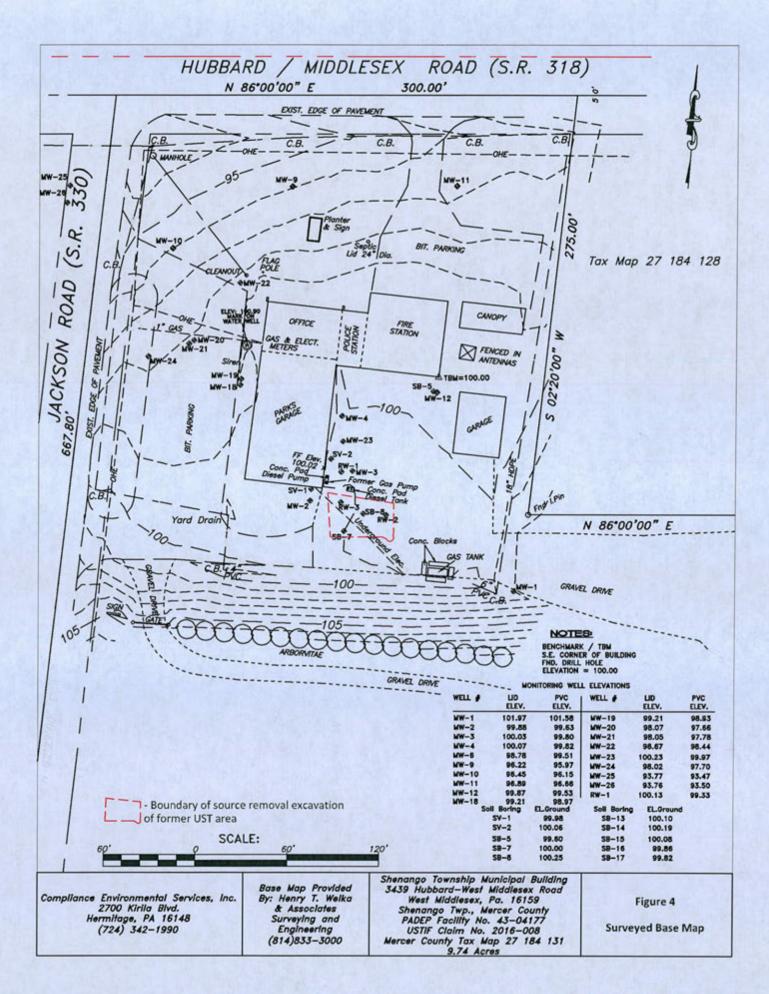


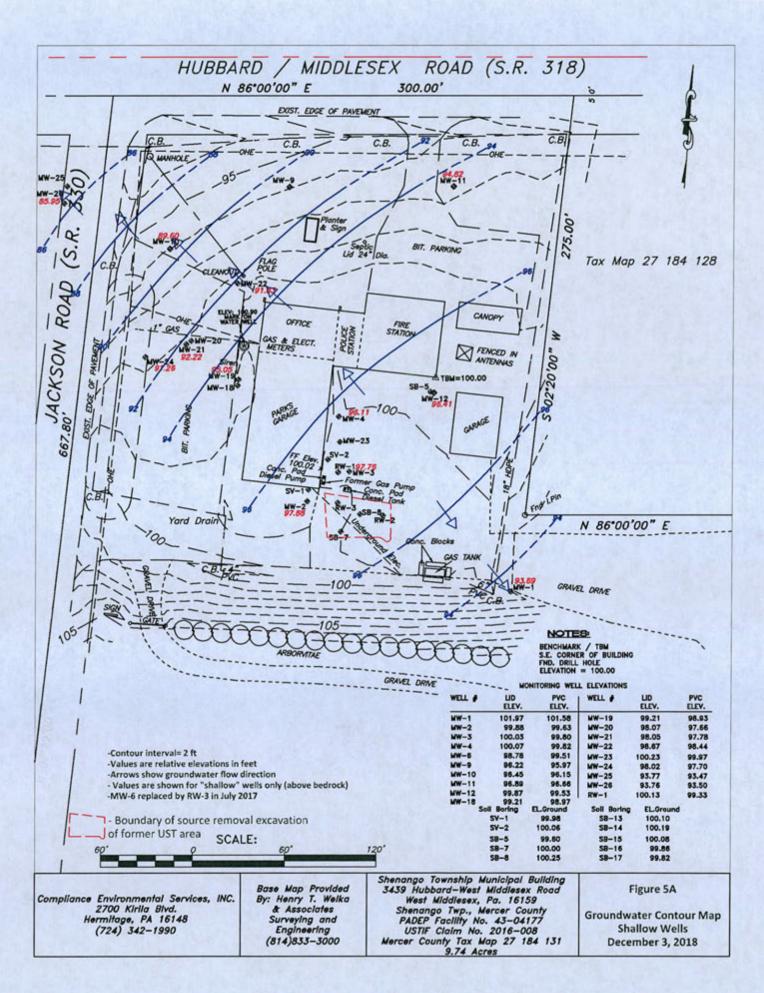


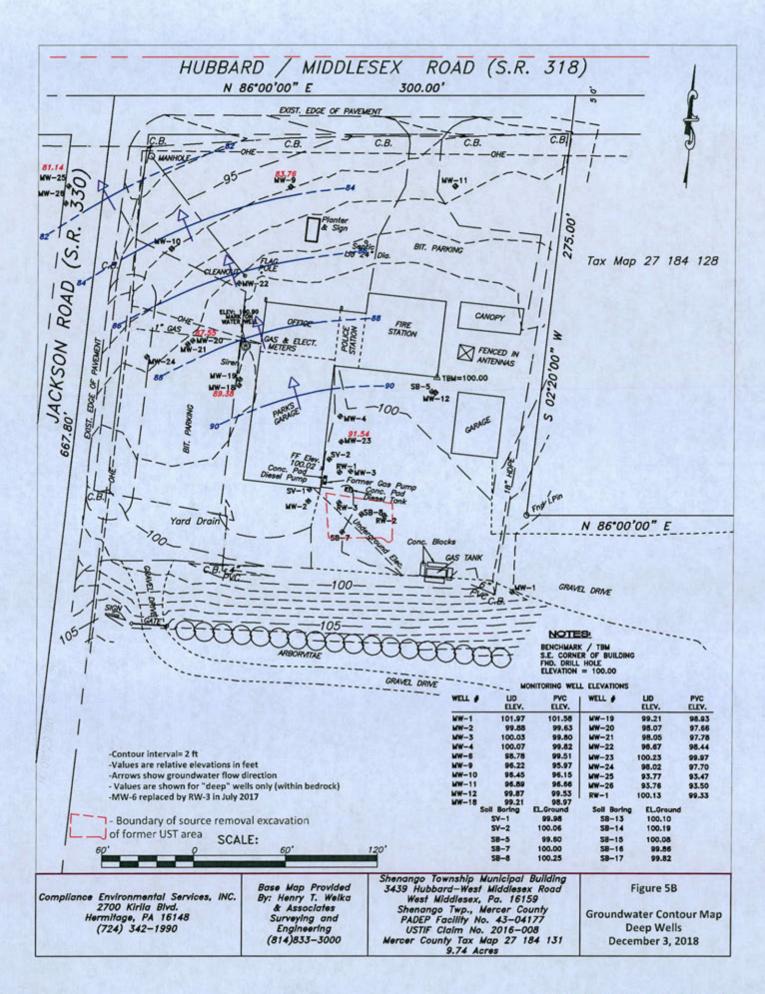
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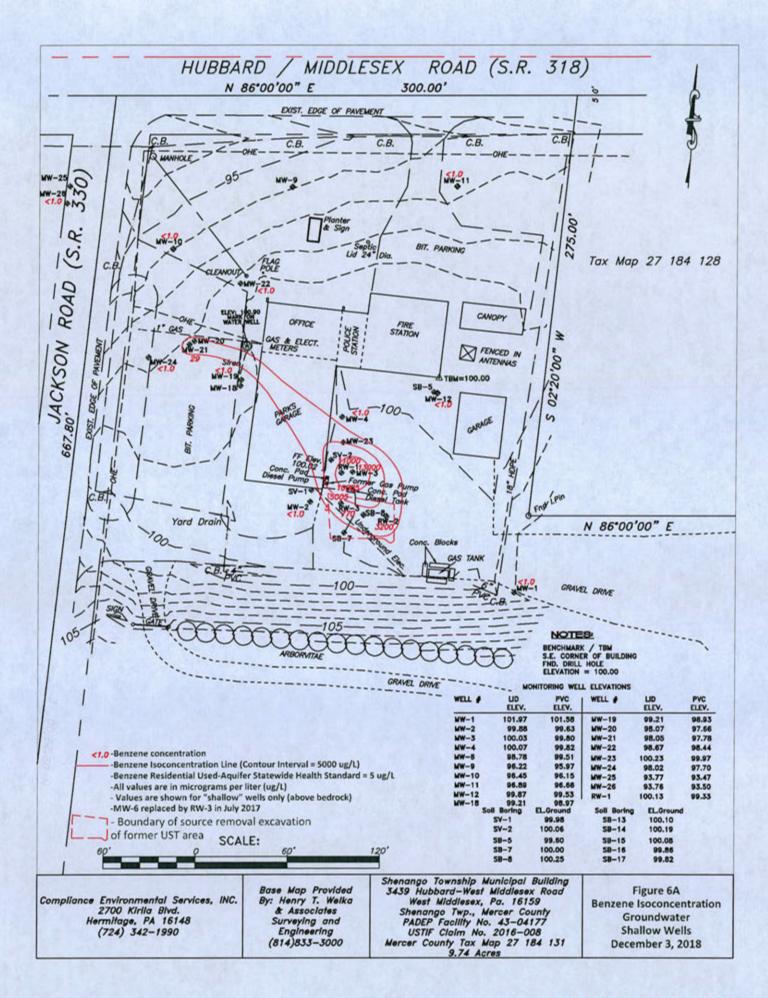


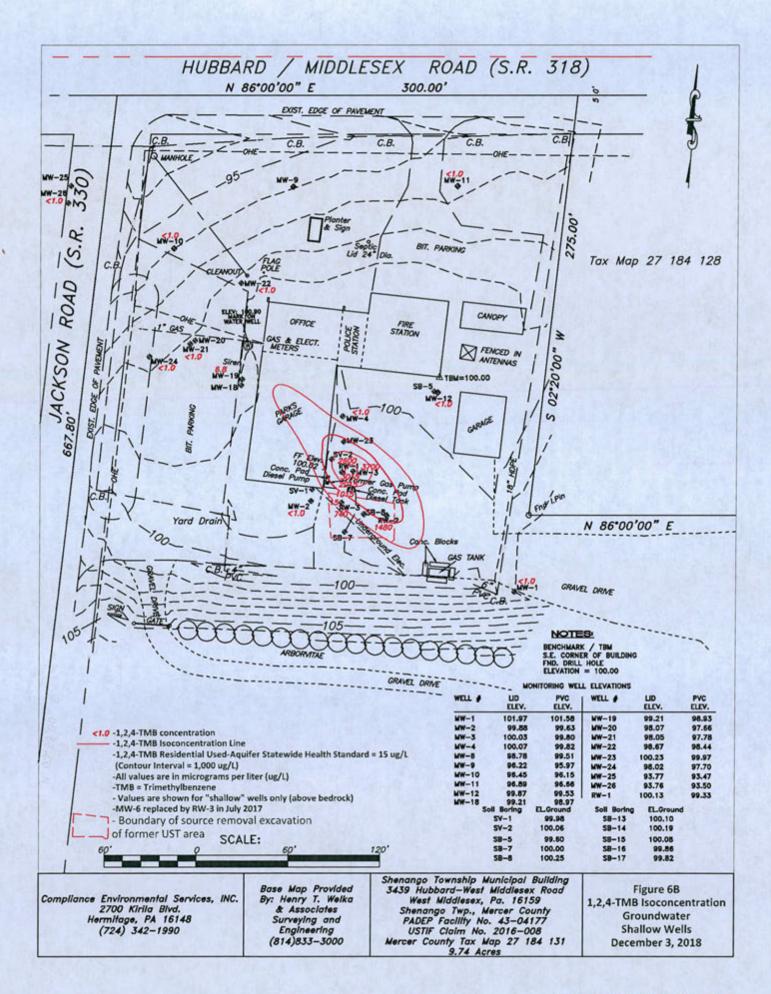
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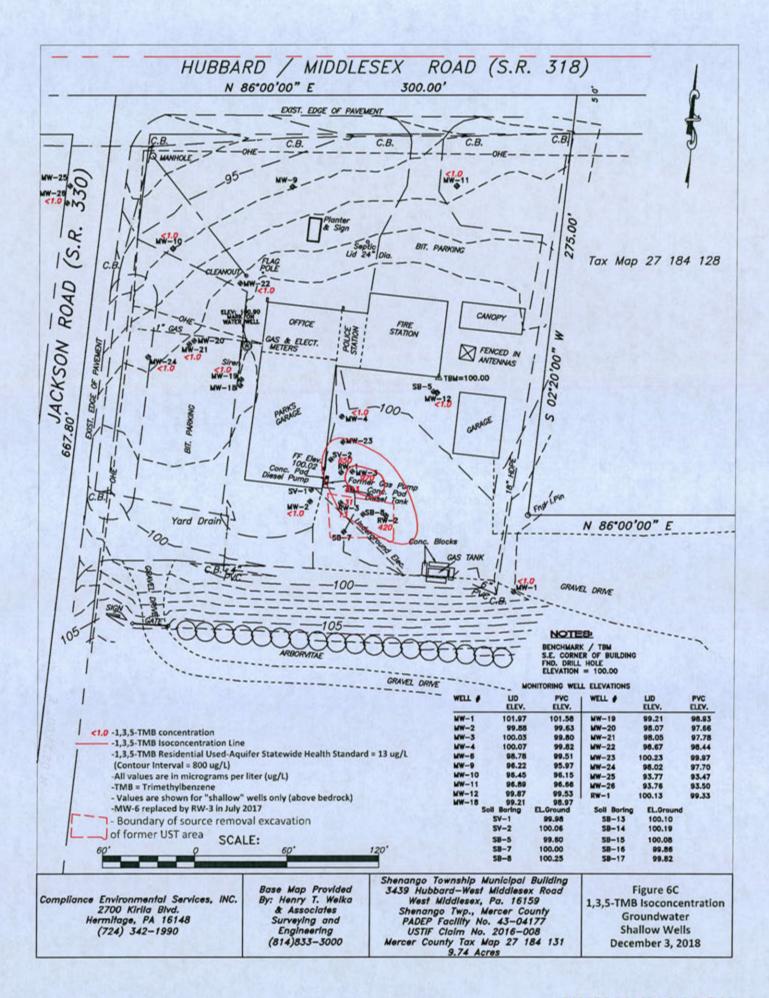


