Pennsylvania tectonics

Remedial Action Progress Report

Lewis Brothers Garage Property
Scott Township, Lackawanna County, Pennsylvania
PADEP Facility ID#35-10233
USTIF Claim #2007-0053(F)

January 18, 2017

Prepared For:

The Estate of Mrs. Ruth Lewis

Corrective Action Process Report / Plan Cover Sheet Chapter 245 Storage Tank Act

- ☐ Site Characterization Report – Section 245.301(b)
- ☐ Site Characterization Report – Site Specific Standard
- ☐ Site Characterization Report – Statewide Health or Background Standard
- ☐ Remedial Action Plan – Statewide Health or Background Standard
- ☐ Remedial Action Plan – Site Specific Standard
- ☐ Remedial Action Progress Report
- ☐ Remedial Action Completion Report – Statewide Health or Background Standard
- ☐ Remedial Action Completion Report – Site-Specific Standard

environmental consultants

723 Main Street / Archbald, PA 18403 / p. 570.487.1959 / f. 570.487.1961 / patectonics@hotmail.com

Pennsylvania tectonics

January 18, 2017

Ms. Sherry Carlo, P.G.
Licensed Professional Geologist
Pennsylvania Department of Environmental Protection
Environmental Cleanup & Brownfields Program
2 Public Square
Wilkes-Barre, PA 18701-1915

RE: **Remedial Action Progress Report – 4th Quarter 2016;**
Lewis Brothers Garage Property:
PA Route 347
Scott Township, Lackawanna County, Pennsylvania
PADEP Facility ID#35-10233
PADEP Incident #37784
USTIF Claim #2007-0053(F)
Pennsylvania Tectonics Project Number: 27058

Dear Ms. Carlo,

Pennsylvania Tectonics, Incorporated (Pennsylvania Tectonics), on behalf of The Estate of Ruth Lewis, is pleased to present this Remedial Action Progress Report (Report) for the above-referenced Lewis Brothers Garage Property (subject property). The Report summarizes the results of the quarterly groundwater monitoring activities conducted at the subject property during the 4th Quarter of 2016. The groundwater sampling activities summarized herein were completed in accordance with the guidelines and standards pursuant to the Pennsylvania Department of Environmental Protection's (PADEP's) *"Land Recycling and Environmental Remediation Standards Act"* (Act 2) of July, 1995, as amended; the Corrective Action Process under the *Pennsylvania Storage Tank and Spill Prevention Act* (25 PA Code Chapter 245.301 – 245.313, Corrective Action Process); *"Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground-Water Quality Investigations"* (ASTM D16771-02); and the PADEP's *Groundwater Monitoring Guidance Manual*, December 1, 2001.

Site Description

The Lewis Brothers Garage Property, identified as 092.04-04-17 on the Lackawanna County Tax Map, is located along the northeastern side of PA Route 347 in Scott Township, Lackawanna County, Pennsylvania. A Site Location Map (**Figure 1**) is provided in **Attachment A**. The subject property comprises one (1) large frame and concrete block automotive garage situated on 0.5 +/- acres of land. The single-story building encompasses approximately 1/3rd of the property. An unnamed, southeasterly flowing tributary of Hull Creek is located along the northeastern side of the property. Hull Creek is located approximately 1,600 feet east of the subject property.

723 Main Street / Archbald, PA 18403 / p. 570.487.1959 / f. 570.487.1961 / patectonics@hotmail.com

The subject property is serviced by a supply well located on the adjacent property to the northeast (Lewis Homestead) and an onsite septic system. The location of the septic system is unknown. The current and anticipated future use for the property is non-residential. The property is bound to the southwest by State Route 347. Residential properties surround the property on all sides.

As indicated on the USGS (7.5 Minute Series) Scranton, Pennsylvania Quadrangle, the subject property lies at an approximate elevation of 1,520 feet above mean sea level. The topography slopes gently to the southeast. The site appears to be situated near a surface water and groundwater drainage divide. Approximately 500 feet northwest of the property, the surface water flow is northwest toward Griffin Reservoir. The Lewis Brothers site proper drains to the southeast into Hull Creek, which flows in a valley cut between Bell and Hubbard Mountains. Hull Creek discharges into the Lackawanna River at Dickson City.

Purpose

In November 2014, Pennsylvania Tectonics entered into a Remediation Agreement with Mrs. Ruth Lewis to complete additional site characterization activities at the subject property. On September 26, 2016, Pennsylvania Tectonics submitted a Final Site Characterization Report (FSCR) to the PADEP. As indicated in the report, Pennsylvania Tectonics would continue to complete quarterly groundwater and surface water monitoring at the subject property while the FSCR was being reviewed and while the subsequent Remedial Action Plan (RAP) was being prepared, reviewed and implemented. This Remedial Action Progress Report summarizes the results of the activities conducted at the subject property during the 4th Quarter of 2016.

Project Parameters

As outlined in the November 2014 Remediation Agreement, the parameters of concern are limited to the Leaded Gasoline Parameters and the Unleaded Gasoline Parameters specified in the April 1, 1998 PADEP Technical Document: Closure Requirements for Underground Storage Tank Systems, as amended December 15, 2012 (i.e. the Short List). A list of the Project Parameters is as follows:

- Benzene
- EDB
- EDC
- Ethylbenzene
- Cumene
- MTBE
- Naphthalene
- Toluene
- Xylenes (Total)
- 1,2,4-TMB /
- 1,3,5-TMB
- Dissolved Lead

On September 29, 2016, Ms. Sherry Carlo of the PADEP indicated via email that she had reviewed the historical analytical data for the site. Based on this review, Ms. Carlo stated that future groundwater samples could be analyzed for the Unleaded Gasoline Parameters only, with the exception of MW-2s and MW-3s, which would still require the analysis of EDB, EDC and Dissolved Lead. The December 2016 field activities summarized herein reflect this directive.

Determination of Cleanup Standard for Data Comparison

According to Act 2, a remediation cleanup standard can be selected for each media of concern and furthermore for each compound of concern. The four (4) standards provided in Act 2 include the Statewide Health Standard, site-specific standard, background standard and special industrial area provision. Since no onsite migration of contaminants from an offsite source is known, the background standard cannot be attained. In addition, the site does not qualify as a special industrial area. Therefore, the Statewide Health Standards and site-specific standards are viable options for the site.

To demonstrate attainment of the Statewide Health Standard, site groundwater must be remediated to concentrations equivalent to the EPA drinking water standards. However, the selection of the site-specific standard requires the elimination of risks associated with elevated target compounds. Due to the lack of a public water supply system, the elimination of risks cannot be completed without institutional and/or engineering controls placed on the property. For the purpose of this report, the groundwater analytical data is being compared to the Residential, Used Aquifer (TDS<2500 mg/l), Statewide Health Standard for the leaded and unleaded gasoline target compounds for the site groundwater. A summary of the Statewide Heath Standard – Residential, Used Aquifer MSCs (effective date August 27, 2016) is provided in Table 1, as follows:

Table 1
Lewis Brothers Garage Property
Summary of Residential Statewide Health Standards

Parameter	MSC
Benzene	5.0 ug/l
EDB	0.05 ug/l
EDC	5.0 ug/l
Ethylbenzene	700.0 ug/l
Cumene	840.0 ug/l
MTBE	20.0 ug/l
Naphthalene	100.0 ug/l
Toluene	1,000.0 ug/l
Total Xylenes	10,000.0 ug/l
1,2,4-TMB	15.0 ug/l
1,3,5-TMB	420.0 ug/l
Dissolved Lead	5.0 ug/l

Groundwater Monitoring Well Installation – Shallow Wells

Between March 10, 2008 and August 17, 2011 Pennsylvania Tectonics completed the field activities associated with the installation of seventeen (17) shallow groundwater monitoring wells at the subject property and neighboring properties. Refer to **Attachment A** for a Monitoring Well Location Map (**Figure 2**) depicting the locations of the shallow groundwater monitoring wells. The installation of the shallow monitoring wells was as follows:

- MW-1s thru MW-5s – March 2008
- MW-6s – June 2008
- MW-7s thru MW-13s – May 2010
- MW-14s thru MW-17s – August 2011

Groundwater Monitoring Well Installation – Bedrock Wells

Between June 16, 2008 and April 19, 2010, Pennsylvania Tectonics completed the field activities associated with the installation of ten (10) bedrock groundwater monitoring wells at the subject property and at neighboring properties. Refer to Attachment A for a Monitoring Well Location Map (**Figure 2**) depicting the locations of the bedrock groundwater monitoring wells. The installation of the bedrock monitoring wells was as follows:

- MW-1d, MW-2d and MW-6d – June 2008
- MW-7d – October 2008
- MW-8d thru MW-13d – March and April 2010

A review of static water levels indicates the top of the groundwater surface was above the screened interval in most cases. The rise in water level, due to hydrostatic pressure, cannot be controlled once the well is set. For investigations involving petroleum products (i.e. "floaters"), it is ideal to have the screened interval traversing the water surface. In this case that is not possible. Pennsylvania Tectonics feels that the first bedrock water bearing zone is adequately characterized by the wells installed in the study area.