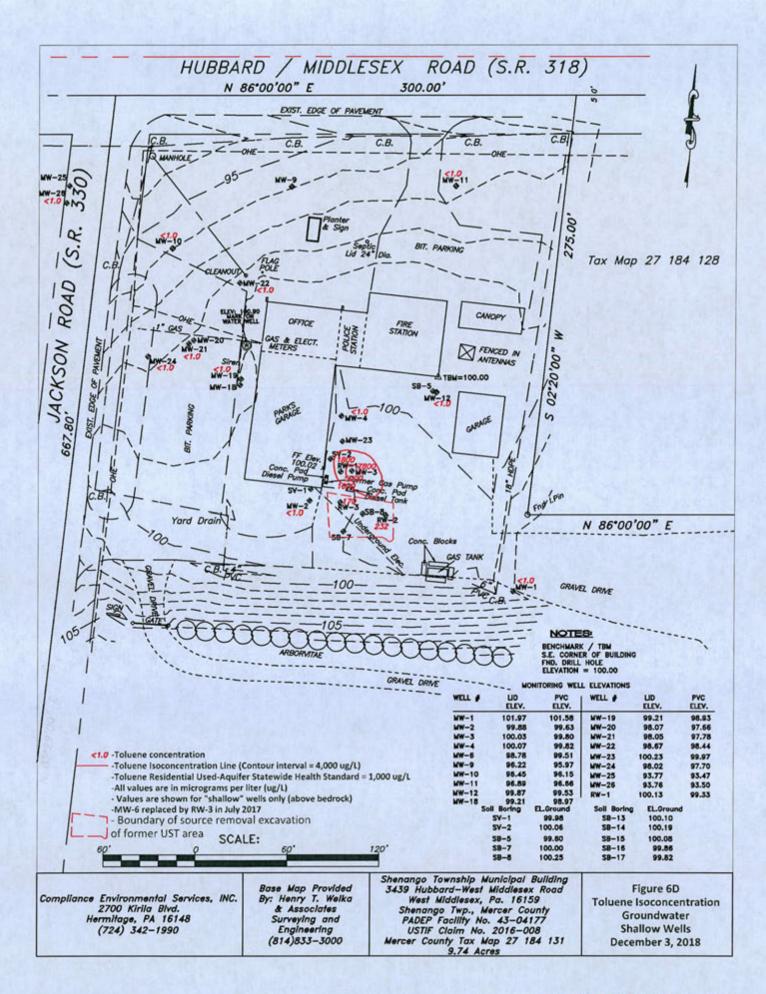


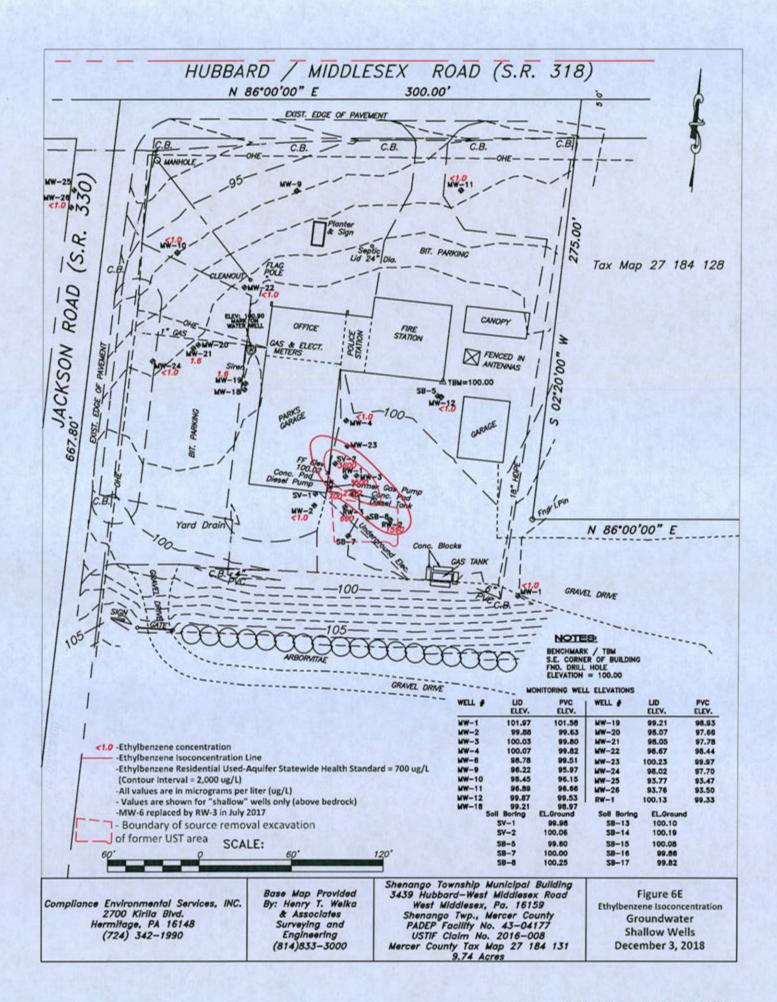


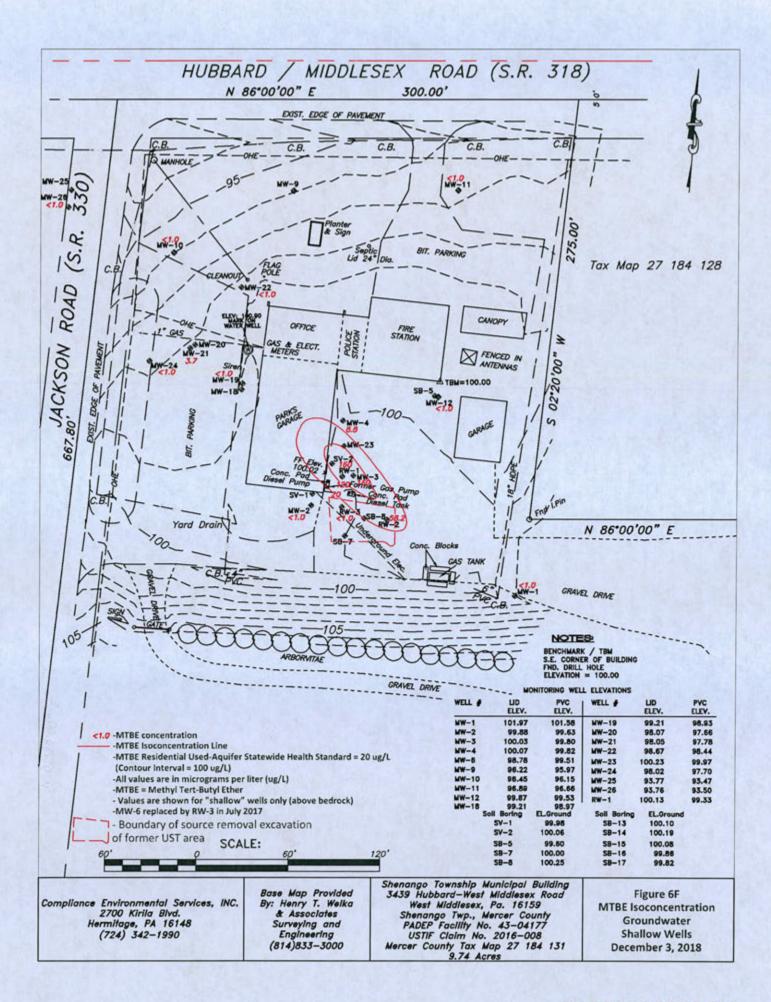


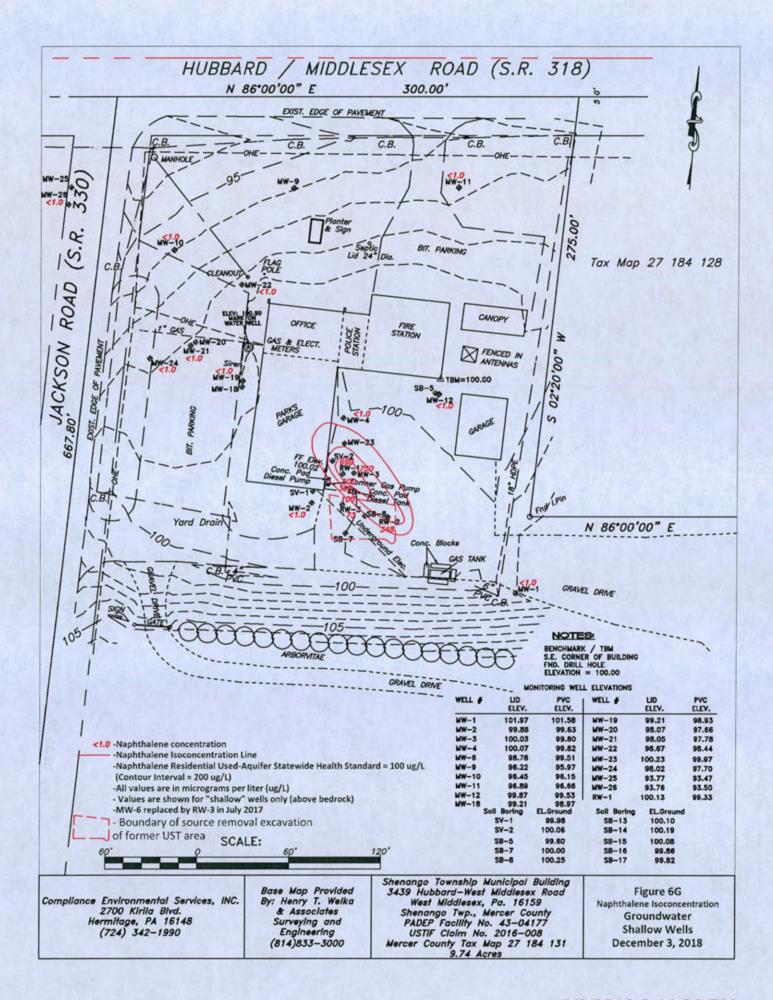


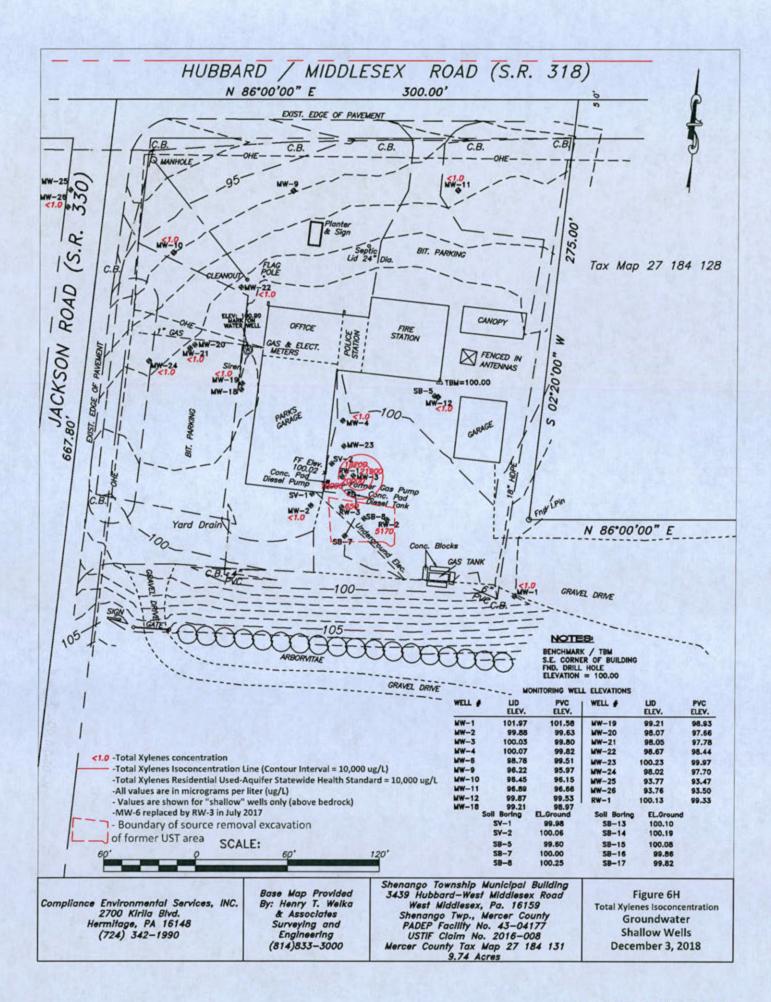


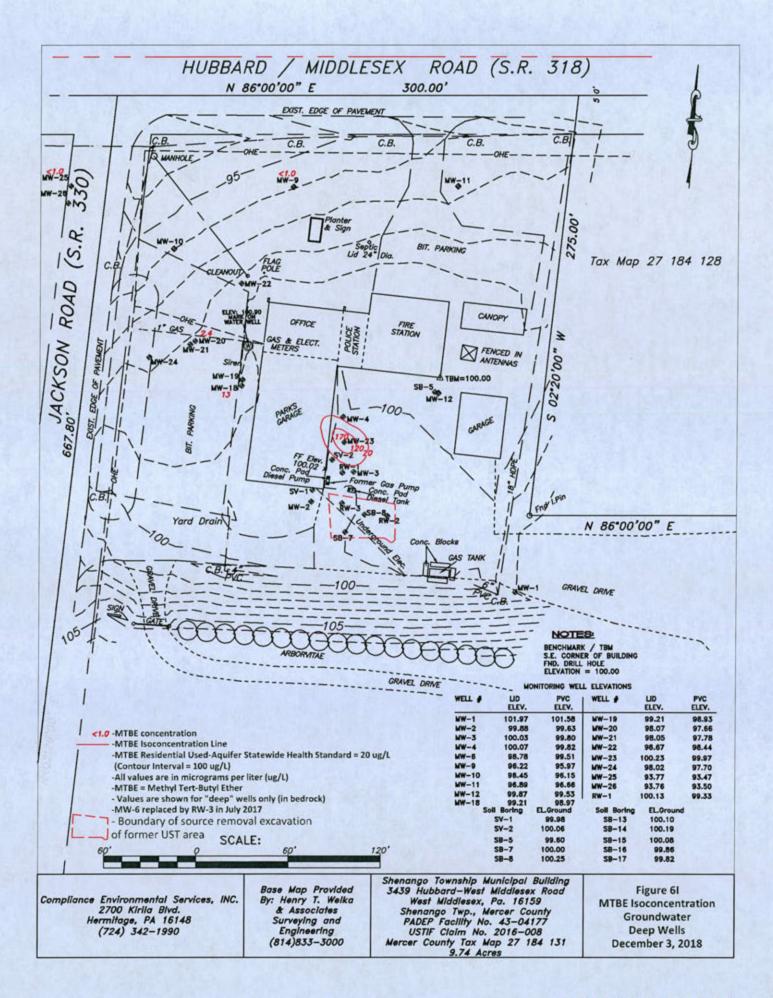












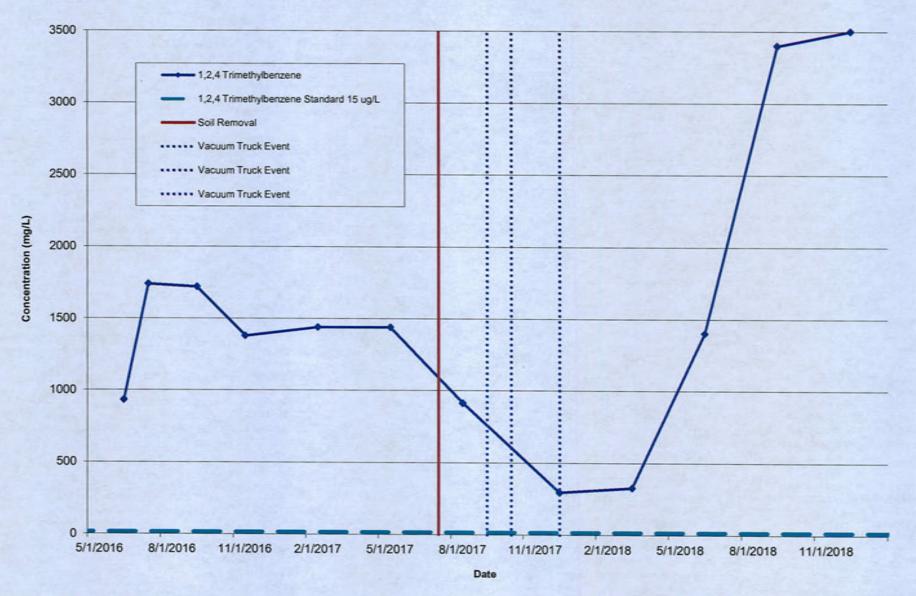
Shenango Township Municipal Building Mercer County Time Trend Analysis for Benzene in MW-3

Figure 7A



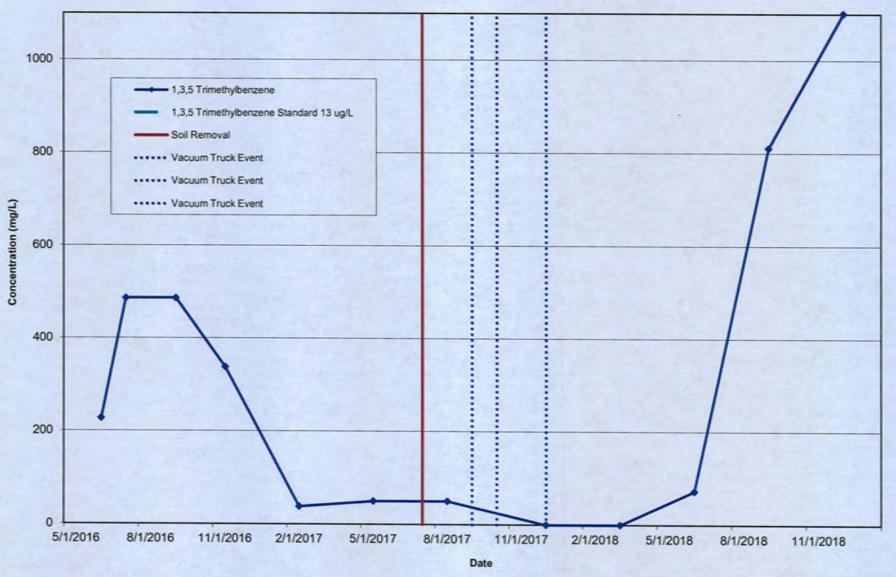
Shenango Township Municipal Building Mercer County Time Trend Analysis for 1,2,4-Trimethylbenzene in MW-3

Figure 7B



Shenango Township Municipal Building
Mercer County
Time Trend Analysis for 1,3,5-Trimethylbenzene in MW-3





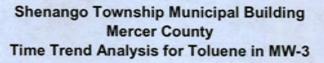
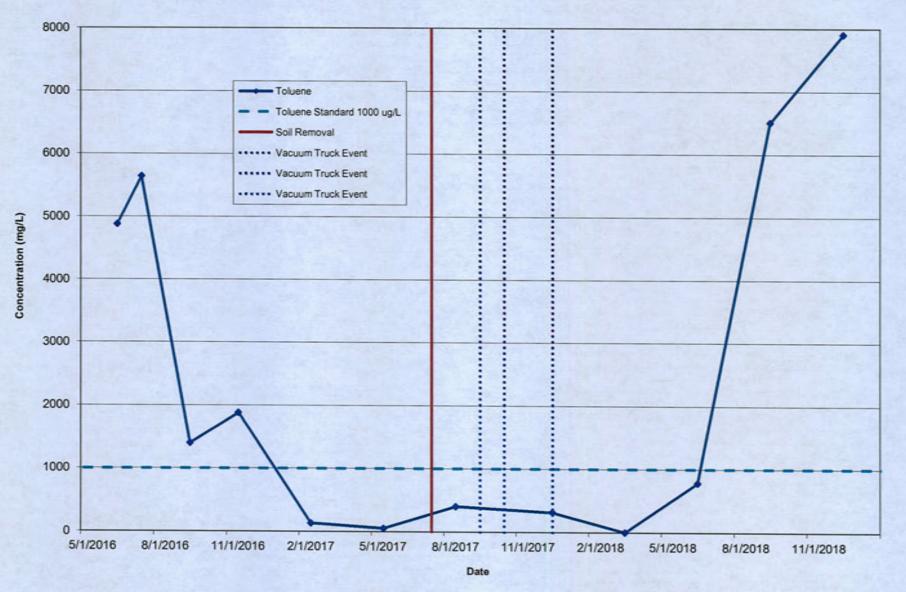
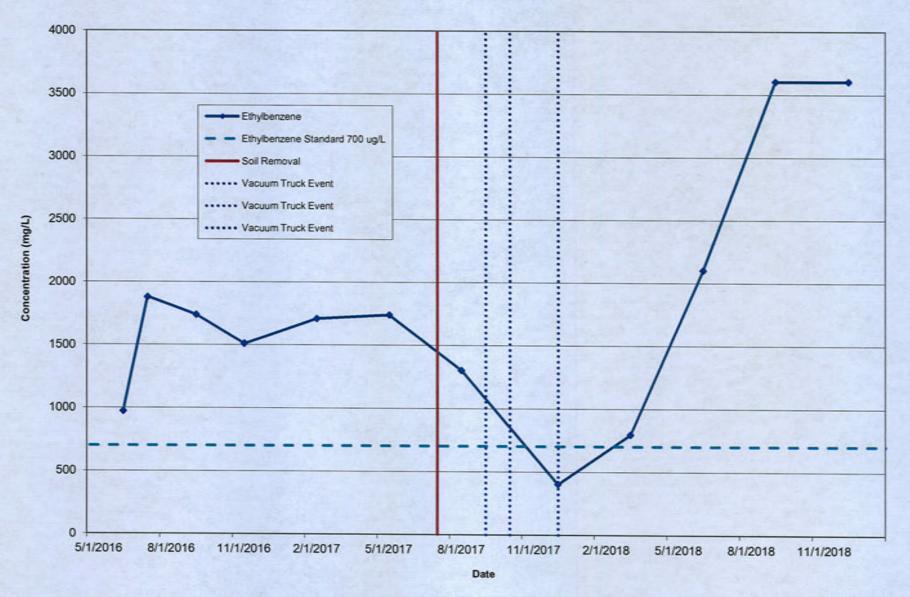


Figure 7D



Shenango Township Municipal Building Mercer County Time Trend Analysis for Ethylbenzene in MW-3

Figure 7E



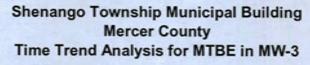
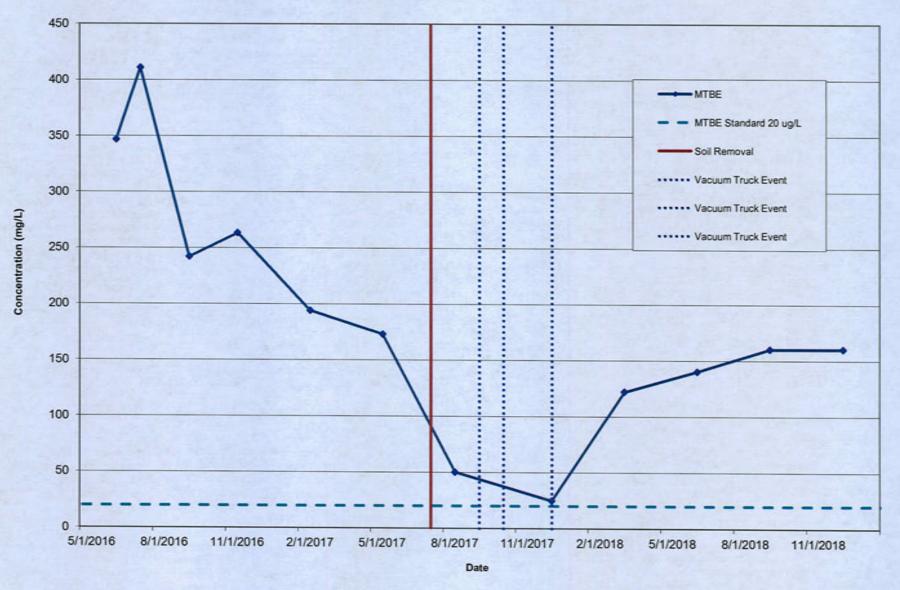
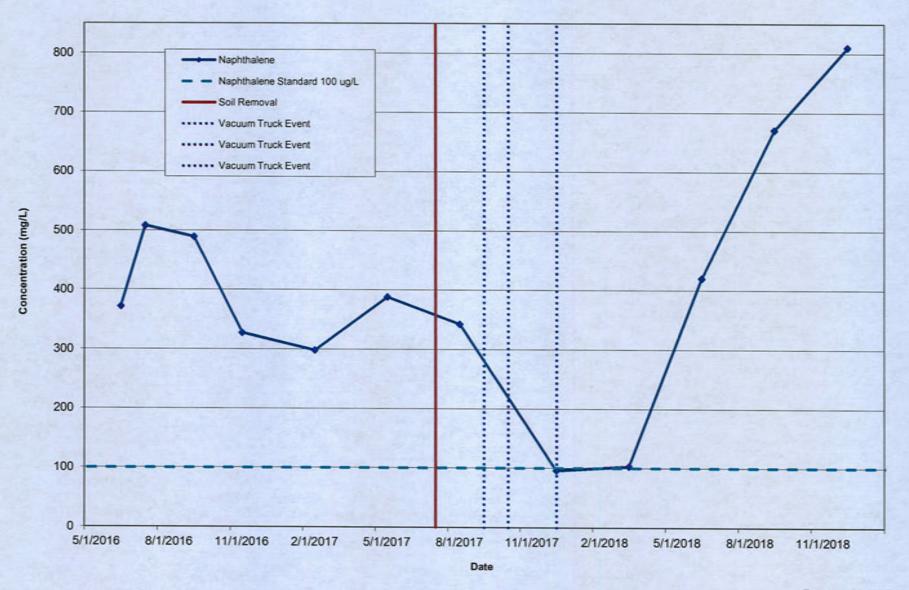


Figure 7F



Shenango Township Municipal Building Mercer County Time Trend Analysis for Naphthalene in MW-3

Figure 7G



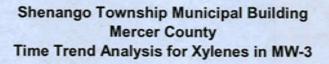
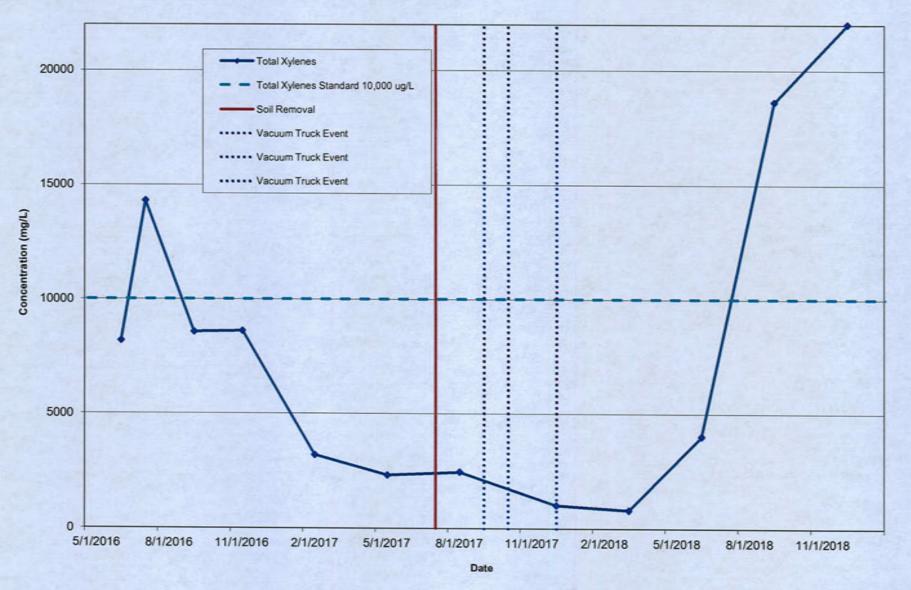
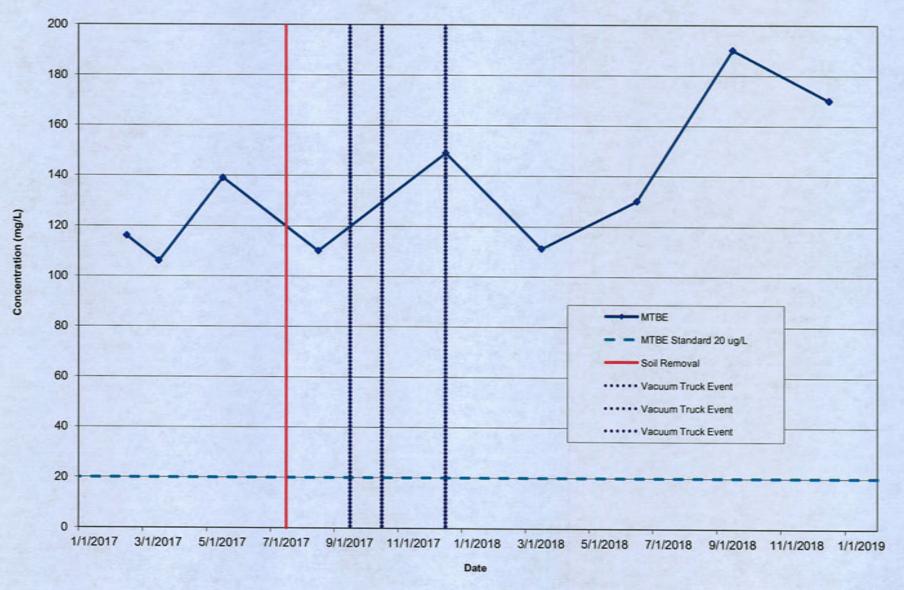


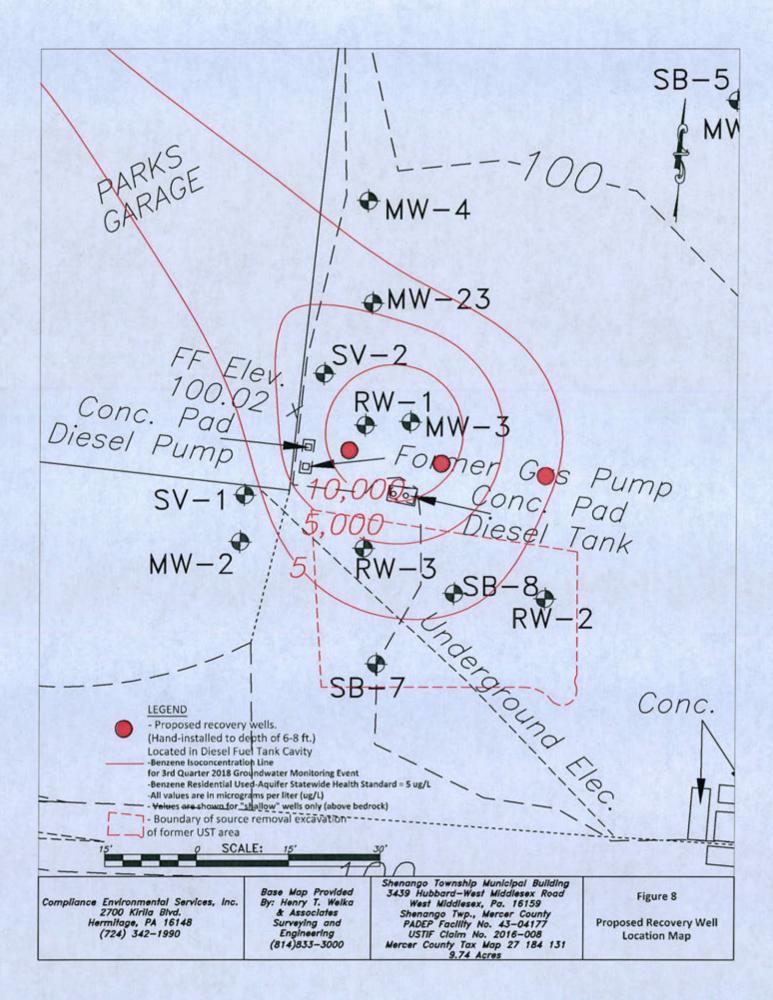
Figure 7H



Shenango Township Municipal Building Mercer County Time Trend Analysis for MTBE in MW-23

Figure 7I





TABLES

Table 1 Monitoring Well Gauging and Analytical Data Shenango Township Shenango Twp., Mercer Co., PA PADEP Facility ID No. 43-04177 USTIF Claim No. 2016-008(S)

		-		ng Data	10			_		malytical D	ata			
	100000000000000000000000000000000000000	Depth of	* Top of Casing	Depth	Corrected	Benzene	1,2,4-	1,3,5-	Toluene	Ethyl-	MTBE	Naph-	Xylenes	Cume (Isopro
Well ID	Date	Well	Elevation	Water	Elevation	Delizerie	TMB	TMB	Toruelle	benzene	MIDE	thalene	(total)	benzer
EMILINE.	Children and	feet	feet	feet	feet	υg/I	ug/l	ug/l	ug/I	ug/l	ug/I	ug/l	ug/I	ug/l
	6/15/2016	11.0	101.58	4.28	97.30	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	7/26/2016	11.0	101.58	5.40	96.18	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	9/26/2016	11.0	101.58	5.38	96.20	4.32	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	11/1/2016	11.0	101.58	5.36	96.22	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	2/17/2017	11.0	101.58	2.71	98.87	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
MW-1	5/23/2017	11.0	101.58	2.98	98.60	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
("shallow")	8/15/2017	11.0	101.58	6.00	95.58	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	12/6/2017	11.0	101.58	7.22	94.36	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	3/13/2018	11.0	101.58	0.50	101.08	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	6/8/2018	11.0	101.58	0.95	100.63	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/5/2018	11.0	101.58	8.40	93.18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/3/2018	11.0	101.58	7.89	93.69	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/15/2016	11.8	99.63	4.66	94.97	<1.00	<1.00	<1.00	<1.00	<1.00	1.45	<1.00	<2.00	<1.0
	7/26/2016	11.8	99.63	3.63	96.01	<1.00	<1.00	<1.00	<1.00	<1.00	4.26	<1.00	<2.00	<1.0
	9/26/2016	11.8	99.63	5.03	94.60	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	2/17/2017	11.8	99.63 99.63	6.44 2.10	93.20 97.53	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
MW-2	5/23/2017	11.8	99.63	5.74	93.89	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
("shallow")	8/15/2017	11.8	99.63	5.74	93.89	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
(analow)	12/6/2017	11.8	99.63	5.25	94.25	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	3/13/2018	11.8	99.63	2.04	97.59	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.0
	6/8/2018	11.8	99.63	2.05	97.58	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0
	9/5/2018	11.8	99.63	5.26	94.37	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/3/2018	11.8	99.63	1.75	97.88	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Annual Control	6/15/2016	11.0	99.80	4.69	95.11	11300	933	227	4880	974	347	372	8190	80.4
	7/26/2016	11.0	99.80	4.15	95.65	13200	1740	486	5640	1880	411	508	14300	54.5
	9/26/2016	11.0	99.80	4.87	94.93	7790	1720	486	1400	1740	242	489	8560	54.8
	11/1/2016	11.0	99.80	4.86	94.94	7600	1380	338	1880	1510	263	327	8610	52.1
	2/17/2017	11.0	99.80	2.53	97.27	9630	1440	<38.0	133	1710	194	298	3200	<46.
	5/23/2017	11.0	99.80	2.69	97.11	8880	1440	<50.0	<50.0	1740	173	388	2310	54.5
MW-3	8/15/2017	11.0	99.80	5.94	93.86	5580	913	<50.0	401	1300	<50.0	342	2450	<50.
("shallow")	12/6/2017	11.0	99.80	6.91	92.89	1240	294	<50.0	313	400	24.5	96	998	<50.
	12/6/2017D	11.0	99.80	6.91	92.89	1220	234	<50.0	281	399	32	77	928	<50.
	3/13/2018	11.0	99.80	2.05	97.75	5670	326	<50.0	<50.0	794	122	103	790	<50.
	6/8/2018	11.0	99.80	2.03	97.77	9700	1400	72	780	2100	140	420	4010	67
	9/5/2018	11.0	99.80	4.59	95.21	13000	3400	810	6500	3600	160	670	18600	120
	12/3/2018	11.0	99.80	2.04	97.76	13000	3500	1100	7900	3600	160	810	22000	160
	12/3/2018D	11.0	99.80	2.04	97.76	13000	3700	970	7800	3500	160	750	21900	140
10/27 1100	6/15/2016	13.0	99.82	6.03	93.79	31.6	3.91	1.93	<1.00	2.54	28.8	<1.00	<2.00	1.51
	7/26/2016	13.0	99.82	6.42	93.40	13.6	<1.00	<1.00	<1.00	<1.00	20.3	<1.00	<2.00	<1.0
	7/26/16 D	13.0	99.82	6.42	93.40	14.0	<1.00	<1.00	<1.00	<1.00	20.9	<1.00	<2.00	<1.0
	9/26/2016	13.0	99.82	6.95	92.87	13.1	2.01	1.75	1.72	2.29	35.0	2.00	6.85	1.79
	11/1/2016	13.0	99.82	5.84	93.98	<1.00	<1.00	<1.00	<1.00	<1.00	7.43	<1.00	<2.00	<1.0
MW-4	2/17/2017	13.0	99.82	3.67	96.15	<1.00	<1.00	<1.00	<1.00	<1.00	4.36	<1.00	<2.00	<1.0
("shallow")	5/23/2017	13.0	99.82	4.32	95.50	66.2	1.22	<1	<1	3.22	35.4	<1.00	3.90	<1.0
(3.10.1311)	8/15/2017	13.0	99.82	6.31	93.51	<1.00	<1.00	<1.00	<1.00	<1.00	23.9	<1.00	<2.00	<1.0
	12/6/2017	13.0	99.82	5.96	93.86	<1.00	5.3	<1.00	<1.00	<1.00	1.3	<1.00	<2.00	1.13
	3/13/2018	13.0	99.82	3.63	96.19	<1.00	<1.00	<1.00	<1.00	<1.00	7.25	<1.00	<2.00	<1.0
	6/8/2018	13.0	99.82	4.22	95.60	<1.0	<1.0	<1.0	<1.0	<1.0	25	<1.0	<1.0	<1.0
	9/5/2018	13.0	99.82	6.98	92.84	<1.0	<1.0	<1.0	<1.0	<1.0	34	<1.0	<1.0	<1.0
	12/3/2018	13.0	99.82	3.71	96.11	<1.0	<1.0	<1.0	<1.0	<1.0	8.8	<1.0	<1.0	<1.0
	6/15/2016	12.0	99.51	2.91	96.60	131	183	12.2	55.4	221	<5.00	157	374	13.0
I THE TANK	6/15/2016 D	12.0	99.51	2.91	96.60	168	332	27.6	85.8	363	<1.00	171	596	33.4
14141.0	7/26/2016	12.0	99.51	3.68	95.83	529	314	13.2	308	683	18.8	227	784	40.7
MW-6	9/26/2016	12.0	99.51	4.41	95.10	747	348	<5.00	40.4	917	7.85	73.6	336	54.2
"shallow")	9/26/16 D	12.0	99.51	4.41	95.10	802	360	<5.00	43.6	910	6.85	78.0	346	54.8
moved July	11/1/2016	12.0	99.51	4.15	95.36	677	569	12.9	102	1050	<1.00	54.3	497	97.7
2017	2/17/2017	12.0	99.51	2.49	97.02	617	103	<10.0	<10.0	205	<10.0	10.7	127	14.5
	5/23/2017	12.0	99.51	2.28	97.23	348	49.5	<10.0	<10.0	220	<10.0	<10.0	33.4	24.1
	5/23/2017 D	12.0	99.51	2.28	97.23	344	47.3	<10.0	<10.0	219	<10.0	<10.0	33.6	24.0
	O'ROINGII D	16:0	00.01		W1160		77.00	10.0	10.0		10.0	-10.0	00.0	E-TIU