Determination of Groundwater Flow

As part of the December 27-29, 2016 quarterly groundwater sampling activities, Pennsylvania Tectonics constructed groundwater contour maps to determine the direction of groundwater flow beneath the study area. A groundwater contour map was constructed for both the shallow and bedrock groundwater aquifers present beneath the subject property. Pennsylvania Tectonics utilized the depth to groundwater data collected at the site during the December 2016 field activities. Salem Consultants, Incorporated determined the well casing elevations via the completion of a site survey and level run. These elevations were referenced to the approximate ground surface elevation of the Site based on local USGS data. The direction of groundwater flow was determined via the use of EnviroInsite 5.0 software (copyright HydroAnalysis, Incorporated, 2007). A table summarizing the historical depth to groundwater data and the associated groundwater elevation information is provided in **Attachment B**. Copies of the groundwater contour maps are included in **Attachment C**. Site-specific observations are as follows.

- A groundwater contour map was constructed for the shallow aquifer utilizing the depth to groundwater data collected on December 27, 2016. This groundwater contour map includes all seventeen (17) shallow monitoring wells located onsite. The contour map depicts a distinct groundwater flow direction to the southeast, which would be expected based on a review of topography and local drainage patterns. This direction of groundwater flow is consistent with historical data.

- Stream elevation data has not historically been utilized to generate the shallow groundwater contour maps. Historical surface water elevations suggest the unnamed tributary is not a gaining stream and, therefore, stream elevation data is not utilized to generate groundwater contours. Stream elevation data was not utilized to generate the December 2016 groundwater contour maps.

- Pennsylvania Tectonics calculated two (2) distinct hydraulic gradients for the shallow aquifer. The hydraulic gradient in the shallow aquifer from Hermel Street to Siniawa Lane was determined to be 0.051 feet / foot toward the southeast. This gradient reflects the subtle topographic gradient in this portion of the study area.

    - The hydraulic gradient (i) was determined using the groundwater elevations (h) associated with MW-8s (h_2) and MW-12s (h_1).

    - The distance (d) between these wells is 772 feet.

    - $(i) = (h_2-h_1) / d$

    - $(i) = (1,525.10-1,485.77) / 772 = 0.051$ ft/ft (based on 12/27/16 data)

- The hydraulic gradient in the shallow aquifer from Siniawa Lane to MW-15s was determined to be 0.10 feet / foot toward the southeast. This gradient reflects the distinct topographic gradient in this portion of the study area.

    - The hydraulic gradient (i) was determined using the groundwater elevations (h) associated with MW-12s (h_2) and MW-15s (h_1).

    - The distance (d) between these wells is 352 feet.

    - $(i) = (h_2-h_1) / d$

    - $(i) = (1,485.77 – 1,451.10) / 352 = 0.10$ ft/ft (based on 12/27/16 data)

- Groundwater flow within the bedrock system is fracture controlled and the potentiometric level in each well is a reflection of the head potential of each intersected bedrock fracture in that well. Two (2) groundwater contour maps (i.e. potentiometric surface maps) were constructed for the bedrock aquifer utilizing the depth to groundwater data collected in December 2016. The first contour map includes all ten (10) bedrock groundwater monitoring wells. A review of the potentiometric surface map associated with the bedrock aquifer reveals significant variation in head potential, which is typical of a fracture-controlled groundwater regime. The second groundwater contour map was generated by eliminating the data from MW-2d and MW-7d, the two (2) wells that exhibited the highest head potentials. In general, the potentiometric contours in the second map indicate a distinct groundwater flow to the southeast. The data generated from MW8d, situated in Hermel Street, suggests groundwater in the northern portion of the study area may flow to the northwest.

- A review of groundwater elevation data from shallow / deep well pairs indicates there is a distinct downward vertical component of flow in the study area.

Quarterly Groundwater and Surface Water Monitoring Activities

The field activities associated with the groundwater sampling program were conducted between December 27, 2016 and December 29, 2016. These activities included the collection of groundwater samples from the seventeen (17) shallow groundwater monitoring wells, the ten (10) bedrock groundwater monitoring wells and one (1) observation well (OW-4). The field activities also included the collection and analysis of six (6) surface water samples from the unnamed tributary to Hull Creek, a drainage culvert along the eastern boundary of the Kovaleski property and a drainage culvert that separates the Siniawa and Hryhorcoff properties. A Surface Water Sample Location Map (**Figure 3**) is included in Attachment A of this report.

The scope of work associated with the completion of the groundwater sampling activities included the purging of the groundwater monitoring wells utilizing low flow / low stress and hand bailing methods. Low flow / low stress purging activities included the monitoring of pH, temperature, specific conductance, dissolved oxygen (D.O.), turbidity and oxidation-reduction potential (O.R.P). Hand bailing purging activities included the monitoring of the pH, temperature, specific conductance, D.O. and O.R.P. of the groundwater effluent extracted from the wells. Well purging was deemed complete when pH, temperature and specific conductance had stabilized for a minimum of three (3) consecutive readings. The groundwater effluent generated during the well purging activities was staged onsite. Refer to **Attachment D** for field notes generated as part of the field activities.

The twenty-eight (28) groundwater samples, six (6) surface water samples, three (3) QA/QC duplicate samples and three (3) QA/QC field blanks were delivered to ALS Environmental in Middletown, Pennsylvania. The forty (40) samples were analyzed for the Unleaded Gasoline Parameters specified in the April 1, 1998 PADEP Technical Document: Closure Requirements for Underground Storage Tank Systems. At the direction of the PADEP, MW-2s and MW-3s were also analyzed for the Leaded Gasoline Parameters EDC, EDB and Dissolved Lead. A Sample Log is provided as Table 2:

Table 2
Lewis Brothers Garage Property
Sample Log
December 27-29, 2017 Field Activities

Sample Number	Sample Description	Analysis
058-1227-MW1s	MW-1s	Unleaded Gasoline Parameters
058-1227-MW2s	MW-2s	Leaded & Unleaded Gasoline
058-1227-MW3s	MW-3s	Leaded & Unleaded Gasoline
058-1227-MW4s	MW-4s	Unleaded Gasoline Parameters
058-1227-MW5s	MW-5s	Unleaded Gasoline Parameters
058-1227-MW6s	MW-6s	Unleaded Gasoline Parameters
058-1227-MW7s	MW-7s	Unleaded Gasoline Parameters
058-1227-MW8s	MW-8s	Unleaded Gasoline Parameters
058-1227-MW9s	MW-9s	Unleaded Gasoline Parameters
058-1227-MW10s	MW-10s	Unleaded Gasoline Parameters
058-1227-MW11s	MW-11s	Unleaded Gasoline Parameters
058-1227-MW12s	MW-12s	Unleaded Gasoline Parameters

Table 2 (Continued)
Lewis Brothers Garage Property
Sample Log
December 27-29, 2017 Field Activities

Sample Number	Sample Description	Analysis
058-1227-MW13s	MW-13s	Unleaded Gasoline Parameters
058-1227-MW14s	MW-14s	Unleaded Gasoline Parameters
058-1227-MW15s	MW-15s	Unleaded Gasoline Parameters
058-1227-MW16s	MW-16s	Unleaded Gasoline Parameters
058-1227-MW17s	MW-17s	Unleaded Gasoline Parameters
058-1227-MW1d	MW-1d	Unleaded Gasoline Parameters
058-1227-MW2d	MW-2d	Unleaded Gasoline Parameters
058-1227-MW6d	MW-6d	Unleaded Gasoline Parameters
058-1227-MW7d	MW-7d	Unleaded Gasoline Parameters
058-1227-MW8d	MW-8d	Unleaded Gasoline Parameters
058-1227-MW9d	MW-9d	Unleaded Gasoline Parameters
058-1227-MW10d	MW-10d	Unleaded Gasoline Parameters
058-1227-MW11d	MW-11d	Unleaded Gasoline Parameters
058-1227-MW12d	MW-12d	Unleaded Gasoline Parameters
058-1227-MW13d	MW-13d	Unleaded Gasoline Parameters
058-1227-OW4	OW-4	Unleaded Gasoline Parameters
058-1227-MW5s Dup	QA/QC Duplicate	Unleaded Gasoline Parameters
058-1227-MW7d Dup	QA/QC Duplicate	Unleaded Gasoline Parameters
058-1227-MW9d Dup	QA/QC Duplicate	Unleaded Gasoline Parameters
058-1227-FB1	QA / QC Field Blank	Unleaded Gasoline Parameters
058-1227-FB2	QA / QC Field Blank	Unleaded Gasoline Parameters
058-1227-FB3	QA / QC Field Blank	Unleaded Gasoline Parameters
058-1227-SW1	SW-1	Unleaded Gasoline Parameters
058-1227-SW2	SW-2	Unleaded Gasoline Parameters
058-1227-SW3	SW-3	Unleaded Gasoline Parameters
058-1227-SW4	SW-4	Unleaded Gasoline Parameters
058-1227-SW5	SW-5	Unleaded Gasoline Parameters
058-1227-SW6	SW-6	Unleaded Gasoline Parameters

Separate Phase Liquids

No measurable SPL was detected in MW-2s or MW-3s during the December 2016 field activities. However, a distinct sheen was identified in each well. Due to the presence of the sheen and distinct odors, the two (2) monitoring wells were purged to three (3) well volumes prior to the collection of the groundwater samples. Purge data was not collected during the purging activities so as to not foul the water quality meter. Historically, SPL was noted in MW-2s and MW-3s and recovery efforts were conducted over time. Refer to **Attachment E** for graphs summarizing the historical product thickness information documented in MW-2s and MW-3s.

Analytical Results

General

The analytical results associated with this investigation were received by Pennsylvania Tectonics from ALS Environmental on January 10, 2017. The contaminant concentrations detected were compared to the standards included in Pennsylvania's "*Land Recycling and Environmental Remediation Standards Act*" (Act 2) of July, 1995, as amended. Refer to **Attachment F** for copies of the analytical data sheets associated with the December 2016 quarterly groundwater and surface water monitoring event. Refer to **Attachment G** for tables summarizing historical groundwater and surface water data.

Comparison of Groundwater Data to Statewide Health Standard MSCs

The results of the groundwater sampling program indicate petroleum-related contamination was detected in five (5) of the twenty-eight (28) groundwater samples at concentrations exceeding the applicable Residential, Used Aquifer (TDS <2,500 mg/l) Statewide Health Standard MSCs. The remaining contaminant concentrations are below the respective Statewide Health Standard MSCs for each compound analyzed. Isopleth maps depicting the distribution of contaminants are included in Attachment H. Refer to Table 3 for a Summary of Exceedances.

Table 3
Lewis Brothers Garage Property
Summary of Exceedances
December 2016 Field Activities

Location	Parameter	Concentration	Act 2 MSC
MW-2s	MTBE	158.0 ug/l	20.0 ug/l
	Benzene	1,310.0 ug/l	5.0 ug/l
	Ethylbenzene	1,820.0 ug/l	700.0 ug/l
	Toluene	2,710.0 ug/l	1,000.0 ug/l
	Naphthalene	330.0 ug/l	100.0 ug/l
	1,2-EDC	<20.0 ug/l	5.0 ug/l
	1,2,4-TMB	2,340.0 ug/l	15.0 ug/l
	1,3,5-TMB	599.0 ug/l	420.0 ug/l
	1,2-EDB	2.7 ug/l	0.05 ug/l
MW-3s	MTBE	468.0 ug/l	20.0 ug/l
	Benzene	4,490.0 ug/l	5.0 ug/l
	Ethylbenzene	2,080.0 ug/l	700.0 ug/l
	Toluene	10,800.0 ug/l	1,000.0 ug/l
	Naphthalene	456.0 ug/l	100.0 ug/l
	Xylenes	12,100.0 ug/l	10,000.0 ug/l
	1,2-EDC	<20.0 ug/l	5.0 ug/l
	1,2,4-TMB	2,590.0 ug/l	15.0 ug/l
	1,3,5-TMB	611.0 ug/l	420.0 ug/l
	1,2-EDB	0.76 ug/l	0.05 ug/l

Table 3 (Continued)
Lewis Brothers Garage Property
Summary of Exceedances
December 2016 Field Activities

Location	Parameter	Concentration	Act 2 MSC
MW-4s	MTBE	472.0 ug/l	20.0 ug/l
	Benzene	28.6 ug/l	5.0 ug/l
	1,2,4-TMB	130.0 ug/l	15.0 ug/l
MW-10s	Benzene	120.0 ug/l	5.0 ug/l
	Toluene	272.0 ug/l	1,000.0 ug/l
	1,2,4-TMB	41.4 ug/l	15.0 ug/l
MW-11s	Benzene	71.5 ug/l	5.0 ug/l
	1,2,4-TMB	323.0 ug/l	15.0 ug/l

Comparison of Surface Water Data to Statewide Health Standard MSCs

Six (6) surface water samples were collected as part of the December 2016 field activities. The results of the surface water sampling are summarized in **Table G-2** in **Attachment G.** As shown in the table, all compound concentrations were below the respective reporting detection limits (RDLs) established by the laboratory. The reported RDLs are below the respective standards outlined in 25 Pennsylvania Code Chapter 16, as well as the respective Statewide Health Standard MSCs for those compounds not included in Chapter 16.

Temporal Trend Analysis

Time-series graphs were prepared for each compound that exceeded the respective MSCs within the last four (4) groundwater sampling events in MW-1s, MW-2s, MW-3s, MW-4s, MW-6s, MW-10s, MW-11s, MW-12s, MW-2d, MW-7d and OW-4. These graphs are included in **Attachment I.** A linear regression best-fit trend line was fit to the time-series data on each graph using the trend line function in MS Excel. Refer to Table 4 for a summary of the trends have been identified based on a review of the time-series graphs:

Table 4
Lewis Brothers Garage Property
Groundwater Analytical Data – Trend Summary

Well #	Compound	Trend	Concentration
MW-1s	MTBE	Decreasing	Below
MW-2s	MTBE	Decreasing	Above MSC
	Benzene	Decreasing	Above MSC
	Ethylbenzene	Decreasing	Above MSC
	Toluene	Decreasing	Above MSC
	Naphthalene	Decreasing	Above MSC
	Total Xylenes	Decreasing	Below MSC
	1,2,4-TMB	Decreasing	Above MSC
	1,3,5-TMB	Decreasing	Above MSC

Table 4 (Continued)
Lewis Brothers Garage Property
Groundwater Analytical Data – Trend Summary

Well #	Compound	Trend	Concentration
MW-3s	MTBE	Decreasing	Above MSC
	Benzene	Decreasing	Above MSC
	Ethylbenzene	Decreasing	Above MSC
	Cumene	Stable	Below MSC
	Toluene	Decreasing	Above MSC
	Naphthalene	Decreasing	Above MSC
	Total Xylenes	Decreasing	Above MSC
	1,2,4-TMB	Decreasing	Above MSC
	1,3,5-TMB	Decreasing	Above MSC
MW-4s	MTBE	Increasing	Above MSC
	Benzene	Decreasing	Above MSC
	1,2,4-TMB	Decreasing	Above MSC
	1,3,5-TMB	Decreasing	Below MSC
MW-6s	Benzene	Decreasing	Below MSC
MW-10s	MTBE	Increasing	Below MSC
	Benzene	Increasing	Above MSC
	Toluene	Increasing	Below MSC
	1,2,4-TMB	Increasing	Above MSC
	1,3,5-TMB	Increasing	Below MSC
MW-11s	MTBE	Decreasing	Below MSC
	Benzene	Decreasing	Above MSC
	Ethylbenzene	Decreasing	Below MSC
	Naphthalene	Decreasing	Below MSC
	1,2,4-TMB	Decreasing	Above MSC
	1,3,5-TMB	Decreasing	Below MSC
MW-12s	MTBE	Increasing	Below MSC
	Benzene	Decreasing	Below MSC
MW-2d	Benzene	Decreasing	Below MSC
	1,2,4-TMB	Decreasing	Below MSC
MW-7d	MTBE	Decreasing	Below MSC
	Benzene	Decreasing	Below MSC
OW-4	MTBE	Decreasing	Below MSC

PADEP Approval of the Final Site Characterization Report

On September 26, 2016, Pennsylvania Tectonics submitted a FSCR to the PADEP. The PADEP approved this report via correspondence dated December 22, 2016 (**Attachment J**). Per the correspondence, "The Department approves the SCR in accordance with Section 245.310(c)(2) with the following modification(s) / stipulations(s)";

1. Dissolved lead has not been detected above laboratory method detection limits in groundwater since sampling was initiated in 2008. Analysis for dissolved lead may be discontinued. **Response**: Future groundwater sampling activities will not include the analysis of Dissolved Lead.

2. The Department concurs that under current conditions, no additional assessment of surface water is necessary at this time. **Response**: Future quarterly sampling activities will not include the collection and analysis of surface water samples.

3. The Johnson and Ettinger model performed for the Jarrow residence used a depth to groundwater value of ten feet below the floor of the basement. Groundwater elevations in nearby monitoring wells are often at depths of six to seven feet below grade. It does not appear that there is a buffer of five feet of soil between impacted groundwater and the basement floor. Indoor air sampling should be conducted. **Response**: Based on a review of the vapor intrusion section of the FSCR, Pennsylvania Tectonics concurs that additional evaluation of the Jones (former Jarrow) Property is required. Pennsylvania Tectonics will prepare a work plan to complete additional Vapor Intrusion Assessment in accordance with the Final *"Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil Under Act 2"* (PADEP Document #261-0300-101) dated January 18, 2017.

4. The Table BB-1 for the Strong residence, results are listed for an August 1, 2015 sampling event. Laboratory data sheets could not be located within the report for this date. **Response**: Pennsylvania Tectonics reviewed the historical POET data tables and associated laboratory data sheets for the Strong property. It was determined that the actual date of sampling was August 11, 2015, not August 1, 2015. The analytical data sheets for the August 11, 2015 sampling event were included in the FSCR. Refer to **Attachment K** of this RAPR for a copy of the revised analytical data table and the analytical data sheets for the August 11, 2015 POET sampling event at the Strong Property. Note, this particular sampling event included the collection of a raw water sample only.

5. The Department has reviewed the analytical results of Point of Entry Treatment (POET) systems and has determined that influent results for Tier 2 wells have non-detect results for five to six quarterly events over seven to eight years. Tier 3 wells have non-detect results for seven to eight events over seven to eight years. Based on current conditions the POET systems may be removed from Tier 2 and Tier 3 wells. **Response**: Pennsylvania Tectonics will evaluate this issue. Since the potential exists that some form of active remediation may occur in the future, there is a possibility that such activity may mobilize contaminants in the groundwater. It may be premature to remove the POET systems at this time, only to have to replace them.