Table 1 Monitoring Well Gauging and Analytical Data Shenango Township Shenango Twp., Mercer Co., PA PADEP Facility ID No. 43-04177 USTIF Claim No. 2016-008(S)

			Gaugi	ng Data					А	nalytical D	ata	19		
Well ID	Date	Depth of Well	* Top of Casing Elevation	Depth To Water	Corrected GW Elevation	Benzene	1,2,4- TMB	1,3,5- TMB	Toluene	Ethyl- benzene	MTBE	Naph- thalene	Xylenes (total)	Cumene (Isopropyl benzene)
ACRES DE LA COMPANIE	Control of the	feet	feet	feet	feet	Ngu	Ug/I	Ngu	ug/l	ug/I	ug/I	ug/l	Ug/I	ug/i
	9/26/2016	24.9	95.97	10.13	85.84	2.46	1.60	<1.00	<1.00	<1.00	<1.00	1.88	<2.00	<1.00
	11/1/2016	24.9	95.97	12.11	83.86	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	2/17/2017	24.9	95.97	8.99	86.98	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
MWO	5/23/2017	24.9	95.97	7.14	88.83	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
MW-9 ("deep")	8/15/2017 12/6/2017	24.9	95.97 95.97	7.50 9.35	88.47 86.62	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
(oneb)	3/13/2018	24.9	95.97	7.55	88.42	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	6/8/2018	24.9	95.97	6.50	89.47	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/5/2018	24.9	95.97	8.08	87.89	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/3/2018	24.9	95.97	12.21	83.76	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/26/2016	14.5	96.15	8.87	87.28	2.34	1.44	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	11/1/2016	14.5	96.15	8.25	87.90	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	2/17/2017	14.5	96.15	6.83	89.32	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	5/23/2017	14.5	96.15	6.56	89.59	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
MW-10	8/15/2017	14.5	96.15	7.95	88.20	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
("shallow")	12/6/2017	14.5	96.15	7.78	88.37	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	3/13/2018	14.5	96.15	5.06	91.09	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	6/8/2018	14.5	96.15	5.91	90.24	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/5/2018	14.5	96.15	8.86	87.29	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
		14.5	96.15	6.55	89.60	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0
	9/26/2016	9.5 9.5	96.66	4.83 3.24	91.83	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
10	2/17/2017	9.5	96.66 96.66	1.84	93.42	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
500 TU	5/23/2017	9.5	96.66	2.01	94.65	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
MW-11	8/15/2017	9.5	96.66	3.72	92.94	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
("shallow")	12/6/2017	9.5	96.66	3.03	93.63	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	3/13/2018	9.5	96.66	1.73	94.93	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	6/8/2018	9.5	96.66	2.03	94.63	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
404 P. C.	9/5/2018	9.5	96.66	4.21	92.45	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/3/2018	9.5	96.66	1.84	94.82	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/26/2016	8.8	99.53	6.72	92.81	3.75	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	11/1/2016	8.8	99.53	5.40	94.13	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	11/1/2016 D	8.8	99.53	5.40	94.13	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	2/17/2017	8.8	99.53	3.41	96.12	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
MW-12	5/23/2017	8.8	99.53	3.68	95.85	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
("shallow")	8/15/2017 12/6/2017	8.8	99.53 99.53	5.82	93.71	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	3/13/2018	8.8	99.53	2.99	96.54	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	6/8/2018	8.8	99.53	3.57	95.96	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	<1.0	<1.0	<1.00
	9/5/2018	8.8	99.53	6.68	92.85	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/3/2018	8.8	99.53	3.12	96.41	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2017	25.0	98.97	9.79	89.18	<1.00	<1.00	<1.00	<1.00	<1.00	7.25	<1.00	<2.00	<1.00
1	5/23/2017	25.0	98.97	9.90	89.07	<1.00	<1.00	<1.00	<1.00	<1.00	6.49	<1.00	<2.00	<1.00
Transmission &	8/15/2017	25.0	98.97	11.16	87.81	<1.00	11.8	<1.00	<1.00	8.20	<1.00	<1.00	<2.00	36.7
MW-18	12/6/2017	25.0	98.97	11.99	86.98	<1.00	<1.00	<1.00	<1.00	<1.00	7.58	<1.00	<2.00	<1.00
("deep")	3/13/2018	25.0	98.97	9.48	89.49	<1.00	<1.00	<1.00	<1.00	<1.00	9.66	<1.00	<2.00	<1.00
The same of	6/8/2018	25.0	98.97	10.00	88.97	<1.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	<1.0	<1.0
1 - 3 - 4	9/5/2018	25.0	98.97	12.13	86.84	<1.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	<1.0	<1.0
	12/3/2018	25.0	98.97	9.59	89.38	<1.0	<1.0	<1.0	<1.0	<1.0	13	<1.0	<1.0	<1.0
	2/17/2017	12.5	98.93	3.98	94.95	<1.00	212	21.3	<1.00	87.4	1.25	20.6	20.3	46.5
AMEDICAL STREET	5/23/2017	12.5	98.93	4.49	94.44	<1.00	116	1.02	<1.00	24.1	3.36	<1.00	5.47	23.6
MW 40	8/15/2017	12.5	98.93	6.65	92.28	<1.00	<1.00	<1.00	<1.00	<1.00	7.42	<1.00	<2.00	<1.00
MW-19 ("shallow")	12/6/2017	12.5	98.93	6.32	92.61	5.69	27.5	<1.00	<1.00	11.4	6.12	<1.00	<2.00	28.2
(anallow)	3/13/2018	12.5	98.93	4.04	94.89	<1.00	3.32	<1.00	<1.00	2.59	<1.00	<1.00	<2.00	4.69
1000	6/8/2018 9/5/2018	12.5	98.93	7.21	94.28	<1.0	5.7 4.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	27
	12/3/2018	12.5	98.93 98.93	3.88	95.05	<1.0	6.8	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	7.3
	2/17/2017					<1.00	<1.00	<1.00	<1.00	<1.00	2.41	<1.00		
	5/23/2017	25.0	97.66 97.66	8.94	88.72 88.84	<1.00	<1.00	<1.00	<1.00	<1.00	1.81		<2.00	<1.00
7	8/15/2017	25.0	97.66	9.16	88.5	<1.00	<1.00	<1.00	<1.00	<1.00	2.11	<1.00	<2.00	<1.00
MW-20	12/6/2017	25.0	97.66	10.33	87.33	<1.00	<1.00	<1.00	<1.00	<1.00	1.71	<1.00	<2.00	<1.00
("deep")	3/13/2018	25.0	97.66	13.70	83.96	<1.00	<1.00	<1.00	<1.00	<1.00	2.12	<1.00	<2.00	<1.00
(30.00)	6/8/2018	25.0	97.66	11.58	86.08	<1.00	<1.00	<1.00	<1.00	<1.00	3.1	<1.00	<1.0	<1.00
A FINE	9/5/2018	25.0	97.66	10.45	87.21	<1.0	<1.0	<1.0	<1.0	<1.0	3.3	<1.0	<1.0	<1.0
ALC: N	12/3/2018	25.0	97.66	10.11	87.55	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	<1.0

prepared by CES

Table 1 Monitoring Well Gauging and Analytical Data Shenango Township Shenango Twp., Mercer Co., PA PADEP Facility ID No. 43-04177 USTIF Claim No. 2016-008(S)

			Gaugi	ng Data			- 46	711	A	nalytical D	ata			
Well ID	Date	Depth of Well	* Top of Casing Elevation	Depth To Water	Corrected GW Elevation	Benzene	1,2,4- TMB	1,3,5- TMB	Toluene	Ethyl- benzene	MTBE	Naph- thalene	Xylenes (total)	Cumene (Isopropy benzene)
STATE OF THE PARTY.	ASSESSED AND ADDRESS OF THE PARTY OF THE PAR	feet	feet	feet	feet	ug/I	Ug/1	ug/l	ug/I	ug/I	ug/I	Ug/I	ug/l	Ug/I
	2/17/2017	11.5	97.78	4.86	92.92	81.0	27.2	18.9	<5.00	38.8	<5.00	12.2	<10.0	22.2
	5/23/2017 8/15/2017	11.5	97.78	5.9 7.54	91.88	70.7	10.9	10.6	<1.00	46.0 1.56	3.83 <1.00	9.89	3.08 <2.00	7.07
MW-21	12/6/2017	11.5	97.78	7.55	90.24	111	11.9	15.7	<1.00	30.2	6.17	12.2	2.29	20.0
("shallow")	3/13/2018	11.5	97.78	4.94	92.84	47.1	53.0	11.7	<1.00	76.0	3.05	11.2	3.67	12.2
	6/8/2018	11.5	97.78	5.81	91.97	53	7.7	<1.0	<1.0	45	4.0	3.3	1.4	15
	9/5/2018	11.5	97.78	7.95	89.83	43	3.7	<1.0	<1.0	<1.0	3.5	2.6	<1.0	7.0
	12/3/2018	11.5	97.78	5.56	92.22	29	<1.0	<1.0	<1.0	1.6	3.7	<1.0	<1.0	5.1
	2/17/2017	11.0	98.44	5.50	92.94	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	5/23/2017	11.0	98.44	6.55	91.89	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
MW-22	8/15/2017 12/6/2017	11.0	98.44	8.88	89.56 90.29	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
("shallow")	3/13/2018	11.0	98.44	5.29	93.15	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	6/8/2018	11.0	98.44	5.34	93.10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/5/2018	11.0	98.44	9.37	89.07	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/3/2018	11.0	98.44	6.61	91.83	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2017	25.5	99.97	8.27	91.70	<1.00	<1.00	<1.00	<1.00	<1.00	116	<1.00	<2.00	<1.00
	3/24/2017	25.5	99.97	8.85	91.12	<1.00	<1.00	<1.00	<1.00	<1.00	106	<1.00	<2.00	<1.00
	5/23/2017 8/15/2017	25.5 25.5	99.97 99.97	8.73 10.08	91.24 89.89	10.8 <1.00	<1.00	<1.00	<1.00	1.72 <1.00	139	<1.00	2.05 <2.00	<1.00
MW-23	12/6/2017	25.5	99.97	11.49	88.48	<1.00	<1.00	<1.00	<1.00	<1.00	149	<1.00	<2.00	<1.00
("deep")	3/13/2018	25.5	99.97	8.18	91.79	<1.00	<1.00	<1.00	<1.00	<1.00	111	<1.00	<2.00	<1.00
The state of the s	6/8/2018	25.5	99.97	8.62	91.35	<1.0	<1.0	<1.0	<1.0	<1.0	130	<1.0	<1.0	<1.0
	9/5/2018	25.5	99.97	11.45	88.52	<1.0	<1.0	<1.0	<1.0	<1.0	190	<1.0	<1.0	<1.0
	9/5/2018 D	25.5	99.97	11.45	88.52	<1.0	<1.0	<1.0	<1.0	<1.0	200	<1.0	<1.0	<1.0
	12/3/2018	25.5	99.97	8.43	91.54	<1.0	<1.0	<1.0	<1.0	<1.0	170	<1.0	<1.0	<1.0
	2/17/2017	12.5	97.70	5.04	92.66	<1.00	<1.00	1.31	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	5/23/2017	12.5	97.70	5.72	91.98	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
MW-24	8/15/2017 12/6/2017	12.5 12.5	97.70 97.70	7.89 7.85	89.81 89.85	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
("shallow")	3/13/2018	12.5	97.70	5.13	92.57	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	6/8/2018	12.5	97.70	6.53	91.17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/5/2018	12.5	97.70	8.88	88.82	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/3/2018	12.5	97.70	6.44	91.26	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/13/2018	40.0	93.47	11.54	81.93	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
MW-25	6/8/2018	40.0	93.47	11.80	81.67	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0
("deep")	9/5/2018 12/3/2018	40.0	93.47	14.26	79.21 81.14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/13/2018	10.5	93.50	6.94	86.56	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
MW-26	6/8/2018	10.5	93.50	7.08	86.42	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
("shallow")	9/5/2018	10.5	93.50	8.67	84.83	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/3/2018	10.5	93.50	7.55	85.95	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2017	15.5	99.33	4.10	95.23	10000	2500	599	8100	3800	111	595	19500	89.9
	2/17/2017 D	15.5	99.33	4.10	95.23	10100	2160	573	1980	2320	305	372	9510	92.9
	5/23/2017	15.5	99.33	3.63	95.71	11700	2140	554	6100	3180	194	655	16000	102
	8/15/2017 12/6/2017	15.5 15.5	99.33	6.30	93.03	6210 8470	1870 2490	472 706	1480	1760	614 434	398 482	9260 9360	87.0 100.0
RW-1	3/13/2018	15.5	99.33	4.61	94.72	9680	2700	742	3850	3460	189	609	17600	110.0
11008	3/13/2018 D	15.5	99.33	4.61	94.72	9500	2900	809	4090	3600	184	649	17200	119.0
D. 1241	6/8/2018	15.5	99.33	NM	NM	10000	2300	630	4500	3300	<400	470	13700	<400
	6/8/2018 D	15.5	99.33	NM	NM	11000	2500	680	4800	3500	<400	500	13800	<400
	9/5/2018	15.5	99.33	6.08	93.25	11000	2900	800	4200	3800	140	670	21500	110.0
	12/3/2018	15.5	99.33	NM	NM	11000	2600	650	1800	3600	160	660	18200	99
	8/15/2017	10.52	NM	6.05	NM	5820	2130	599	4230	1830	180	554	9330	93.2
RW-2	8/15/2017 D	10.52	NM	6.05	NM	5120	2100	565	4040	1830	<25.0	536	10100	90.5
1	12/6/2017 3/13/2018	10.52	NM NM	8.07 2.45	NM NM	13500 3200	1480	616 420	6630 232	1560	255 58.2	756 348	12400 5170	103.0
	8/15/2017	11.93	NM	5.48	NM	4250	1940	464	654	1440	294	532	8140	78.0
RW-3	12/6/2017	11.93	NM	7.46	NM	2430	664	150	2220	914	42.0	229	4210	28.8
(located at	3/13/2018	11.93	NM	1.92	NM	2860	1360	214	166	1320	65.5	314	2350	64.0
former MW-6	6/8/2018	11.93	NM	1.77	NM	260	120	2.1	2	88	5.4	15	97	7.1
location)	12/3/2018	11.93	NM	1.34	NM	770	740	31	170	600	<1.0	73	650	33
41 - 44 - 14	Resid SHS	N/A	N/A	N/A	N/A	5	15	13	1,000	700	20		10,000	840