6. In accordance with Section 250.305(c)(1) of the Department's Land Recycling regulations, the use of Direct Contact Values for soil is not relevant for screening the constituents of concern at the site. In sections 5.6, 6.1 and other locations of the report the Direct Contact Values are used. The Soil-to-Groundwater MSCs are the correct screening values for the site. **Response:** In the FSCR, Pennsylvania Tectonics only utilized the Direct Contact Values for Soil to determine if a potential direct contact exposure pathway exists onsite. As provided in the soil analytical data tables included in Appendix W of the FSCR, the ultimate MSCs for soil are / were the Soil-to-Groundwater Pathway values.

7. Based on refusal of access to potentially relevant properties to the west and southwest, the Department will not require additional delineation in this direction at this time. The report indicates that impacted smear zone soils to the southeast are not delineated based on results collected from soil boring TB-38A; which contained an exceedance of the benzene MSC at the nine to ten foot interval. Based on nine of twelve previous gauging events of groundwater in nearby monitoring well MW-10s, this interval is saturated. No further smear zone delineation is necessary in this direction. **Response:** Pennsylvania Tectonics concurs with this approach.

8. In section 9.2 of the report, it is suggested that the Site Specific Standard (SSS) may be selected for soils at the site. There is no discussion of how that may be attained. Such a remedy would require activity and use restrictions be applied to impacted off-site properties memorialized in an Environmental Covenant. This might be very difficult to obtain. **Response:** This issue will be addressed in the forthcoming RAP.

9. Additional remedial alternatives need to be evaluated and / or additional remedial pilot testing should be conducted. In Section 10.9 it is concluded that soil vapor extraction / air sparge technology is not appropriate for the site. There is a lack of detail in the pilot study, including but not limited to justification of the diameter and construction of SVE test wells, and the selection of specifications of the test equipment. Additionally, sparging was not conducted during this test. **Response:** Additional details associated with the pilot test will be included in the background section of the forthcoming RAP. Since the SVE portion of the pilot test failed to show any radius of influence, the completion of an air sparge pilot test was not practical.

Activities to be Conducted this Period

Based on the information provided above, Pennsylvania Tectonics will complete the following activities this period:

1. In accordance with Milestone P of the Remediation Agreement, and in conjunction with the results of the SVE pilot test, Pennsylvania Tectonics has prepared a Draft Feasible Remedial Alternatives Analysis Report for the subject property. This draft report will be forwarded to USTIF for review and comment, as required by the Agreement.

2. According to the PADEP's FSCR approval letter, a Remedial Action Plan is required to be submitted no later than February 28, 2017. If necessary, a request for deadline extension will be submitted to the PADEP by January 28, 2017. Additional time may be required to evaluate the additional remedial alternatives.

3. Pennsylvania Tectonics will prepare a work plan to complete additional Vapor Intrusion Assessment of the Jones (former Jarrow) property in accordance with the Final *"Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil Under Act 2"* (PADEP Document #261-0300-101) dated January 18, 2017. This work plan will be submitted to the PADEP for review and approval no later than January 31, 2017.

4. Pennsylvania Tectonics will complete quarterly groundwater monitoring while the RAP is being prepared, reviewed and implemented. The next round of quarterly monitoring will be conducted in March 2017. As part of these activities, Pennsylvania Tectonics will also complete the sampling of the three (3) Tier 1 POET properties (i.e. Crossley, Jones & Kowalski).

Closing

I trust this information meets your needs. Please do not hesitate to contact me if you have any questions or comments regarding the contents of this report or the project in general.

Sincerely,

Martin Gilgallon, P.G.
Project Director
Pennsylvania Tectonics, Incorporated
Pennsylvania Registered Professional
Geologist No. 000639-G

"By affixing my seal to this report, I am certifying that the information is true and correct. I further certify I am licensed to practice in the Commonwealth of Pennsylvania and that it is within my professional expertise to verify the correctness of the information"

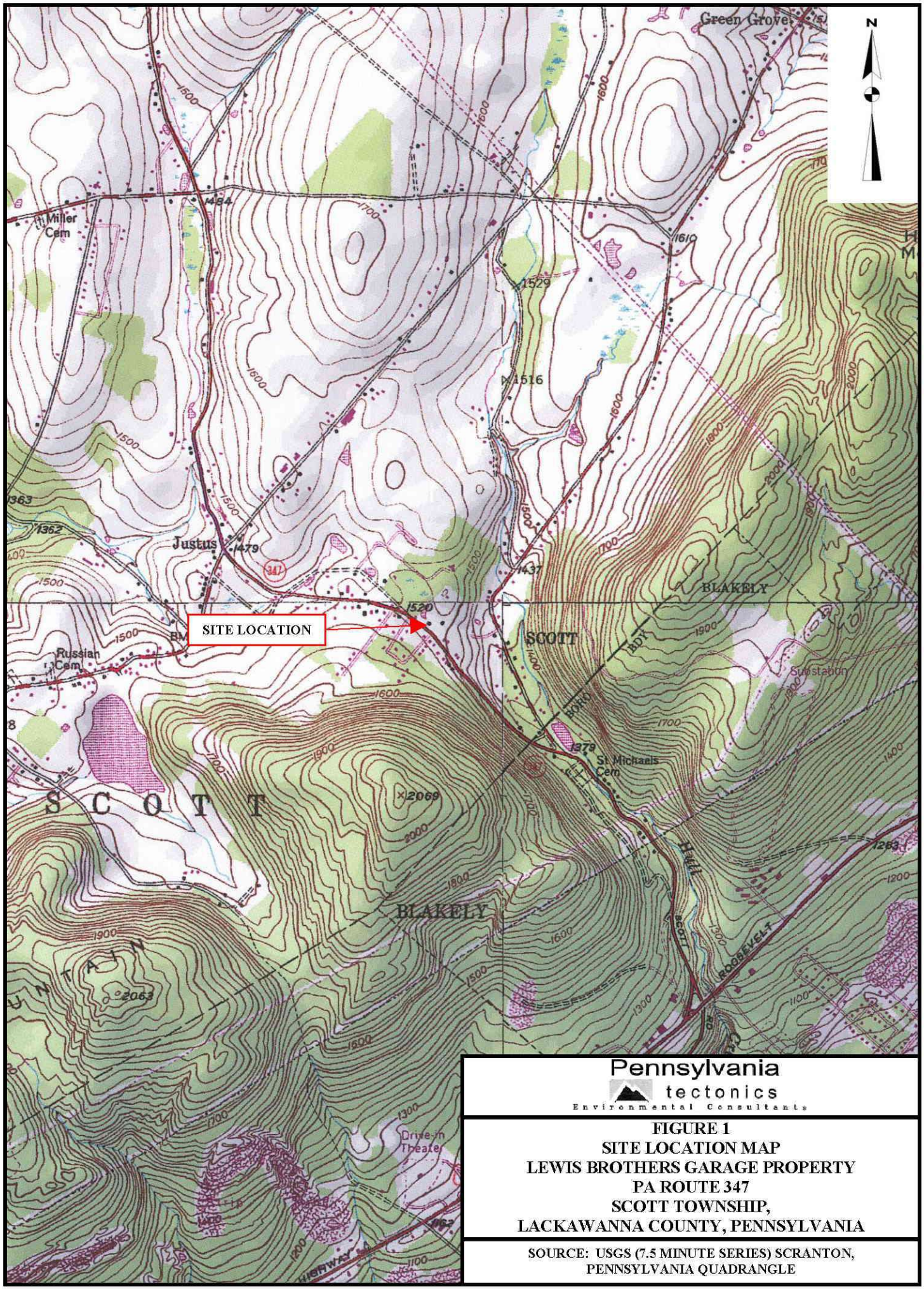
MG/mg – 27058PA

Attachments

cc: Mr. Sean Phillips / Executor of The Estate of Ruth Lewis
Mr. Jim Ferro / ICF International
Pennsylvania Tectonics Project File #27058