Table 1 Monitoring Well Gauging and Analytical Data

Shenango Township

Shenango Twp., Mercer Co., PA PADEP Facility ID No. 43-04177 USTIF Claim No. 2016-008(S)

				ng Data	-				A	nalytical D	ata			
Well ID	Date	Depth of Well	*Top of Casing Elevation	Depth To Water	GW Elevation	Benzene	1,2,4- TMB	1,3,5- TMB	Toluene	Ethyl- benzene	MTBE	Naph- thalene	Xylenes (total)	Cumene (Isopropy benzene
		feet	feet	feet	feet	ug/l	ug/1	ug/l	ug/I	ug/I	ug/I	LQU 1	ug/I	Ug/I
	7/26/2016	125*	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	2/24/2017	125*	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	3/24/2017	125*	100.90	14.69	86.21	<1.00	<1.00	<1.00	<1.00	<1.00	1.13	<1.00	<2.00	<1.00
	5/23/2017	125*	100.90	14.42	86.48	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	6/20/2017	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	7/31/2017	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	8/15/2017	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	10/3/2017	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	10/31/2017	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	11/29/2017	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
Township	12/19/2017	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
Water Well	1/30/2018	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
Water Wen	2/26/2018	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
100	3/21/2018	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	4/25/2018	125*	100.90	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
THE RESERVE	6/1/2018	125*	100.90	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/2/2018	125*	100.90	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/26/2018	125*	100.90	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	8/30/2018	125*	100.90	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/25/2018	125*	100.90	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
10000	10/26/2018	125*	100.90	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Levi S	11/30/2018	125*	100.90	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2018	125°	100.90	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/23/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	3.50	<1.00	<2.00	<1.00
	6/20/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	3.97	<1.00	<2.00	<1.00
	8/18/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	4.25	<1.00	<2.00	<1.00
	10/3/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	10/31/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	4.49	<1.00	<2.00	<1.00
	11/29/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	2.84	<1.00	<2.00	<1.00
	12/19/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	4.28	<1.00	<2.00	<1.00
	1/30/2018	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	3.41	<1.00	<2.00	<1.00
Raw Water	2/26/2018	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	3.94	<1.00	<2.00	<1.00
(3462 Hubbard	3/21/2018	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	3.69	<1.00	<2.00	<1.00
Middlesex Rd)	4/25/2018	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	3.68	<1.00	<2.00	<1.00
The second second	6/1/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	3.1	<1.0	<1.0	<1.0
	7/2/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	4.1	<1.0	<1.0	<1.0
	7/24/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	3.9	<1.0	<1.0	<1.0
	8/30/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	3.7	<1.0	<1.0	<1.0
	9/25/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	3.3	<1.0	<1.0	<1.0
	10/26/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	3.3	<1.0	<1.0	<1.0
	11/30/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	3.3	<1.0	1.3	<1.0
	12/20/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	3.6	<1.0	1.0	<1.0
	10/3/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
Mary 1998	10/31/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	11/29/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	12/19/2017	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	1/30/2018	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
	2/26/2018	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
Discharge	3/21/2018	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
Discharge (3462 Hubbard	4/25/2018	NM	NM	NM	NM	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00
Middlesex Rd)	6/1/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
middlesex (Nu)	7/2/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/24/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	8/30/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
F 30 - 17 5	9/25/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/26/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/30/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1 1 1 6	12/20/2018	NM	NM	NM	NM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

NOTES: NA - Not Analyzed N/A - Not Applicable NS - Not Sampled NM - Not Monitored

NM - Not Montored
D - Indicates Duplicate Sample
*-reported depth, not measured
"shallow" - indicates well completed in unconsolidated material
"deep" - indicates well is screened entirely in bedrock
< - Less than the Reporting Limit.
Number shown is the Reporting Limit

Analytical Methods: EPA Method 8260B for all analytes.

SHS - Statewide Health Standards (PADEP)

Shaded values exceed Statewide Health Standards.

All results are in micrograms per liter (ugfl).

Wells have been surveyed by Henry T. Welka & Assoc., Erie, PA.

* Elevations Are Relative To An Arbitrary Datum of 100.00 feet (tocated at the SE corner of the Fire Department building)

ATTACHMENT 1

Analytical Reports

- 10/26/18 Township Water Well and Offsite Well
- 11/30/18 Township Water Well and Offsite Well
- 12/3/18 -4th QTR Groundwater Sampling
- 12/20/18 -Township Water Well and Offsite Well



Thursday, November 01, 2018

Attn: Dave Siekkinen Compliance Env Services Inc 2700 Kirila Drive Hermitage, PA 16148

Project ID: SHENANGO TOWNSHIP Sample ID#s: CB84481 - CB84483

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

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

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis/Shiller

Laboratory Director

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #M-CT007 ME Lab Registration #CT-007 NH Lab Registration #213693-A,B NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530 RI Lab Registration #63 UT Lab Registration #CT00007 VT Lab Registration #VT11301





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



Analysis Report

November 01, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Informa	ation	Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	10/26/18	12:35
Location Code:	COMPENV-PA	Received by:	CP	10/30/18	10:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:			-	CDC ID.	00004404

<u>Laboratory Data</u>

SDG ID: GCB84481 Phoenix ID: CB84481

Project ID: SHENANGO TOWNSHIP

Client ID: WATER WELL

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	asoline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Benzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Toluene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	10/31/18	НМ	70 - 130 %
% Bromofluorobenzene	89		%	1	10/31/18	НМ	70 - 130 %
% Dibromofluoromethane	100		%	1	10/31/18	НМ	70 - 130 %
% Toluene-d8	97		%	1	10/31/18	НМ	70 - 130 %

Project ID: SHENANGO TOWNSHIP

Client ID: WATER WELL

RL

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

November 01, 2018

Reviewed and Released by: Bobbi Aloisa, Vice President

Phoenix I.D.: CB84481





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



Analysis Report

November 01, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Informa	ation	Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	10/26/18	13:00
Location Code:	COMPENV-PA	Received by:	CP	10/30/18	10:23
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#:

Laboratory Data

SDG ID: GCB84481 Phoenix ID: CB84482

Project ID: SHENANGO TOWNSHIP

Client ID: DISCHARGE

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Benzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Toluene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	10/31/18	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/31/18	НМ	70 - 130 %
% Bromofluorobenzene	89		%	1	10/31/18	НМ	70 - 130 %
% Dibromofluoromethane	95		%	1	10/31/18	НМ	70 - 130 %
% Toluene-d8	97		%	1	10/31/18	НМ	70 - 130 %

Project ID: SHENANGO TOWNSHIP

Client ID: DISCHARGE

Phoenix I.D.: CB84482

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

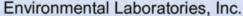
If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

November 01, 2018

Reviewed and Released by: Bobbi Aloisa, Vice President





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



Analysis Report

November 01, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Informa	ation	Custody Inform	nation	Date	Time
Matrix:	GROUND WATER	Collected by:	DS	10/26/18	13:05
Location Code:	COMPENV-PA	Received by:	CP	10/30/18	10:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:				000 10	0000110

Laboratory Data

SDG ID: GCB84481 Phoenix ID: CB84483

Project ID: SHENANGO TOWNSHIP

Client ID: RAW WATER

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	D.	Reference
Farameter	Result	FQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Benzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Methyl t-Butyl Ether (MTBE)	3.3	1.0	ug/L	1	10/31/18	НМ	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Toluene	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	10/31/18	НМ	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/31/18	НМ	70 - 130 %
% Bromofluorobenzene	87		%	1	10/31/18	НМ	70 - 130 %
% Dibromofluoromethane	92		%	1	10/31/18	НМ	70 - 130 %
% Toluene-d8	93		%	1	10/31/18	НМ	70 - 130 %

Project ID: SHENANGO TOWNSHIP

Client ID: RAW WATER

Phoenix I.D.: CB84483

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

November 01, 2018

Reviewed and Released by: Bobbi Aloisa, Vice President



Environmental Laboratories, Inc.

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



QA/QC Report

November 01, 2018

QA/QC Data

SDG I.D.: GCB84481

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Rec Limits	RPD Limits
QA/QC Batch 454436 (ug/L),	QC Samp	e No: CB84412 (C	CB84481, CB84482,	CB8448	3)	F	45.79			THE PARTY
Volatiles - Ground Water	er									
1,2,4-Trimethylbenzene	ND	1.0	97	98	1.0				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	99	103	4.0				70 - 130	30
Benzene	ND	0.70	94	96	2.1				70 - 130	30
Ethylbenzene	ND	1.0	102	99	3.0				70 - 130	30
sopropylbenzene	ND	1.0	101	103	2.0				70 - 130	30
m&p-Xylene	ND	1.0	102	100	2.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	100	99	1.0				70 - 130	30
Naphthalene	ND	1.0	101	103	2.0				70 - 130	30
o-Xylene	ND	1.0	103	101	2.0				70 - 130	30
Foluene	ND	1.0	96	99	3.1				70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	99	102	3.0				70 - 130	30
% Bromofluorobenzene	90	%	103	97	6.0				70 - 130	30
% Dibromofluoromethane	97	%	103	95	8.1				70 - 130	30
% Toluene-d8 Comment:	95	%	101	99	2.0				70 - 130	30

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

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis Shiller, Laboratory Director

November 01, 2018

Thursday, Novemi Criteria: None State: PA	Criteria: None State: PA	018	Sample Criteria Exceedances Report				
SampNo Acode	Acode	Phoenix Analyte	Criteria	Result	R	Criteria	Criteria
*** No Data	*** No Data to Display ***						No.

Analysis Units

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



Environmental Laboratories, Inc.

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



Analysis Comments

November 01, 2018

SDG I.D.: GCB84481

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

		1	1777							ALLEX III		
Coolant IPK ICE No	1, (% act Option -342.	2		103		- M			TOGS GW Clean Fill Imile	000	Residential Soil P A Soil Restricted 375SCO Residential	Commercial Soil State Samples Collected? 375SCO Industrial Soil Subpart 5 DW
	ZOZ	1111	1 / 2 / 3	100 (50 TO)	ME	1			_ ¥ □	5 % 5 % C	375 Res	S 2 3 3
	3TODY RECORD 0, Manchester, CT 06040 Fax (860) 645-0823 645-8726	Shewanga Township Dave Siekkhun Jan Mozzocio		1000					N. Res. Criteria			Data Package: NJ Reduced Deliv. Other NY Enhanced (ASP B)
	370, N Fay 80) 6	The Me	33	/	1				urmaround:	Other Other	· SURCHARGE	Data P NJ R
	NY/NJ/PA CHAIN OF CUSTODY RECORD 587 East Middle Tumpike, P.O. Box 370, Manchester, CT 06040 Email: info@abloenidabs.com Fax (860) 645-0823 Client Services (860) 645-8726	Report to: Day Invoice to: Jan Quote # :	K3 33		XX	X			Time:	3:25,00	EQUIS NJ Hazsite EDD	NY EZ EDD (ASP) Other
	/NJ/		18	pel pel		10			Date: 10-219-18	30		
	N 287 E		-21	Time	1300	502			0 0		and Report	
		86148	Date 10	Date Sampled	181-97-01	4			Ph	Data Romat	S	C GISIKey
	Inc.		o Wate	Sample	30-	A			18	N		
	3.5	00	Surface	05≥	0		+	+	JA.	3 :suo		
	PHOENIX Environmental Laboratories,	2 Kirila	Sampler's Collent Sample - Information - Identification Signature A. P. M. Matrix Code: DW-Drinking Water GW-Ground Water SW-Surface Water WW=Waster RW=Raw Water SE-Sediment SL-Sludge S-Soil SD-Soild W=Wipe OIL=Oil B=Bulk L=Liquid	Customer Sample Identification	Water Well Discharge	Rauwater			Accepted by:	omments, Special Requirements or Regulations:		
	H.	2700 Hermi	W=Greenen	Cus	late isch	an			1.1	A Palled		
	OE!		faure fater GW= r SE=Sedin	XII.	30	2	+	+	the	3/75		
	H	Address:	s sode:	SAMPLE #	000	6844			Aut of	3 pee		
	Envi	Add	Sampler's Code: Matrix Code: DW-Drinking Water GW= RWERaw Water SE=Sedin OIL=Oil B=Bulk L=Liquid	SAMPLE #	3448 3448	अपप			Sellngui	A mment		



Tuesday, December 11, 2018

Attn: Dave Siekkinen Compliance Env Services Inc 2700 Kirila Drive Hermitage, PA 16148

Project ID: SHANANGO TWP Sample ID#s: CC08586 - CC08588

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

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

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

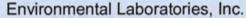
Sincerely yours,

Phyllis/Shiller

Laboratory Director

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #M-CT007 ME Lab Registration #CT-007 NH Lab Registration #213693-A,B NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530 RI Lab Registration #63 UT Lab Registration #CT00007 VT Lab Registration #VT11301





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



Analysis Report

December 11, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc.

2700 Kirila Drive Hermitage, PA 16148

Sample Informa	ation	Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	11/30/18	14:40
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:		Laboration	D-1-	enc in-	CCCOSES

Laboratory Data

SDG ID: GCC08586

Phoenix ID: CC08586
Project ID: SHANANGO TWP

Client ID: WATER WELL

Parameter Result PQL U

Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	12/07/18	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	12/07/18	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	12/07/18	MH	70 - 130 %
% Toluene-d8	99		%	1	12/07/18	MH	70 - 130 %

Project ID: SHANANGO TWP Client ID: WATER WELL Phoenix I.D.: CC08586

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

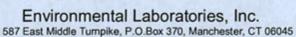
If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 11, 2018

Reviewed and Released by: Greg Lawrence, Assistant Lab Director





Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

December 11, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc.

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inforn	nation	<u>Date</u>			
Matrix:	GROUND WATER	Collected by:	DS	11/30/18	15:00		
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:10		
Rush Request:	Standard	Analyzed by:	see "By" below				

P.O.#:

Laboratory Data

SDG ID: GCC08586 Phoenix ID: CC08587

Project ID: SHANANGO TWP
Client ID: DISCHARGE

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/07/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	12/07/18	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	12/07/18	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	12/07/18	MH	70 - 130 %
% Toluene-d8	99		%	1	12/07/18	МН	70 - 130 %

Project ID: SHANANGO TWP Client ID: DISCHARGE

Phoenix I.D.: CC08587

RL Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

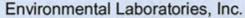
If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 11, 2018

Reviewed and Released by: Greg Lawrence, Assistant Lab Director





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



Analysis Report

December 11, 2018

FOR:

Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	Date	Time
Matrix:	GROUND WATER	Collected by:	DS	11/30/18	15:05
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:10
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#:

Laboratory Data

SDG ID: GCC08586

Phoenix ID: CC08588

Project ID:	SHANANGO TWP
Client ID:	RAW WATER

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	мн	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	1.3	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	3.3	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	1.3	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	100		%	1	12/08/18	МН	70 - 130 %

Project ID: SHANANGO TWP Client ID: RAW WATER Phoenix I.D.: CC08588

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

December 11, 2018

Reviewed and Released by: Greg Lawrence, Assistant Lab Director



Environmental Laboratories, Inc.

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QA/QC Report

December 11, 2018

QA/QC Data

SDG I.D.: GCC08586

Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	RPD Limits
C Samp	e No: CC08557 (C	C08586, CC08587)					47.1	1194	
ND	1.0	88	88	0.0				70 - 130	30
ND	1.0	88	87	1.1				70 - 130	30
ND	0.70	88	92	4.4				70 - 130	30
ND	1.0	91	92	1.1				70 - 130	30
ND	1.0	91	91	0.0				70 - 130	30
ND	1.0	91	92	1.1				70 - 130	30
ND	1.0	82	95	14.7				70 - 130	30
ND	1.0	93	108	14.9				70 - 130	30
ND	1.0	91	93	2.2				70 - 130	30
ND	1.0	88	92	4.4				70 - 130	30
101	%	100	102	2.0				70 - 130	30
95	%	98	98	0.0				70 - 130	30
101	%	96	103	7.0				70 - 130	30
99	%	99	99	0.0				70 - 130	30
erformed i	nstead of a matrix spil	ke and matrix spike du	plicate.						
	ND 101 95 101 99	Blank RL C Sample No: CC08557 (CC ND 1.0 ND 1.0 ND 0.70 ND 1.0 ND	Blank RL % C Sample No: CC08557 (CC08586, CC08587) ND 1.0 ND 1.0	Blank RL % % C Sample No: CC08557 (CC08586, CC08587) ND 1.0 88 88 ND 1.0 88 87 ND 0.70 88 92 ND 1.0 91 92 ND 1.0 91 91 ND 1.0 91 92 ND 1.0 91 92 ND 1.0 93 108 ND 1.0 91 93 ND 1.0 91 93 ND 1.0 88 92 101 % 100 102 95 % 98 98 101 % 96 103	Blank RL % % RPD C Sample No: CC08557 (CC08586, CC08587) ND 1.0 88 88 0.0 ND 1.0 88 87 1.1 ND 0.70 88 92 4.4 ND 1.0 91 92 1.1 ND 1.0 91 91 0.0 ND 1.0 91 92 1.1 ND 1.0 93 108 14.9 ND 1.0 91 93 2.2 ND 1.0 88 92 4.4 101 % 100 102 2.0 95 % 98 98 98 0.0 101 % 96 103 7.0 99 <td> Blank RL</td> <td> ND 1.0 88 88 0.0 ND 1.0 88 89 2 4.4 ND 1.0 91 92 1.1 ND 1.0 93 108 14.9 ND 1.0 93 108 14.9 ND 1.0 91 93 2.2 ND 1.0 88 92 4.4 101 % 96 103 7.0 99 99 99 0.0 </td> <td>Blank RL % % RPD % % RPD C Sample No: CC08557 (CC08586, CC08587) ND 1.0 88 88 0.0 ND 1.0 88 92 4.4 ND 1.0 91 92 1.1 ND 1.0 91 91 0.0 ND 1.0 91 92 1.1 ND 1.0 82 95 14.7 ND 1.0 93 108 14.9 ND 1.0 91 93 2.2 ND 1.0 88 92 4.4 101 % 96 103 7.0 99 % 99 99 0.0</td> <td> Blank RL LCS LCSD LCS MS MSD MS Rec Limits </td>	Blank RL	ND 1.0 88 88 0.0 ND 1.0 88 89 2 4.4 ND 1.0 91 92 1.1 ND 1.0 93 108 14.9 ND 1.0 93 108 14.9 ND 1.0 91 93 2.2 ND 1.0 88 92 4.4 101 % 96 103 7.0 99 99 99 0.0	Blank RL % % RPD % % RPD C Sample No: CC08557 (CC08586, CC08587) ND 1.0 88 88 0.0 ND 1.0 88 92 4.4 ND 1.0 91 92 1.1 ND 1.0 91 91 0.0 ND 1.0 91 92 1.1 ND 1.0 82 95 14.7 ND 1.0 93 108 14.9 ND 1.0 91 93 2.2 ND 1.0 88 92 4.4 101 % 96 103 7.0 99 % 99 99 0.0	Blank RL LCS LCSD LCS MS MSD MS Rec Limits

Volatiles - Ground Water	<u>er</u>							
1,2,4-Trimethylbenzene	ND	1.0	86	83	3.6	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	87	83	4.7	70 - 130	30	
Benzene	ND	0.70	90	87	3,4	70 - 130	30	
Ethylbenzene	ND	1.0	90	87	3.4	70 - 130	30	
Isopropylbenzene	ND	1.0	91	87	4.5	70 - 130	30	
m&p-Xylene	ND	1.0	91	88	3.4	70 - 130	30	
Methyl t-butyl ether (MTBE)	ND	1.0	88	87	1.1	70 - 130	30	
Naphthalene	ND	1.0	101	101	0.0	70 - 130	30	
o-Xylene	ND	1.0	91	89	2.2	70 - 130	30	
Toluene	ND	1.0	90	87	3.4	70 - 130	30	
% 1,2-dichlorobenzene-d4	102	%	101	101	0.0	70 - 130	30	
% Bromofluorobenzene	95	%	99	98	1.0	70 - 130	30	
% Dibromofluoromethane	100	%	98	100	2.0	70 - 130	30	
% Toluene-d8	100	%	101	100	1.0	70 - 130	30	
Comment:								

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

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Data

SDG I.D.: GCC08586

Parameter

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

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis/Shiller, Laboratory Director

December 11, 2018

Tuesday, December 11, 2018

Criteria

Analysis Units

RL Criteria

점 Result Sample Criteria Exceedances Report GCC08586 - COMPENV-PA Criteria Phoenix Analyte *** No Data to Display ** Acode Criteria: None State: PA

SampNo

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



Environmental Laboratories, Inc.

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



SDG I.D.: GCC08586

Analysis Comments

December 11, 2018

to other and a state of the Archarle Boundary

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Coolant: IPK O ICE No IN Temply C Pg of Land Data Delivery/Contact Options: " Tay - 342 - 1990 " Tay - 342 - 1990 Project P.O: This section MUST be completed with Bottle Quantities.	+ 3/3/86		MCP Certification GW-1 GW-2 GW-2 GW-3
Fax: Defined to the control of the c		Solito W W W	CT RCP Cert GW Protection GW Protection GW Protection GB Mobility GB Mobility C DEC COther Other COther COTHER OF COTHER OTHER
CHAIN OF CUSTODY RECORD 587 East Middle Tumpike, P.O. Box 370, Manchester, CT 06040 Email: info@phoenixlabs.com Fax (860) 645-0823 Client Services (860) 645-8726 Project: Skon ango Two Report to: And Sicktism Invoice to: And Act 2000	Analysis Request Kooling Control Contr	ALT XXX	Time: R 7:25 11:40 10 10 10 10 10 10 10 10 10 10 10 10 10
200 J	60	Sample Date Time Amatrix Sampled Sampled Sampled Sampled Among Sampled S	
Environmental Laboratories, Inc. Customer: CES Address: 2700 Kirle Dr. Herwitege, PA 1(1)	Sampler's Cilent Sample, Information - Identification Signature Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Soild W=Wipe OIL=Oil	Customer Sample Identification Water Well Discharge Raw Water	Wished by A Complete by: The
PHC Environme Customer: Address:	Sampler's Signature Matrix Code; DW=Drinking Wate RW=Raw Water SI B=Bulk L=Liquid	28580 88580 98580 98580	Relinquished by

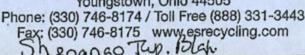
ATTACHMENT 2

Waste Manifest

• 12/10/18 – Purge Water

ENVIRONMENTAL SPECIALISTS, INC.

1000 Andrews Ave. Youngstown, Ohio 44505





Service Document# 228237 CI 12/10/2018

stomer Information	Billing Information (if different)
Name ESTES EXPRESS COMPLIANCE Address 64 STEFANEK DRIVE Town Skip 3 4 3 9 R + 3 14 Human Mill City/State/Zip W MIDDLESEX / PA / 16159	City/State/Zip HERMITAGE / PA / 16148
Phone 724-342-1990 U.S.E.P.A. ID#	P.O. Number Sales Rep. ID DL Pick-up Date 12-10-18

Item #	Description			Term	Unit Price	Qty	Subtotal	Tax	Total
GAS0	DRUMMED W	ATER & FUE	L	On Call	0.00	5			P/4
	100000000000000000000000000000000000000		THE PURCH S	\$ 60	1.00				
				1		VIII.			
					A Lucia				
				1-11-11	1151111		Ask and	N. S. Call	
							F-0180		er salada de
		A CALL	ALL RUDGES PARTY.						
				E PORT		2110	de la constante de la constant		MA DE
									-
			NAME OF THE OWNER, OWNE	198 (11)			Selection and dep		
Total P	ayment Due								
aymei	nt Received	☐ Cash	☐ Check No.		DO NOT PAY FO		IIS DOCUMENT	Amount:	PLA

 1. 22 ★ (initials) I certify that our used oil has not been mixed with listed it contains ≤ 1000 ppm total Halogens and peramount of PCBs. 	nazardous	waste as specified	in 40 CFR p	art 261 an	d that it
contains ≤1000 ppm total Halogens and peramount of PCBs.	20002				1000
		Generator Status			
Note: Used oil containing > 1000 ppm total Halogens must have a successful rebuttal on	file and atta	ached to this service of	locument before	re collecting	
Non Hazardous Waste Information	and/o	r Bill of Lading	1		

Environmental Specialists, Inc., OHD000816868, Phone (888) 331-3443 Environmental Specialists, Inc., 1101 Andrews Avenue, Youngstown, Ohio 44505 OHD000816868, Phone (330) 746-8174, 24 Hour Emergency Response Phone (800) 633-8253. Transporter:

Destination Facility:

Dill of Ladian and Man Hawardaya Wasta Information	Containers		Total	Unit
Bill of Lading and Non Hazardous Waste Information	No.	Туре	Quantity	Wt./Vol.
Used Naphtha Şolvent (High Flash Point, Not EPA or DOT Hazardous)				G
Used Oil (Not EPA or DOT Hazardous)				G
Used Antifreeze (Not EPA or DOT Hazardous)				G
Used Oil Filters (Not EPA or DOT Hazardous)				P
Used Oil and Water (Not EPA or DOT Hazardous)			The second liveling	G
Used Oil and Debris (Not EPA or DOT Hazardous)				G
Scrap Tires				P

Charge to my account the amount shown for this transaction unless payment is noted by the payment received. All invoices not paid within 30 days will be subject to an interest rate of 1-1/2% per month. (18% per annum) on unpaid invoices. In the event of default, Environmental Specialist, Inc. Shall be entitled to recover the cost of collection and reasonable attorney's fee. I certify that the materials described in the "Bill of Lading" section and/or the accompanying manifest have been properly classified, packaged and labeled according to all local, State and Federal regulations. I further agree to the terms and conditions on the reverse side.

Print Name

Customer Signature



Friday, December 14, 2018

Attn: Dave Siekkinen Compliance Env Services Inc 2700 Kirila Drive Hermitage, PA 16148

Project ID: SHENANGO TOWNSHIP Sample ID#s: CC08589 - CC08609

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

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

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis/Shiller

Laboratory Director

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #M-CT007 ME Lab Registration #CT-007 NH Lab Registration #213693-A,B NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530 RI Lab Registration #63 UT Lab Registration #CT00007 VT Lab Registration #VT11301







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	<u>Date</u> <u>Time</u>		
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	14:45	
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18	
Rush Request:	Standard	Analyzed by:	see "By" below			

P.O.#:

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08589

Project ID: SHENANGO TOWNSHIP

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	100		%	1	12/08/18	МН	70 - 130 %

Client ID: MW-1

Phoenix I.D.: CC08589

RL/ Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR:

Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inforn	nation	<u>Date</u> <u>Time</u>		
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	14:15	
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18	
Rush Request:	Standard	Analyzed by:	see "By" below			

P.O.#:

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08590

Project ID: SHENANGO TOWNSHIP

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	100		%	1	12/08/18	МН	70 - 130 %

Client ID: MW-2

IANGO TOWNSHIP Phoenix I.D.: CC08590

Parameter Result PQL

Units Dilution

Date/Time

By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

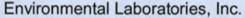
Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	16:15
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08591

Project ID: SHENANGO TOWNSHIP

Client ID: MW-3

P.O.#:

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	3500	400	ug/L	400	12/08/18	MH	SW8260C
1,3,5-Trimethylbenzene	1100	100	ug/L	100	12/10/18	MH	SW8260C
Benzene	13000	500	ug/L	500	12/09/18	МН	SW8260C
Ethylbenzene	3600	400	ug/L	400	12/08/18	MH	SW8260C
Isopropylbenzene	160	100	ug/L	100	12/10/18	MH	SW8260C
m&p-Xylene	16000	400	ug/L	400	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	160	100	ug/L	100	12/10/18	MH	SW8260C
Naphthalene	810	100	ug/L	100	12/10/18	MH	SW8260C
o-Xylene	6000	400	ug/L	400	12/08/18	MH	SW8260C
Toluene	7900	400	ug/L	400	12/08/18	MH	SW8260C
Xylenes (Total)	22000	400	ug/L	400	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	100	12/10/18	MH	70 - 130 %
% Bromofluorobenzene	93		%	100	12/10/18	MH	70 - 130 %
% Dibromofluoromethane	102		%	100	12/10/18	MH	70 - 130 %
% Toluene-d8	102		%	100	12/10/18	MH	70 - 130 %

Client ID: MW-3

Phoenix I.D.: CC08591

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

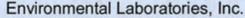
If there are any questions regarding this data, please call Phoenix Client Services.

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

P.O.#:

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	Date	Time	
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	16:15	
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18	
Ruch Request	Standard	Analyzed by:	see "Bu" below			

Rush Request: Standard Analyzed by: see "By" below

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08592

Project ID: SHENANGO TOWNSHIP
Client ID: MW-3 DUPLICATE

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	3700	400	ug/L	400	12/08/18	MH	SW8260C
1,3,5-Trimethylbenzene	970	100	ug/L	100	12/10/18	MH	SW8260C
Benzene	13000	500	ug/L	500	12/09/18	MH	SW8260C
Ethylbenzene	3500	400	ug/L	400	12/08/18	MH	SW8260C
Isopropylbenzene	140	100	ug/L	100	12/10/18	MH	SW8260C
m&p-Xylene	16000	400	ug/L	400	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	160	100	ug/L	100	12/10/18	MH	SW8260C
Naphthalene	750	100	ug/L	100	12/10/18	MH	SW8260C
o-Xylene	5900	400	ug/L	400	12/08/18	MH	SW8260C
Toluene	7800	400	ug/L	400	12/08/18	MH	SW8260C
Xylenes (Total)	21900	400	ug/L	400	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	100	12/10/18	MH	70 - 130 %
% Bromofluorobenzene	94		%	100	12/10/18	МН	70 - 130 %
% Dibromofluoromethane	106		%	100	12/10/18	МН	70 - 130 %
% Toluene-d8	101		%	100	12/10/18	МН	70 - 130 %

Project ID: SHENANGO TOWNSHIP Client ID: MW-3 DUPLICATE

Phoenix I.D.: CC08592

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

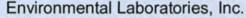
If there are any questions regarding this data, please call Phoenix Client Services.

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	Date	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	15:15
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08593

Project ID: SHENANGO TOWNSHIP

Client ID: MW-4

P.O.#:

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	8.8	1.0	ug/L	1	12/09/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	-1	12/09/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	12/09/18	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	12/09/18	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	12/09/18	MH	70 - 130 %
% Toluene-d8	94		%	1	12/09/18	MH	70 - 130 %

Client ID: MW-4

Phoenix I.D.: CC08593

RL/ Parameter Result PQL Units Dilution Date/Time Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

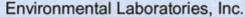
Comments:

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	9:00
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:			n .	CDC ID.	CCCOSES

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08594

Project ID: SHENANGO TOWNSHIP

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	100		%	1	12/08/18	МН	70 - 130 %

Client ID: MW-9

Phoenix I.D.: CC08594

RL/

Parameter Result PQL Units Dilution Date/Time Ву Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR:

Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

see "By" below

Sample Information		Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	11:20
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18

Analyzed by:

Rush Request: Standard

P.O.#:

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08595

Project ID: SHENANGO TOWNSHIP

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	101		%	1	12/08/18	MH	70 - 130 %

Client ID: MW-10

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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

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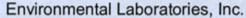
Phyllis Shiller, Laboratory Director

December 14, 2018

Reviewed and Released by: Bobbi Aloisa, Vice President

Phoenix I.D.: CC08595







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	8:30
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#:

Laboratory Data

SDG ID: GCC08589 Phoenix ID: CC08596

Project ID: SHENANGO TOWNSHIP

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
sopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	12/08/18	МН	70 - 130 %
% Toluene-d8	100		%	1	12/08/18	MH	70 - 130 %

Client ID: MW-11

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

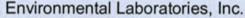
Phyllis Shiller, Laboratory Director

December 14, 2018

Reviewed and Released by: Bobbi Aloisa, Vice President

Phoenix I.D.: CC08596







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Informa	Sample Information		nation	Date	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	13:45
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:				000 10	0000000

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08597

Project ID: SHENANGO TOWNSHIP

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	99		%	1	12/08/18	MH	70 - 130 %

Project ID: SHENANGO TOWNSHIP Phoenix I.D.: CC08597

Client ID: MW-12

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

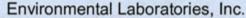
Comments:

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	Date	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	11:50
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08598

Project ID: SHENANGO TOWNSHIP

Client ID: MW-18

P.O.#:

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
sopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
n&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	13	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
(ylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	12/08/18	МН	70 - 130 %
% Bromofluorobenzene	96		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	12/08/18	МН	70 - 130 %
% Toluene-d8	99		%	1	12/08/18	MH	70 - 130 %

Client ID: MW-18

Phoenix I.D.: CC08598

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

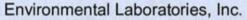
Comments:

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inforn	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	12:15
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#:

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08599

Project ID: SHENANGO TOWNSHIP

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	6.8	1.0	ug/L	1	12/08/18	МН	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	1.6	1.0	ug/L	1	12/08/18	MH	SW8260C
sopropylbenzene	7.3	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	95		%	1	12/08/18	MH	70 - 130 %

Client ID: MW-19

Phoenix I.D.: CC08599

Parameter Result PQL Units Dilution Date/Time By Reference

RL/

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

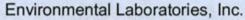
Comments:

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc.