ATTACHMENT A

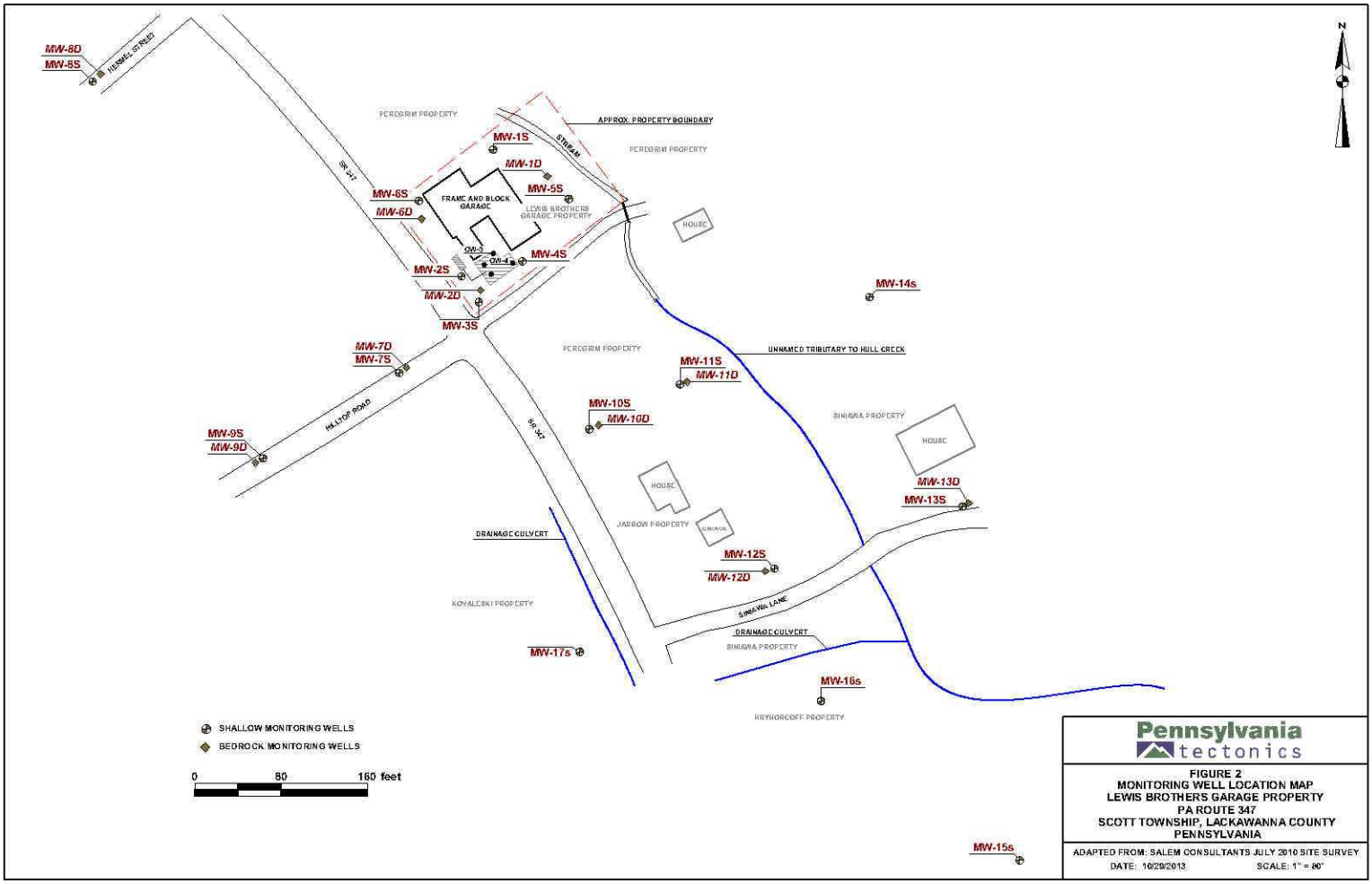
Site Maps and Figures

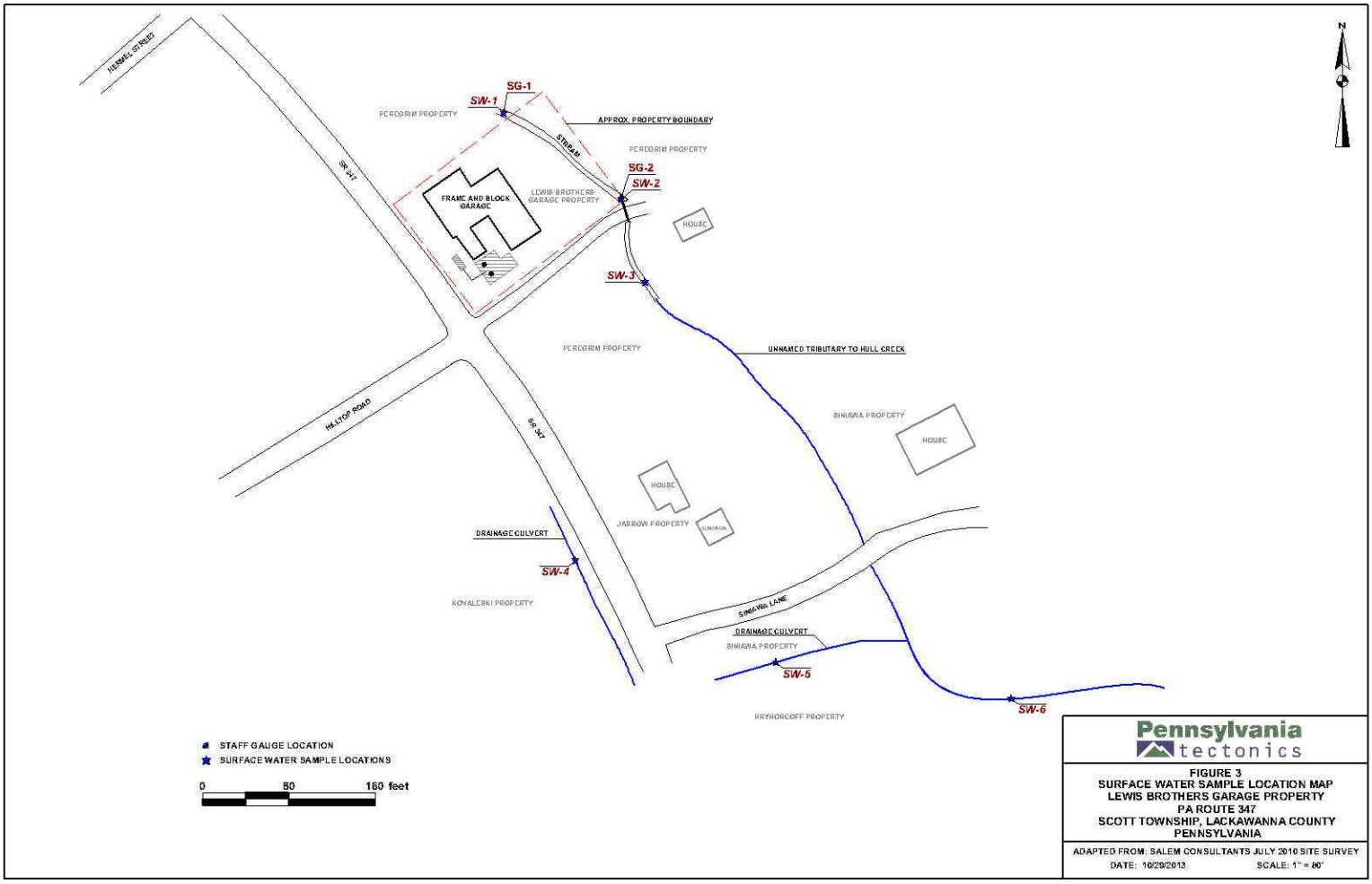


Pennsylvania tectonics
Environmental Consultants

FIGURE 1
SITE LOCATION MAP
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP,
LACKAWANNA COUNTY, PENNSYLVANIA

SOURCE: USGS (7.5 MINUTE SERIES) SCRANTON, PENNSYLVANIA QUADRANGLE


MW-8D
MW-8S
VENABEL STREET
PERGRIM PROPERTY
APPROX. PROPERTY BOUNDARY
MW-1S
STREAM
MW-1D
PERGRIM PROPERTY
SR 347
MW-6S
MW-6D
FRAME AND BLOCK GARAGE
MW-5S
LEWIS BROTHERS GARAGE PROPERTY
HOUSE
OW-3
OW-4
MW-4S
MW-2S
MW-2D
MW-3S
MW-14s
MW-7D
MW-7S
PERGRIM PROPERTY
UNNAMED TRIBUTARY TO HULL CREEK
MW-11S
MW-11D
MW-10S
MW-10D
HILLTOP ROAD
SR 347
SINIAWA PROPERTY
HOUSE
MW-9S
MW-9D
MW-13D
MW-13S
HOUSE
JARROW PROPERTY
GARAGE
DRAINAGE CULVERT
MW-12S
MW-12D
KOVALESKI PROPERTY
SINIAWA LANE
DRAINAGE CULVERT
SINIAWA PROPERTY
MW-17s
MW-16s
REYNORCOFF PROPERTY
SHALLOW MONITORING WELLS
BEDROCK MONITORING WELLS
0
80
160 feet
MW-15s
N
Pennsylvania tectonics
FIGURE 2
MONITORING WELL LOCATION MAP
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA
ADAPTED FROM: SALEM CONSULTANTS JULY 2010 SITE SURVEY
DATE: 10/29/2013
SCALE: 1" = 80'



Pennsylvania tectonics

FIGURE 3
SURFACE WATER SAMPLE LOCATION MAP
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA

ADAPTED FROM: SALEM CONSULTANTS JULY 2010 SITE SURVEY
DATE: 10/29/2013 SCALE: 1" = 80'

ATTACHMENT B

Groundwater Elevation Summary Tables

01/18/17

Pennsylvania Tectonics, Inc.
Groundwater Elevation Data
Lewis Brothers - Bedrock Wells