2700 Kirila Drive Hermitage, PA 16148

Sample Informa	Sample Information		nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	12:45
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "Ry" helow		

P.O.#:

Laboratory Data

SDG ID: GCC08589 Phoenix ID: CC08600

Project ID: SHENANGO TOWNSHIP

MW-20 Client ID:

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
The second se			A STATE OF THE STA				
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	2.4	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	99		%	1	12/08/18	MH	70 - 130 %

Client ID: MW-20

Phoenix I.D.: CC08600

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

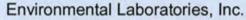
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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Informa	ation	Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	13:10
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:		Laboration	D-1-	enc in	CCCOSES

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08601

Project ID: SHENANGO TOWNSHIP

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Benzene	29	1.0	ug/L	1	12/09/18	MH	SW8260C
Ethylbenzene	1.6	1.0	ug/L	1	12/09/18	MH	SW8260C
Isopropylbenzene	5.1	1.0	ug/L	1	12/09/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	3.7	1.0	ug/L	1	12/09/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/09/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/09/18	МН	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	12/09/18	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	12/09/18	MH	70 - 130 %
% Dibromofluoromethane	104		%	1	12/09/18	MH	70 - 130 %
% Toluene-d8	97		%	1	12/09/18	MH	70 - 130 %

Client ID: MW-21

Phoenix I.D.: CC08601

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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

This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR:

Attn: Dave Siekkinen

Compliance Env Services Inc.

2700 Kirila Drive Hermitage, PA 16148

Sample	Information
--------	-------------

Matrix:

GROUND WATER COMPENV-PA

Location Code: Rush Request:

Standard

P.O.#:

Custody Information

Collected by:

Analyzed by:

Received by:

aboratory Data

DS CP see "By" below

Date 12/03/18 12/06/18 Time 9:20

11:18

SDG ID: GCC08589

Phoenix ID: CC08602

Project ID:

SHENANGO TOWNSHIP

Client ID:

MW-22

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference	
Volatiles (Unleaded Ga	soline)							
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	12/08/18	MH	70 - 130 %	
% Bromofluorobenzene	93		%	1	12/08/18	MH	70 - 130 %	
% Dibromofluoromethane	103		%	1	12/08/18	MH	70 - 130 %	
% Toluene-d8	95		%	1	12/08/18	MH	70 - 130 %	

Client ID: MW-22

Phoenix I.D.: CC08602

RL

Parameter Result PQL Units Dilution Date/Time Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

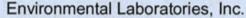
Comments:

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	15:45
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#: Laboratory Data

SDG ID: GCC08589 Phoenix ID: CC08603

Project ID: SHENANGO TOWNSHIP

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
sopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	170	2.0	ug/L	2	12/09/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	95		%	1	12/08/18	MH	70 - 130 %

Client ID: MW-23

Phoenix I.D.: CC08603

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

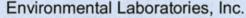
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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc.

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	Date	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	10:50
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#:

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08604

Project ID: SHENANGO TOWNSHIP

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	92		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	104		%	1	12/08/18	MH	70 - 130 %

Client ID: MW-24

Phoenix I.D.: CC08604

RL

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

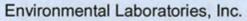
If there are any questions regarding this data, please call Phoenix Client Services.

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	Date	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	9:50
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Puch Poqueet	Standard	Analyzed by:	coo "Pu" bolow		

Rush Request: Standard Analyzed by: see "By" below

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08605

Project ID: SHENANGO TOWNSHIP

Client ID: MW-25

P.O.#:

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Valatilas (Unlandad Ca	a alina)	200716					
Volatiles (Unleaded Ga	PERSONAL PROPERTY.						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	МН	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	96		%	1	12/08/18	MH	70 - 130 %

Client ID: MW-25

Phoenix I.D.: CC08605

RL/ Result PQL

Units Dilution Date/Time

Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

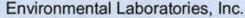
Parameter

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	10:20
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#: Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08606

Project ID: SHENANGO TOWNSHIP

Client ID: MW-26

	RL/					
Result	PQL	Units	Dilution	Date/Time	Ву	Reference
oline)						
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
ND	1.0	ug/L	1	12/08/18	MH	SW8260C
100		%	1	12/08/18	MH	70 - 130 %
92		%	1	12/08/18	MH	70 - 130 %
101		%	1	12/08/18	MH	70 - 130 %
96		%	1	12/08/18	МН	70 - 130 %
	ND N	Result PQL Doline ND	Result PQL Units PQL Units	Result PQL Units Dilution	ND 1.0 ug/L 1 12/08/18 ND 1.0 ug/L 1 12/08/18	ND 1.0 ug/L 1 12/08/18 MH ND 1.0 ug/L 1 12/08/18

Client ID: MW-26

Phoenix I.D.: CC08606

RL/ Parameter Result PQL

Units Dilution Date/Time Reference By

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR: Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	16:45
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18

Rush Request: Standard Analyzed by: see "By" below

Laboratory Data

SDG ID: GCC08589

Phoenix ID: CC08607

Project ID: SHENANGO TOWNSHIP

Client ID: RW-1

P.O.#:

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	2600	200	ug/L	200	12/09/18	MH	SW8260C
1,3,5-Trimethylbenzene	650	20	ug/L	20	12/08/18	MH	SW8260C
Benzene	11000	200	ug/L	200	12/09/18	MH	SW8260C
Ethylbenzene	3600	200	ug/L	200	12/09/18	MH	SW8260C
Isopropylbenzene	99	20	ug/L	20	12/08/18	MH	SW8260C
m&p-Xylene	15000	200	ug/L	200	12/09/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	160	20	ug/L	20	12/08/18	MH	SW8260C
Naphthalene	660	20	ug/L	20	12/08/18	MH	SW8260C
o-Xylene	3200	200	ug/L	200	12/09/18	MH	SW8260C
Toluene	1800	20	ug/L	20	12/08/18	MH	SW8260C
Xylenes (Total)	18200	200	ug/L	200	12/09/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	20	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	94		%	20	12/08/18	МН	70 - 130 %
% Dibromofluoromethane	104		%	20	12/08/18	MH	70 - 130 %
% Toluene-d8	95		%	20	12/08/18	MH	70 - 130 %

Client ID: RW-1

Phoenix I.D.: CC08607

Parameter Result PQL Units Dilution Date/Time Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

RL/

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

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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR:

Attn: Dave Siekkinen

Compliance Env Services Inc.

2700 Kirila Drive Hermitage, PA 16148

Sample Information		Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/03/18	15:15
Location Code:	COMPENV-PA	Received by:	CP	12/06/18	11:18
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#:

Laboratory Data

SDG ID: GCC08589 Phoenix ID: CC08608

Project ID: SHENANGO TOWNSHIP

Client ID: RW-3

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	740	10	ug/L	10	12/11/18	MH	SW8260C
1,3,5-Trimethylbenzene	31	10	ug/L	10	12/11/18	MH	SW8260C
Benzene	770	10	ug/L	10	12/11/18	MH	SW8260C
Ethylbenzene	600	10	ug/L	10	12/11/18	MH	SW8260C
sopropylbenzene	33	10	ug/L	10	12/11/18	MH	SW8260C
n&p-Xylene	490	10	ug/L	10	12/11/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	10	ug/L	10	12/11/18	MH	SW8260C
laphthalene	73	10	ug/L	10	12/11/18	MH	SW8260C
-Xylene	160	10	ug/L	10	12/11/18	MH	SW8260C
oluene	170	10	ug/L	10	12/11/18	MH	SW8260C
Xylenes (Total)	650	10	ug/L	10	12/11/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	10	12/11/18	MH	70 - 130 %
% Bromofluorobenzene	95		%	10	12/11/18	MH	70 - 130 %
% Dibromofluoromethane	100		%	10	12/11/18	MH	70 - 130 %
% Toluene-d8	96		%	10	12/11/18	MH	70 - 130 %

Client ID: RW-3

Phoenix I.D.: CC08608

RL/

Parameter Result PQL Units Dilution Date/Time Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:

Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

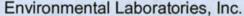
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Phyllis Shiller, Laboratory Director

December 14, 2018







Analysis Report

December 14, 2018

FOR:

Attn: Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Information	Samp	le	Info	rmat	ion
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Matrix:

GROUND WATER

Collected by:

DS

Date 12/03/18 Time

Location Code:

COMPENV-PA

Received by:

CP

12/06/18

11:18

Rush Request:

Standard

Analyzed by:

see "By" below

SDG ID: GCC08589

P.O.#:

Laboratory Data

Custody Information

Phoenix ID: CC08609

Project ID:

SHENANGO TOWNSHIP

Client ID:

TRIP BLANK

D	Deseils	RL/	Unite	Diletter	Data (Fina		D-f
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/08/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	12/08/18	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	12/08/18	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	12/08/18	MH	70 - 130 %
% Toluene-d8	95		%	1	12/08/18	MH	70 - 130 %

Client ID: TRIP BLANK

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TRIP BLANK INCLUDED.

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 14, 2018

Reviewed and Released by: Bobbi Aloisa, Vice President

Phoenix I.D.: CC08609



Environmental Laboratories, Inc.

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



QA/QC Report

December 14, 2018

QA/QC Data

SDG I.D.: GCC08589

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Rec Limits	% RPD Limits
QA/QC Batch 459810 (ug/L),	QC Samp	e No: CC08608 (C	C08608 (10X))	900		3 19				THE REAL PROPERTY.
Volatiles - Ground Water	er									
1,2,4-Trimethylbenzene	ND	1.0	110	112	1.8				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	110	110	0.0				70 - 130	30
Benzene	ND	0.70	102	102	0.0				70 - 130	30
Ethylbenzene	ND	1.0	108	110	1.8				70 - 130	30
Isopropylbenzene	ND	1.0	112	114	1.8				70 - 130	30
m&p-Xylene	ND	1.0	110	111	0.9				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	101	99	2.0				70 - 130	30
Naphthalene	ND	1.0	125	123	1.6				70 - 130	30
o-Xylene	ND	1.0	112	114	1.8				70 - 130	30
Toluene	ND	1.0	100	103	3.0				70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	99	100	1.0				70 - 130	30
% Bromofluorobenzene	95	%	99	99	0.0				70 - 130	30
% Dibromofluoromethane	101	%	100	101	1.0				70 - 130	30
% Toluene-d8	97	%	96	97	1.0				70 - 130	30
Comment:										

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

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 459237 (ug/L), QC Sample No: CC08609 (CC08599, CC08600, CC08602, CC08603, CC08604, CC08605, CC08606, CC08607 (20X), CC08609)

0000001 (2014) 1 0000000)							
Volatiles - Ground Water							
1,2,4-Trimethylbenzene	ND	1.0	95	92	3.2	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	95	93	2.1	70 - 130	30
Benzene	ND	0.70	94	91	3.2	70 - 130	30
Ethylbenzene	ND	1.0	99	95	4.1	70 - 130	30
Isopropylbenzene	ND	1.0	96	93	3.2	70 - 130	30
m&p-Xylene	ND	1.0	100	98	2.0	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	89	89	0.0	70 - 130	30
Naphthalene	ND	1.0	101	105	3.9	70 - 130	30
o-Xylene	ND	1.0	97	95	2.1	70 - 130	30
Toluene	ND	1.0	93	89	4.4	70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	100	100	0.0	70 - 130	30
% Bromofluorobenzene	93	%	97	95	2.1	70 - 130	30
% Dibromofluoromethane	101	%	101	102	1.0	70 - 130	30
% Toluene-d8	106	%	96	97	1.0	70 - 130	30
Comment:							

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

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Data

Parameter	Blank	Blk RL	LCS	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	RPD Limits
QA/QC Batch 459243 (ug/L),	QC Samp	le No: CC08611 (C	C08601, CC08603 (2X), CC	08607	(200X))	XX		
Volatiles - Ground Water	er									
1,2,4-Trimethylbenzene	ND	1.0	90	91	1.1				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	90	91	1.1				70 - 130	30
Benzene	ND	0.70	91	90	1.1				70 - 130	30
Ethylbenzene	ND	1.0	95	96	1.0				70 - 130	30
sopropylbenzene	ND	1.0	91	91	0.0				70 - 130	30
m&p-Xylene	ND	1.0	96	98	2.1				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	87	86	1.2				70 - 130	30
Naphthalene	ND	1.0	100	101	1.0				70 - 130	30
-Xylene	ND	1.0	94	96	2.1				70 - 130	30
Toluene	ND	1.0	89	89	0.0				70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	98	100	2.0				70 - 130	30
% Bromofluorobenzene	92	%	96	97	1.0				70 - 130	30
% Dibromofluoromethane	99	%	100	101	1.0				70 - 130	30
% Toluene-d8	99	%	96	96	0.0				70 - 130	30
Comment:										
A LCS and LCS Duplicate were	performed	instead of a matrix so	ike and matrix spike du	plicate.						
Methyl t-butyl ether (MTBE) Japhthalene 1,2-dichlorobenzene-d4 Bromofluorobenzene Dibromofluoromethane	ND ND 99 93 104	1.0 1.0 % %	87 106 99 97 102	89 111 100 96 105	2.3 4.6 1.0 1.0 2.9				70 - 130 70 - 130 70 - 130 70 - 130 70 - 130	30 30 30 30 30
6 Toluene-d8 Comment:	102	%	103	101	2.0				70 - 130	30
			ike and matrix spike du		ong as r	ecovery	is 40-16	0%		
Additional 8260 criteria: 10% of	LCS/LCSD	compounds can be o	utside of acceptance cr	iteria as l				0%.		
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L),	LCS/LCSD QC Sample	compounds can be o	utside of acceptance cr	iteria as l				0%.		
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Wate	CCS/LCSD QC Sampler	compounds can be o e No: CC09895 (C	utside of acceptance cr C08591 (500X), CC	iteria as l 08592 (5	500X),					
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Water, 2,4-Trimethylbenzene	CCS/LCSD QC Sampler ND	compounds can be o e No: CC09895 (C	utside of acceptance cr C08591 (500X), CC0	iteria as l 08592 (5	500X) ,				70 - 130	30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Wate ,2,4-Trimethylbenzene ,3,5-Trimethylbenzene	QC Sampler ND ND	compounds can be o e No: CC09895 (C 1.0	utside of acceptance cr C08591 (500X) , CC0 101 102	iteria as l 08592 (5 100 99	1.0 3.0				70 - 130	30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Wate ,2,4-Trimethylbenzene senzene	CCS/LCSD QC Samplest ND ND ND	compounds can be o e No: CC09895 (C 1.0 1.0 0.70	utside of acceptance cr C08591 (500X) , CC0 101 102 102	100 99 102	1.0 3.0 0.0				70 - 130 70 - 130	30 30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Wate ,2,4-Trimethylbenzene ,3,5-Trimethylbenzene sthylbenzene	QC Sampler ND ND ND ND ND ND	compounds can be o e No: CC09895 (C 1.0 1.0 0.70 1.0	utside of acceptance cr C08591 (500X) , CC 101 102 102 102	100 99 102 101	1.0 3.0 0.0 1.0				70 - 130 70 - 130 70 - 130	30 30 30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Water, 2,4-Trimethylbenzene serzene sthylbenzene sopropylbenzene	QC Sampler ND	compounds can be of e No: CC09895 (C 1.0 1.0 0.70 1.0 1.0 1.0	utside of acceptance cr C08591 (500X) , CC 101 102 102 102 103	100 99 102 101 100	1.0 3.0 0.0 1.0 3.0				70 - 130 70 - 130 70 - 130 70 - 130	30 30 30 30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Wate ,2,4-Trimethylbenzene ,3,5-Trimethylbenzene ethylbenzene sopropylbenzene n&p-Xylene	CCS/LCSD QC Samples ND ND ND ND ND ND ND	compounds can be of e No: CC09895 (Cincinno) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	utside of acceptance cr C08591 (500X) , CC0 101 102 102 102 103 101	100 99 102 101 100 100	1.0 3.0 0.0 1.0 3.0				70 - 130 70 - 130 70 - 130 70 - 130 70 - 130	30 30 30 30 30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Water, 2,4-Trimethylbenzene sa,3,5-Trimethylbenzene senzene sthylbenzene sopropylbenzene sap-Xylene sethyl t-butyl ether (MTBE)	CCS/LCSD QC Sample PL ND	compounds can be of e No: CC09895 (Ci	utside of acceptance cr C08591 (500X) , CC0 101 102 102 103 101 103	100 99 102 101 100 100 108	1.0 3.0 0.0 1.0 3.0 1.0 4.7				70 - 130 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130	30 30 30 30 30 30
Additional 8260 criteria: 10% of A/QC Batch 459418 (ug/L), /olatiles - Ground Water, 2,4-Trimethylbenzene 4,3,5-Trimethylbenzene 4,3,5-Trimethylbenzene 5,4-Trimethylbenzene 5,5-Trimethylbenzene 6,5-Trimethylbenzene 6,5-	CCS/LCSD QC Sample RD ND	compounds can be of e No: CC09895 (Control of the No: CC09	101 102 102 103 101 103 101 103	100 99 102 101 100 100 108 117	1.0 3.0 0.0 1.0 3.0 1.0 4.7				70 - 130 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130	30 30 30 30 30 30 30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Water, 2,4-Trimethylbenzene 3,5-Trimethylbenzene 4,3,5-Trimethylbenzene 5,5-Trimethylbenzene 5,5-Trimethylbenzene 6,5-Xylene 6,5-X	CCS/LCSD QC Sample ND	compounds can be of e No: CC09895 (Control of the No: CC09	101 102 102 103 101 103 101 103 105	100 99 102 101 100 100 108 117 101	1.0 3.0 0.0 1.0 3.0 1.0 4.7 10.8				70 - 130 70 - 130	30 30 30 30 30 30 30 30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Wate 2,4-Trimethylbenzene 3,5-Trimethylbenzene 3,5-Trime	CCS/LCSD QC Sample ND	compounds can be of e No: CC09895 (Control of the No: CC09	101 102 102 103 101 103 105 102 103	100 99 102 101 100 100 100 108 117 101 104	1.0 3.0 0.0 1.0 3.0 1.0 4.7 10.8 1.0				70 - 130 70 - 130	30 30 30 30 30 30 30 30 30 30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Water, 2,4-Trimethylbenzene 3,5-Trimethylbenzene 3,5-Tri	ND N	compounds can be of e No: CC09895 (C) 1.0 1.0 0.70 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	101 102 102 103 101 103 105 102 103 101	100 99 102 101 100 100 100 100 101 101 104 101	1.0 3.0 0.0 1.0 3.0 1.0 4.7 10.8 1.0 1.0				70 - 130 70 - 130	30 30 30 30 30 30 30 30 30 30 30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Water, 2,4-Trimethylbenzene 3,5-Trimethylbenzene 3,5-Tri	ND N	compounds can be of e No: CC09895 (Control 1.0	101 102 102 102 103 101 103 105 102 103 100 100	100 99 102 101 100 100 100 108 117 101 104 101 100	1.0 3.0 0.0 1.0 3.0 1.0 4.7 10.8 1.0 1.0				70 - 130 70 - 130	30 30 30 30 30 30 30 30 30 30 30 30
Additional 8260 criteria: 10% of QA/QC Batch 459418 (ug/L), /olatiles - Ground Wate 2,4-Trimethylbenzene 3,5-Trimethylbenzene 3,5-Trime	ND N	compounds can be of e No: CC09895 (C) 1.0 1.0 0.70 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	101 102 102 103 101 103 105 102 103 101	100 99 102 101 100 100 100 100 101 101 104 101	1.0 3.0 0.0 1.0 3.0 1.0 4.7 10.8 1.0 1.0				70 - 130 70 - 130	30 30 30 30 30 30 30 30 30 30 30