Date	Number	MW-1d Static	MW-1d Elevation	MW-1d GW Elevation	MW-2d Static	MW-2d Elevation	MW-2d GW Elevation	MW-6d Static	MW-6d Elevation	MW-6d GW Elevation	MW-7d Static	MW-7d Elevation	MW-7d GW Elevation	MW-8d Static	MW-8d Elevation	MW-8d GW Elevation
3/12/2008	39519.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
3/22/2008	39529.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
4/5/2008	39543.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
4/28/2008	39566.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
4/30/2008	39568.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
5/2/2008	39570.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
5/5/2008	39573.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
5/9/2008	39577.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
5/16/2008	39584.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
5/27/2008	39595.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
6/3/2008	39602.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
6/9/2008	39608.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	NA	1,513.83	NA	NA	1,525.71	NA
6/27/2008	39626.00	49.70	1,512.22	1,462.52	15.00	1,512.91	1,497.91	57.20	1,515.23	1,458.03	NA	1,513.83	NA	NA	1,525.71	NA
7/2/2008	39631.00	44.72	1,512.22	1,467.50	16.25	1,512.91	1,496.66	56.50	1,515.23	1,458.73	NA	1,513.83	NA	NA	1,525.71	NA
7/3/2008	39632.00	44.69	1,512.22	1,467.53	15.17	1,512.91	1,497.74	56.57	1,515.23	1,458.66	NA	1,513.83	NA	NA	1,525.71	NA
7/10/2008	39639.00	54.61	1,512.22	1,457.61	17.53	1,512.91	1,495.38	62.17	1,515.23	1,453.06	NA	1,513.83	NA	NA	1,525.71	NA
7/28/2008	39657.00	44.62	1,512.22	1,467.60	16.40	1,512.91	1,496.51	57.40	1,515.23	1,457.83	NA	1,513.83	NA	NA	1,525.71	NA
8/1/2008	39661.00	44.47	1,512.22	1,467.75	15.19	1,512.91	1,497.72	57.55	1,515.23	1,457.68	NA	1,513.83	NA	NA	1,525.71	NA
8/6/2008	39666.00	44.68	1,512.22	1,467.54	15.59	1,512.91	1,497.32	57.71	1,515.23	1,457.52	NA	1,513.83	NA	NA	1,525.71	NA
8/11/2008	39671.00	44.54	1,512.22	1,467.68	15.71	1,512.91	1,497.20	57.85	1,515.23	1,457.38	NA	1,513.83	NA	NA	1,525.71	NA
10/6/2008	39727.00	NA	1,512.22	NA	NA	1,512.91	NA	NA	1,515.23	NA	19.59	1,513.83	1,494.24	NA	1,525.71	NA
10/10/2008	39731.00	45.18	1,512.22	1,467.04	19.05	1,512.91	1,493.86	59.11	1,515.23	1,456.12	21.94	1,513.83	1,491.89	NA	1,525.71	NA
10/15/2008	39736.00	45.30	1,512.22	1,466.92	19.03	1,512.91	1,493.88	59.40	1,515.23	1,455.83	18.79	1,513.83	1,495.04	NA	1,525.71	NA
11/3/2008	39755.00	45.18	1,512.22	1,467.04	18.20	1,512.91	1,494.71	58.99	1,515.23	1,456.24	27.91	1,513.83	1,485.92	NA	1,525.71	NA
12/8/2008	39790.00	44.32	1,512.22	1,467.90	16.50	1,512.91	1,496.41	57.32	1,515.23	1,457.91	29.1	1,513.83	1,484.73	NA	1,525.71	NA
4/6/2009	39909.00	42.90	1,512.22	1,469.32	14.64	1,512.91	1,498.27	54.87	1,515.23	1,460.36	26.84	1,513.83	1,486.99	NA	1,525.71	NA
3/8/2010	40245.00	43.11	1,512.22	1,469.11	15.43	1,512.91	1,497.48	55.77	1,515.23	1,459.46	27.35	1,513.83	1,486.48	NA	1,525.71	NA
8/2/2010	40392.00	43.67	1,512.22	1,468.55	17.14	1,512.91	1,495.77	59.83	1,515.23	1,455.40	30.28	1,513.83	1,483.55	72.37	1,525.71	1,453.34
9/26/2011	40812.00	41.79	1,512.22	1,470.43	12.46	1,512.91	1,500.45	55.38	1,515.23	1,459.85	27.75	1,513.83	1,486.08	67.20	1,525.71	1,458.51
11/9/2011	40856.00	41.65	1,512.22	1,470.57	11.28	1,512.91	1,501.63	54.37	1,515.23	1,460.86	28.78	1,513.83	1,485.05	66.12	1,525.71	1,459.59
6/12/2012	41072.00	41.29	1,512.22	1,470.93	12.91	1,512.91	1,500.00	56.70	1,515.23	1,458.53	25.80	1,513.83	1,488.03	69.37	1,525.71	1,456.34
8/9/2012	41130.00	42.18	1,512.22	1,470.04	15.19	1,512.91	1,497.72	59.35	1,515.23	1,455.88	28.01	1,513.83	1,485.82	71.35	1,525.71	1,454.36
10/2/2013	41549.00	41.41	1,512.22	1,470.81	14.95	1,512.91	1,497.96	59.09	1,515.23	1,456.14	17.69	1,513.83	1,496.14	72.43	1,525.71	1,453.28
2/3/2014	41673.00	40.80	1,512.22	1,471.42	13.89	1,512.91	1,499.02	57.02	1,515.23	1,458.21	20.70	1,513.83	1,493.13	68.41	1,525.71	1,457.30
6/2/2014	41792.00	40.65	1,512.22	1,471.57	14.16	1,512.91	1,498.75	57.17	1,515.23	1,458.06	19.37	1,513.83	1,494.46	68.37	1,525.71	1,457.34
11/20/2014	41963.00	43.03	1,512.22	1,469.19	20.61	1,512.91	1,492.30	63.62	1,515.23	1,451.61	20.88	1,513.83	1,492.95	74.01	1,525.71	1,451.70
10/6/2015	42283.00	42.91	1,512.22	1,469.31	23.53	1,512.91	1,489.38	62.97	1,515.23	1,452.26	19.08	1,513.83	1,494.75	74.55	1,525.71	1,451.16
3/30/2016	42459.00	41.33	1,512.22	1,470.89	20.10	1,512.91	1,492.81	58.60	1,515.23	1,456.63	14.94	1,513.83	1,498.89	69.10	1,525.71	1,456.61
6/22/2016	42543.00	41.54	1,512.22	1,470.68	19.95	1,512.91	1,492.96	60.84	1,515.23	1,454.39	16.12	1,513.83	1,497.71	71.84	1,525.71	1,453.87
12/27/2016	42731.00	41.49	1,512.22	1,470.73	19.44	1,512.91	1,493.47	60.24	1,515.23	1,454.99	15.34	1,513.83	1,498.49	71.40	1,525.71	1,454.31

NA **Not Applicable**

01/18/17

Pennsylvania Tectonics, Inc.
Groundwater Elevation Data
Lewis Brothers - Bedrock Wells

Date	Number	MW-9d Static	MW-9d Elevation	MW-9d GW Elevation	MW-10d Static	MW-10d Elevation	MW-10d GW Elevation	MW-11d Static	MW-11d Elevation	MW-11d GW Elevation	MW-12d Static	MW-12d Elevation	MW-12d GW Elevation	MW-13d Static	MW-13d Elevation	MW-13d GW Elevation
3/12/2008	39519.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
3/22/2008	39529.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
4/5/2008	39543.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
4/28/2008	39566.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
4/30/2008	39568.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
5/2/2008	39570.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
5/5/2008	39573.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
5/9/2008	39577.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
5/16/2008	39584.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
5/27/2008	39595.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
6/3/2008	39602.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
6/9/2008	39608.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
6/27/2008	39626.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
7/2/2008	39631.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
7/3/2008	39632.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
7/10/2008	39639.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
7/28/2008	39657.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
8/1/2008	39661.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
8/6/2008	39666.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
8/11/2008	39671.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
10/6/2008	39727.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
10/10/2008	39731.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
10/15/2008	39736.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
11/3/2008	39755.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
12/8/2008	39790.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
4/6/2009	39909.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
3/8/2010	40245.00	NA	1,525.30	NA	NA	1,503.97	NA	NA	1,499.18	NA	NA	1,487.48	NA	NA	1,471.85	NA
8/2/2010	40392.00	73.06	1,525.30	1,452.24	74.94	1,503.97	1,429.03	78.31	1,499.18	1,420.87	66.57	1,487.48	1,420.91	51.02	1,471.85	1,420.83
9/26/2011	40812.00	67.74	1,525.30	1,457.56	68.98	1,503.97	1,434.99	67.95	1,499.18	1,431.23	59.53	1,487.48	1,427.95	43.94	1,471.85	1,427.91
11/9/2011	40856.00	66.44	1,525.30	1,458.86	69.61	1,503.97	1,434.36	69.23	1,499.18	1,429.95	61.07	1,487.48	1,426.41	45.49	1,471.85	1,426.36
6/12/2012	41072.00	67.72	1,525.30	1,457.58	68.75	1,503.97	1,435.22	70.68	1,499.18	1,428.50	62.69	1,487.48	1,424.79	47.11	1,471.85	1,424.74
8/9/2012	41130.00	71.53	1,525.30	1,453.77	70.09	1,503.97	1,433.88	72.46	1,499.18	1,426.72	64.39	1,487.48	1,423.09	48.77	1,471.85	1,423.08
10/2/2013	41549.00	72.38	1,525.30	1,452.92	69.22	1,503.97	1,434.75	73.42	1,499.18	1,425.76	65.33	1,487.48	1,422.15	49.72	1,471.85	1,422.13
2/3/2014	41673.00	69.60	1,525.30	1,455.70	66.65	1,503.97	1,437.32	72.00	1,499.18	1,427.18	63.96	1,487.48	1,423.52	48.44	1,471.85	1,423.41
6/2/2014	41792.00	69.39	1,525.30	1,455.91	66.43	1,503.97	1,437.54	72.59	1,499.18	1,426.59	64.38	1,487.48	1,423.10	48.76	1,471.85	1,423.09
11/20/2014	41963.00	74.50	1,525.30	1,450.80	70.64	1,503.97	1,433.33	76.94	1,499.18	1,422.24	68.31	1,487.48	1,419.17	52.69	1,471.85	1,419.16
10/6/2015	42283.00	74.35	1,525.30	1,450.95	70.38	1,503.97	1,433.59	76.28	1,499.18	1,422.90	68.01	1,487.48	1,419.47	52.45	1,471.85	1,419.40
3/30/2016	42459.00	69.37	1,525.30	1,455.93	66.54	1,503.97	1,437.43	73.03	1,499.18	1,426.15	65.09	1,487.48	1,422.39	49.48	1,471.85	1,422.37
6/22/2016	42543.00	72.68	1,525.30	1,452.62	68.96	1,503.97	1,435.01	74.74	1,499.18	1,424.44	66.76	1,487.48	1,420.72	51.11	1,471.85	1,420.74
12/27/2016	42731.00	71.16	1,525.30	1,454.14	67.97	1,503.97	1,436.00	73.89	1,499.18	1,425.29	65.88	1,487.48	1,421.60	50.28	1,471.85	1,421.57

NA **Not Applicable**

01/18/17

Pennsylvania Tectonics, Inc.
Groundwater Elevation Data
Lewis Brothers - Shallow Monitoring Wells

Date	Number	MW-1s Static	MW-1s Elevation	MW-1s GW Elevation	MW-2s Static	MW-2s Elevation	MW-2s GW Elevation	MW-3s Static	MW-3s Elevation	MW-3s GW Elevation	MW-4s Static	MW-4s Elevation	MW-4s GW Elevation	MW-5s Static	MW-5s Elevation	MW-5s GW Elevation
3/12/2008	39519.00	NA	1,513.59	NA	12.42	1,513.69	1,501.27	11.02	1,513.35	1,502.33	6.73	1,511.26	1,504.53	7.85	1,511.21	1,503.36
3/22/2008	39529.00	10.08	1,513.59	1,503.51	12.68	1,513.69	1,501.01	11.57	1,513.35	1,501.78	6.37	1,511.26	1,504.89	7.60	1,511.21	1,503.61
4/5/2008	39543.00	10.32	1,513.59	1,503.27	NA	1,513.69	NA	NA	1,513.35	NA	9.36	1,511.26	1,501.90	8.29	1,511.21	1,502.92
4/28/2008	39566.00	11.69	1,513.59	1,501.90	13.75	1,513.69	1,499.94	12.24	1,513.35	1,501.11	NA	1,511.26	NA	9.84	1,511.21	1,501.37
4/30/2008	39568.00	11.58	1,513.59	1,502.01	14.25	1,513.69	1,499.44	12.58	1,513.35	1,500.77	NA	1,511.26	NA	10.00	1,511.21	1,501.21
5/2/2008	39570.00	11.45	1,513.59	1,502.14	14.09	1,513.69	1,499.60	12.70	1,513.35	1,500.65	10.21	1,511.26	1,501.05	10.17	1,511.21	1,501.04
5/5/2008	39573.00	11.52	1,513.59	1,502.07	14.38	1,513.69	1,499.31	12.82	1,513.35	1,500.53	10.28	1,511.26	1,500.98	10.27	1,511.21	1,500.94
5/9/2008	39577.00	11.55	1,513.59	1,502.04	13.14	1,513.69	1,500.55	12.85	1,513.35	1,500.50	NA	1,511.26	NA	10.33	1,511.21	1,500.88
5/16/2008	39584.00	11.23	1,513.59	1,502.36	13.89	1,513.69	1,499.80	12.50	1,513.35	1,500.85	NA	1,511.26	NA	9.96	1,511.21	1,501.25
5/27/2008	39595.00	10.93	1,513.59	1,502.66	13.69	1,513.69	1,500.00	12.26	1,513.35	1,501.09	NA	1,511.26	NA	9.68	1,511.21	1,501.53
6/3/2008	39602.00	10.98	1,513.59	1,502.61	13.90	1,513.69	1,499.79	12.70	1,513.35	1,500.65	9.98	1,511.26	1,501.28	9.86	1,511.21	1,501.35
6/9/2008	39608.00	11.17	1,513.59	1,502.42	14.89	1,513.69	1,498.80	12.64	1,513.35	1,500.71	10.15	1,511.26	1,501.11	10.14	1,511.21	1,501.07
6/27/2008	39626.00	12.26	1,513.59	1,501.33	NA	1,513.69	NA	NA	1,513.35	NA	10.65	1,511.26	1,500.61	11.26	1,511.21	1,499.95
7/2/2008	39631.00	12.51	1,513.59	1,501.08	NA	1,513.69	NA	NA	1,513.35	NA	11.04	1,511.26	1,500.22	11.50	1,511.21	1,499.71
7/3/2008	39632.00	12.58	1,513.59	1,501.01	14.86	1,513.69	1,498.83	12.82	1,513.35	1,500.53	11.02	1,511.26	1,500.24	11.52	1,511.21	1,499.69
7/10/2008	39639.00	12.77	1,513.59	1,500.82	14.99	1,513.69	1,498.70	13.00	1,513.35	1,500.35	11.23	1,511.26	1,500.03	11.70	1,511.21	1,499.51
7/28/2008	39657.00	12.77	1,513.59	1,500.82	NA	1,513.69	NA	NA	1,513.35	NA	NA	1,511.26	NA	11.27	1,511.21	1,499.94
8/1/2008	39661.00	12.85	1,513.59	1,500.74	14.66	1,513.69	1,499.03	12.83	1,513.35	1,500.52	11.09	1,511.26	1,500.17	11.28	1,511.21	1,499.93
8/6/2008	39666.00	12.89	1,513.59	1,500.70	NA	1,513.69	NA	NA	1,513.35	NA	11.59	1,511.26	1,499.67	11.54	1,511.21	1,499.67
8/11/2008	39671.00	12.87	1,513.59	1,500.72	NA	1,513.69	NA	NA	1,513.35	NA	11.70	1,511.26	1,499.56	11.57	1,511.21	1,499.64
10/10/2008	39731.00	15.37	1,513.59	1,498.22	NA	1,513.69	NA	NA	1,513.35	NA	14.79	1,511.26	1,496.47	14.90	1,511.21	1,496.31
10/15/2008	39736.00	15.99	1,513.59	1,497.60	NA	1,513.69	NA	NA	1,513.35	NA	15.13	1,511.26	1,496.13	15.13	1,511.21	1,496.08
11/3/2008	39755.00	15.36	1,513.59	1,498.23	NA	1,513.69	NA	16.17	1,513.35	1,497.18	14.37	1,511.26	1,496.89	13.25	1,511.21	1,497.96
12/8/2008	39790.00	14.02	1,513.59	1,499.57	NA	1,513.69	NA	NA	1,513.35	NA	12.90	1,511.26	1,498.36	12.3	1,511.21	1,498.91
4/6/2009	39909.00	11.87	1,513.59	1,501.72	13.36	1,513.69	1,500.33	11.96	1,513.35	1,501.39	9.85	1,511.26	1,501.41	10	1,511.21	1,501.21
3/8/2010	40245.00	12.98	1,513.59	1,500.61	15.19	1,513.69	1,498.50	13.76	1,513.35	1,499.59	11.89	1,511.26	1,499.37	11.54	1,511.21	1,499.67
8/2/2010	40392.00	14.90	1,513.59	1,498.69	17.65	1,513.69	1,496.04	16.23	1,513.35	1,497.12	13.45	1,511.26	1,497.81	14.21	1,511.21	1,497.00
9/26/2011	40812.00	9.35	1,513.59	1,504.24	11.57	1,513.69	1,502.12	10.36	1,513.35	1,502.99	7.25	1,511.26	1,504.01	7.48	1,511.21	1,503.73
11/9/2011	40856.00	9.87	1,513.59	1,503.72	11.77	1,513.69	1,501.92	10.54	1,513.35	1,502.81	7.69	1,511.26	1,503.57	8.32	1,511.21	1,502.89
6/12/2012	41072.00	10.74	1,513.59	1,502.85	13.81	1,513.69	1,499.88	11.62	1,513.35	1,501.73	8.41	1,511.26	1,502.85	9.28	1,511.21	1,501.93
8/9/2012	41130.00	13.12	1,513.59	1,500.47	15.75	1,513.69	1,497.94	14.69	1,513.35	1,498.66	10.91	1,511.26	1,500.35	11.66	1,511.21	1,499.55
10/2/2013	41549.00	12.24	1,513.59	1,501.35	14.41	1,513.69	1,499.28	13.54	1,513.35	1,499.81	9.69	1,511.26	1,501.57	10.84	1,511.21	1,500.37
2/3/2014	41673.00	NM	1,513.59	NA	13.42	1,513.69	1,500.27	12.20	1,513.35	1,501.15	8.96	1,511.26	1,502.30	9.74	1,511.21	1,501.47
6/2/2014	41792.00	10.26	1,513.59	1,503.33	12.18	1,513.69	1,501.51	10.97	1,513.35	1,502.38	7.48	1,511.26	1,503.78	8.59	1,511.21	1,502.62
11/20/2014	41963.00	18.62	1,513.59	1,494.97	20.26	1,513.69	1,493.43	19.17	1,513.35	1,494.18	16.31	1,511.26	1,494.95	16.64	1,511.21	1,494.57
10/6/2015	42283.00	NA	1,513.59	NA	18.43	1,513.69	1,495.26	17.38	1,513.35	1,495.97	14.30	1,511.26	1,496.96	14.32	1,511.21	1,496.89
3/30/2016	42459.00	NA	1,513.59	NA	12.68	1,513.69	1,501.01	13.74	1,513.35	1,499.61	11.18	1,511.26	1,500.08	10.32	1,511.21	1,500.89
6/22/2016	42543.00	13.93	1,513.59	1,499.66	15.41	1,513.69	1,498.28	14.39	1,513.35	1,498.96	11.41	1,511.26	1,499.85	11.92	1,511.21	1,499.29
12/27/2016	42731.00	13.15	1,513.59	1,500.44	14.48	1,513.69	1,499.21	13.49	1,513.35	1,499.86	10.94	1,511.26	1,500.32	10.23	1,511.21	1,500.98

NA **Not Applicable**

*** A medium product density of 0.74 was utilized to compensate for the presence of free product in MW-2s and MW-3s, when applicable.**

01/18/17

Pennsylvania Tectonics, Inc.
Groundwater Elevation Data
Lewis Brothers - Shallow Monitoring Wells

Date	Number	MW-6s Static	MW-6s Elevation	MW-6s GW Elevation	MW-7s Static	MW-7s Elevation	MW-7s GW Elevation	MW-8s Static	MW-8s Elevation	MW-8s GW Elevation	MW-9s Static	MW-9s Elevation	MW-9s GW Elevation	MW-10s Static	MW-10s Elevation	MW-10s GW Elevation
3/12/2008	39519.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
3/22/2008	39529.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
4/5/2008	39543.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
4/28/2008	39566.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
4/30/2008	39568.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
5/2/2008	39570.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
5/5/2008	39573.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
5/9/2008	39577.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
5/16/2008	39584.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
5/27/2008	39595.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
6/3/2008	39602.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
6/9/2008	39608.00	NA	1,515.44	NA	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
6/27/2008	39626.00	9.05	1,515.44	1,506.39	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
7/2/2008	39631.00	9.56	1,515.44	1,505.88	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
7/3/2008	39632.00	9.63	1,515.44	1,505.81	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
7/10/2008	39639.00	10.71	1,515.44	1,504.73	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
7/28/2008	39657.00	10.77	1,515.44	1,504.67	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
8/1/2008	39661.00	11.10	1,515.44	1,504.34	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
8/6/2008	39666.00	11.56	1,515.44	1,503.88	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
8/11/2008	39671.00	11.50	1,515.44	1,503.94	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
10/10/2008	39731.00	14.01	1,515.44	1,501.43	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
10/15/2008	39736.00	14.43	1,515.44	1,501.01	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
11/3/2008	39755.00	13.36	1,515.44	1,502.08	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
12/8/2008	39790.00	12.38	1,515.44	1,503.06	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
4/6/2009	39909.00	9.41	1,515.44	1,506.03	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
3/8/2010	40245.00	12.21	1,515.44	1,503.23	NA	1,514.48	NA	NA	1,526.38	NA	NA	1,524.72	NA	NA	1,504.43	NA
8/2/2010	40392.00	14.86	1,515.44	1,500.58	18.80	1,514.48	1,495.68	12.08	1,526.38	1,514.30	28.03	1,524.72	1,496.69	11.35	1,504.43	1,493.08
9/26/2011	40812.00	8.44	1,515.44	1,507.00	12.88	1,514.48	1,501.60	3.31	1,526.38	1,523.07	22.11	1,524.72	1,502.61	6.36	1,504.43	1,498.07
11/9/2011	40856.00	5.97	1,515.44	1,509.47	12.92	1,514.48	1,501.56	6.43	1,526.38	1,519.95	21.92	1,524.72	1,502.80	6.43	1,504.43	1,498.00
6/12/2012	41072.00	9.35	1,515.44	1,506.09	13.94	1,514.48	1,500.54	6.82	1,526.38	1,519.56	23.11	1,524.72	1,501.61	7.19	1,504.43	1,497.24
8/9/2012	41130.00	11.91	1,515.44	1,503.53	16.91	1,514.48	1,497.57	10.58	1,526.38	1,515.80	26.15	1,524.72	1,498.57	9.72	1,504.43	1,494.71
10/2/2013	41549.00	11.24	1,515.44	1,504.20	15.70	1,514.48	1,498.78	10.33	1,526.38	1,516.05	24.87	1,524.72	1,499.85	8.74	1,504.43	1,495.69
2/3/2014	41673.00	10.29	1,515.44	1,505.15	14.41	1,514.48	1,500.07	8.48	1,526.38	1,517.90	23.62	1,524.72	1,501.10	7.58	1,504.43	1,496.85
6/2/2014	41792.00	8.89	1,515.44	1,506.55	13.15	1,514.48	1,501.33	6.68	1,526.38	1,519.70	22.34	1,524.72	1,502.38	6.45	1,504.43	1,497.98
11/20/2014	41963.00	15.14	1,515.44	1,500.30	21.51	1,514.48	1,492.97	13.96	1,526.38	1,512.42	31.30	1,524.72	1,493.42	14.04	1,504.43	1,490.39
10/6/2015	42283.00	15.56	1,515.44	1,499.88	19.63	1,514.48	1,494.85	11.70	1,526.38	1,514.68	29.40	1,524.72	1,495.32	12.12	1,504.43	1,492.31
3/30/2016	42459.00	11.53	1,515.44	1,503.91	15.34	1,514.48	1,499.14	6.60	1,526.38	1,519.78	24.78	1,524.72	1,499.94	8.25	1,504.43	1,496.18
6/22/2016	42543.00	13.50	1,515.44	1,501.94	16.66	1,514.48	1,497.82	10.58	1,526.38	1,515.80	26.08	1,524.72	1,498.64	9.41	1,504.43	1,495.02
12/27/2016	42731.00	11.49	1,515.44	1,503.95	15.95	1,514.48	1,498.53	1.28	1,526.38	1,525.10	25.49	1,524.72	1,499.23	8.80	1,504.43	1,495.63

NA **Not Applicable**

*** 0.24' of casing was cut from MW-8s during manway repair on May 3, 2016.**

01/18/17

Pennsylvania Tectonics, Inc.
Groundwater Elevation Data
Lewis Brothers - Shallow Monitoring Wells

Date	Number	MW-11s Static	MW-11s Elevation	MW-11s GW Elevation	MW-12s Static	MW-12s Elevation	MW-12s GW Elevation	MW-13s Static	MW-13s Elevation	MW-13s GW Elevation	MW-14s Static	MW-14s Elevation	MW-14s GW Elevation	MW-15s Static	MW-15s Elevation	MW-15s GW Elevation
3/12/2008	39519.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
3/22/2008	39529.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
4/5/2008	39543.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
4/28/2008	39566.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
4/30/2008	39568.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
5/2/2008	39570.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
5/5/2008	39573.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
5/9/2008	39577.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
5/16/2008	39584.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
5/27/2008	39595.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
6/3/2008	39602.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
6/9/2008	39608.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
6/27/2008	39626.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
7/2/2008	39631.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
7/3/2008	39632.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
7/10/2008	39639.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
7/28/2008	39657.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
8/1/2008	39661.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
8/6/2008	39666.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
8/11/2008	39671.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
10/10/2008	39731.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
10/15/2008	39736.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
11/3/2008	39755.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
12/8/2008	39790.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
4/6/2009	39909.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
3/8/2010	40245.00	NA	1,499.42	NA	NA	1,487.03	NA	NA	1,472.23	NA	NA	1,493.49	NA	NA	1,457.60	NA
8/2/2010	40392.00	6.50	1,499.42	1,492.92	8.18	1,487.03	1,478.85	15.96	1,472.23	1,456.27	NA	1,493.49	NA	NA	1,457.60	NA
9/26/2011	40812.00	1.51	1,499.42	1,497.91	0.66	1,487.03	1,486.37	14.55	1,472.23	1,457.68	2.29	1,493.49	1,491.20	3.49	1,457.60	1,454.11
11/9/2011	40856.00	1.65	1,499.42	1,497.77	4.38	1,487.03	1,482.65	15.25	1,472.23	1,456.98	6.71	1,493.49	1,486.78	3.51	1,457.60	1,454.09
6/12/2012	41072.00	2.35	1,499.42	1,497.07	3.61	1,487.03	1,483.42	14.64	1,472.23	1,457.59	2.66	1,493.49	1,490.83	4.96	1,457.60	1,452.64
8/9/2012	41130.00	4.77	1,499.42	1,494.65	2.82	1,487.03	1,484.21	15.86	1,472.23	1,456.37	7.97	1,493.49	1,485.52	6.34	1,457.60	1,451.26
10/2/2013	41549.00	3.92	1,499.42	1,495.50	5.67	1,487.03	1,481.36	15.53	1,472.23	1,456.70	8.14	1,493.49	1,485.35	4.25	1,457.60	1,453.35
2/3/2014	41673.00	2.87	1,499.42	1,496.55	4.98	1,487.03	1,482.05	14.89	1,472.23	1,457.34	7.63	1,493.49	1,485.86	7.63	1,457.60	1,449.97
6/2/2014	41792.00	1.85	1,499.42	1,497.57	4.10	1,487.03	1,482.93	14.68	1,472.23	1,457.55	7.19	1,493.49	1,486.30	5.15	1,457.60	1,452.45
11/20/2014	41963.00	9.22	1,499.42	1,490.20	8.57	1,487.03	1,478.46	16.17	1,472.23	1,456.06	10.53	1,493.49	1,482.96	10.13	1,457.60	1,447.47
10/6/2015	42283.00	7.33	1,499.42	1,492.09	5.87	1,487.03	1,481.16	15.59	1,472.23	1,456.64	9.43	1,493.49	1,484.06	10.32	1,457.60	1,447.28
3/30/2016	42459