SDG I.D.: GCC08589

QA/QC Data

LCS LCSD LCS MS MSD MS Rec RPD % RPD % RPD Limits Limits

SDG I.D.: GCC08589

Parameter Comment:

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

Blank RL

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

QA/QC Batch 459233 (ug/L), QC Sample No: CC10083 (CC08589, CC08590, CC08591 (400X), CC08592 (400X), CC08594, CC08595, CC08596, CC08597, CC08598)

Volatiles - Ground Water	er er						
1,2,4-Trimethylbenzene	ND	1.0	86	83	3.6	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	87	83	4.7	70 - 130	30
Benzene	ND	0.70	90	87	3.4	70 - 130	30
Ethylbenzene	ND	1.0	90	87	3.4	70 - 130	30
Isopropylbenzene	ND	1.0	91	87	4.5	70 - 130	30
m&p-Xylene	ND	1.0	91	88	3.4	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	88	87	1.1	70 - 130	30
Naphthalene	ND	1.0	101	101	0.0	70 - 130	30
o-Xylene	ND	1.0	91	89	2.2	70 - 130	30
Toluene	ND	1.0	90	87	3.4	70 - 130	30
% 1,2-dichlorobenzene-d4	102	%	101	101	0.0	70 - 130	30
% Bromofluorobenzene	95	%	99	98	1.0	70 - 130	30
% Dibromofluoromethane	100	%	98	100	2.0	70 - 130	30
% Toluene-d8	100	%	101	100	1.0	70 - 130	30
Comment:							

Comment:

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

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis Shiller, Laboratory Director

December 14, 2018

Samula Criteria Evcoodances Penort	Campic Official Exceduances report	GCC003083 - COMPENV-PA
Friday, December 14, 2018	Criteria: None	State: PA

Criteria

Analysis Units

RL Criteria

Criteria

점

Result

Phoenix Analyte Acode SampNo

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance. *** No Data to Display ***



Environmental Laboratories, Inc.

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



SDG I.D.: GCC08589

Analysis Comments

December 14, 2018

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

VOA Narration

CHEM17 12/09/18-1: CC08591, CC08592, CC08593

The following Initial Calibration compounds did not meet RSD% criteria: Naphthalene 21% (20%)

The following Initial Calibration compounds did not meet maximum RSD% criteria: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

Manual Continues Manual Cont	NYINJIPA CHAIN OF CUSTODY RECORD	
Project: Project:	587	000
Interesting Interest Intere	2700 Kinda Ar Report to: Hermitage, PA Invoice to:	d'iya
Sampled Samp	Client Sample - Information - Identification Che Lithuman - Identification Date 12-3-18 Request	10%
	130	
1415	Customer Sample Sample Date Time	
	MW-1 GW 12-3-18	7 2
	WW-D	w 1
1515	MW-3 Duplicate	nn
1120 32 32 32 32 33 34 34 34	3 MW-4	. ~
1345 35 3 3 3 3 3 3 3 3	8594 AW-10	nn
150	MW-11	02
1150 1 1 1 1 1 1 1 1 1	51 - WM -12	2
10 10 10 10 10 10 10 10	MW-18	m f
10 10 10 10 10 10 10 10	Accepted by: Date: Time:	12
12 - C - 14 31,35 Co. 3 Days 1	dim Ton M. De. 155-18 11:00 12-	Res. Criteria
Data-Format: Data	25 12-5-1 10-5-14 313-50-15	Non-Res. Criteria CP-51 SOIL
NY EZ EDD (ASP) Data Package: NY EZ EDD (ASP) Data Package: Other Other NY Enhanced (ASP B)*	Data-Format:	Impact to GW Residential Soil Screen 375SCO Criteria Residential
Subpart 5 DW	NY EZ EDD (ASP)	Criteria 375SCO Commercial Soil 375SCO Other Industrial Soil
		. Subpart 5 DW

Coolant IPK ICE No Contact Options:	This section MUST be completed with Bottle Quantities.		10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0								PA Clean Fill Limits DA-GW Reg Fill Limits PA Soil Restricted PA Soil non-restricted State Samples Collected?
Coolant Temp Cont Cont Phone: 724 Fax:	Project P.O:	(0.1.1.2.1.2.1.2.1.2.1.2.1.2.1.2.1.2.1.2.	SE S	2	2	w 1	3	n n	1 10	d	NY TOGS GW CP-51 SOIL 375SCO Unrestricted Soil 375SCO Residential 375SCO Residential 375SCO Commercial Soil 375SCO Industrial Soil Industrial Soil Subpart 5 DW
KECORD er, CT 06040 45-0823 6	Sounship		100 00 10 10 10 10 10 10 10 10 10 10 10								NA. Res. Criteria Non-Res. Criteria Non-Res. Criteria Impact to GW Soil Cleanup Criteria Impact to GW soil screen Criteria GW Criteria GW Criteria
: CUSTODY RECO Box 370, Manchester, CT 0 20m Fax (860) 645-0823	iekk ozrec	10 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									Tumaround: N. R C Days C C Days C C C C C C C C C
NY/NJ/PA CHAIN OF CUSTODY RECORD 587 East Middle Tumpike, P.O. Box 370, Manchester, CT 06040 Email: info@phoenixlabs.com Fax (860) 645-0823 Client Services (860) 645-8726	Project: Report to: Invoice to: QUOTE#:	Analysis Request	AND STATE OF THE PARTY OF THE P	8-						7	Time: 1/20 ft.
NY/NJ/ 587 East M Email:		Waste Water	te Time	-	920	1545	950	1645	1515		ist: 13-6 X Std Report
s, Inc.	Dc.	Information - Identification Mater SW=Surface Water WW=W Sludge S=Soil SD=Soild W=1	Sample Date Matrix Sampled	_					*		307
HIVIX CONTRACTOR INC	Krila Legal	Client Sample - Information	Customer Sample Identification	MW-20	3	MW-23	1,0	RW-1	RW-3	Trip Dian A	Accepted by:
PHOE Environmental	Customer: CES Address: 2700 Lyth QT	Signature Surve Date: Date: Date: Date: Date: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water SR=Sediment SL=Siudge S=Soil SD=Soild W=Wipe OIL—Oil B=Bulk L=Loudd	PHOENIX USE ONLY SAMPLE #	08600 A	6	28603 A		08607 R	DSteu8 R	H	Relinquished by: Accepted by:



Thursday, December 27, 2018

Attn: Mr. Dave Siekkinen Compliance Env Services Inc 2700 Kirila Drive Hermitage, PA 16148

Project ID: SHENANGO TWP Sample ID#s: CC19769 - CC19771

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

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

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis/Shiller

Laboratory Director

NELAC - #NY11301 CT Lab Registration #PH-0618 MA Lab Registration #M-CT007 ME Lab Registration #CT-007 NH Lab Registration #213693-A,B NJ Lab Registration #CT-003 NY Lab Registration #11301 PA Lab Registration #68-03530 RI Lab Registration #63 UT Lab Registration #CT00007 VT Lab Registration #VT11301







Analysis Report

December 27, 2018

FOR: At

Attn: Mr. Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Informa	ation	Custody Inform	nation	Date	Time
Matrix:	GROUND WATER	Collected by:	DS	12/20/18	13:30
Location Code:	COMPENV-PA	Received by:	LB	12/22/18	11:35
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#: Laboratory Data

SDG ID: GCC19769

Phoenix ID: CC19769

Project ID:	SHENANGO TWP
Client ID:	WATER WELL

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	110		%	1	12/26/18	MH	70 - 130 %
% Bromofluorobenzene	89		%	1	12/26/18	MH	70 - 130 %
% Dibromofluoromethane	115		%	1	12/26/18	MH	70 - 130 %
% Toluene-d8	96		%	1	12/26/18	MH	70 - 130 %

Project ID: SHENANGO TWP Client ID: WATER WELL

Phoenix I.D.: CC19769

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

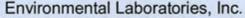
If there are any questions regarding this data, please call Phoenix Client Services.

This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 27, 2018







Analysis Report

December 27, 2018

FOR:

Attn: Mr. Dave Siekkinen

Compliance Env Services Inc.

2700 Kirila Drive Hermitage, PA 16148

Samp	le In	forma	ation
------	-------	-------	-------

Matrix: Location Code:

GROUND WATER

COMPENV-PA

Standard

Rush Request: P.O.#:

Custody Information

Collected by: Received by:

Analyzed by:

DS LB

see "By" below

Date 12/20/18 **Time** 13:00

12/22/18

Phoenix ID: CC19770

11:35

Laboratory Data

SDG ID: GCC19769

Project ID:

SHENANGO TWP

Client ID:

DISCHARGE

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						· 美国。107
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/26/18	МН	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/26/18	МН	SW8260C
Benzene	ND	1.0	ug/L	1	12/26/18	МН	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/26/18	МН	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/26/18	МН	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Xylenes (Total)	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	113		%	1	12/26/18	MH	70 - 130 %
% Bromofluorobenzene	86		%	1	12/26/18	MH	70 - 130 %
% Dibromofluoromethane	113		%	1	12/26/18	MH	70 - 130 %
% Toluene-d8	94		%	1	12/26/18	MH	70 - 130 %

Project ID: SHENANGO TWP Client ID: DISCHARGE Phoenix I.D.: CC19770

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

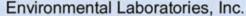
Comments:

If there are any questions regarding this data, please call Phoenix Client Services. This report must not be reproduced except in full as defined by the attached chain of custody.

Phyllis Shiller, Laboratory Director

December 27, 2018







Analysis Report

December 27, 2018

FOR: Attn: Mr. Dave Siekkinen

Compliance Env Services Inc

2700 Kirila Drive Hermitage, PA 16148

Sample Informa	ation	Custody Inform	nation	<u>Date</u>	Time
Matrix:	GROUND WATER	Collected by:	DS	12/20/18	13:05
Location Code:	COMPENV-PA	Received by:	LB	12/22/18	11:35
Rush Request:	Standard	Analyzed by:	see "By" below		

P.O.#: Laboratory Data

SDG ID: GCC19769

Phoenix ID: CC19771

Project ID: SHENANGO TWP
Client ID: RAW WATER

		RL/					
Parameter	Result	PQL	Units	Dilution	Date/Time	Ву	Reference
Volatiles (Unleaded Ga	soline)						
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Benzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
m&p-Xylene	1.0	1.0	ug/L	1	12/26/18	MH	SW8260C
Methyl t-Butyl Ether (MTBE)	3.6	1.0	ug/L	1	12/26/18	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Toluene	ND	1.0	ug/L	1	12/26/18	MH	SW8260C
Xylenes (Total)	1.0	1.0	ug/L	1	12/26/18	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	108		%	1	12/26/18	MH	70 - 130 %
% Bromofluorobenzene	91		%	1	12/26/18	MH	70 - 130 %
% Dibromofluoromethane	106		%	1	12/26/18	MH	70 - 130 %
% Toluene-d8	95		%	1	12/26/18	MH	70 - 130 %

Project ID: SHENANGO TWP Client ID: RAW WATER

Phoenix I.D.: CC19771

RL/

Parameter Result PQL Units Dilution Date/Time By Reference

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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

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Phyllis Shiller, Laboratory Director

December 27, 2018



Environmental Laboratories, Inc.

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



QA/QC Report

December 27, 2018

QA/QC Data

SDG I.D.: GCC19769

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	Rec Limits	% RPD Limits
QA/QC Batch 461417 (ug/L),	QC Samp	le No: CC19769 (C	C19769, CC19770,	CC1977	1)		W. T		98	A STATE
Volatiles - Ground Water	er									
1,2,4-Trimethylbenzene	ND	1.0	99	108	8.7				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	100	106	5.8				70 - 130	30
Benzene	ND	0.70	93	101	8.2				70 - 130	30
Ethylbenzene	ND	1.0	95	99	4.1				70 - 130	30
Isopropylbenzene	ND	1.0	96	105	9.0				70 - 130	30
m&p-Xylene	ND	1.0	99	102	3.0				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	93	99	6.3				70 - 130	30
Naphthalene	ND	1.0	101	113	11.2				70 - 130	30
o-Xylene	ND	1.0	100	104	3.9				70 - 130	30
Toluene	ND	1.0	100	105	4.9				70 - 130	30
% 1,2-dichlorobenzene-d4	105	%	103	100	3.0				70 - 130	30
% Bromofluorobenzene	87	%	102	101	1.0				70 - 130	30
% Dibromofluoromethane	106	%	108	108	0.0				70 - 130	30
% Toluene-d8	99	%	106	109	2.8				70 - 130	30
Comment:										

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

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference

Phyllis Shiller, Laboratory Director

December 27, 2018

Sample Criteria Exceedances Report

Thursday, December 27, 2018

Criteria: None State: PA Acode

SampNo

GCC19769 - COMPENV-PA

Analysis

RL Criteria

Criteria 점 Result Criteria Phoenix Analyte *** No Data to Display *** Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.

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SDG I.D.: GCC19769

Analysis Comments

December 27, 2018

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Coolent: IPK ICE NO Temp 1.4°C Pg f of f Contact Options: Fax: Contact Options: T24-342-1990 Contact Options: Asiektima Oces-eav.com		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	W W	~ M		NY Data Format TOGS GW Deponded to the Company of	CP-51 SOIL STSSCO Industrial Soil Industrial Soil Subpart 5 DW
NY/NJ CHAIN OF CUSTODY RECORD East Middle Tumpike, P.O. Box 370, Manchester, CT 06040 Email: info@phoenixlabs.com Fax (860) 645-0823 Client Services (860) 645-8726	Project: Shewango Twp Report to: Dave Siekkinen Invoice to: Jan Mozzoc.o	Analysis Request Charles Analysis Request Charles Char			X		Time: Turnaround: NJ	1335 1335 10 Days 10
282	Dr. 1 16148 Sampling	20	- Pe	12-2048 1330	10,		Date	19/33 (19/33)
PHOENIX Environmental Laboratories, Inc.	Customer: CES Address: 2700 Kirila I Hermitage PA December monthy	Sampler's Sample - Information - Identification Sampler's Signature Code: Matrix Code: DW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Soild W=Wipe OIL=Oil B=Bulk L=Liquid	PHOENIX USE ONLY Customer Sample SAMPLE # Identification	19769 Water Well	19771 Raw Water		Relinquished by: Accepted by:	Comments, Special Requirements or Regulations: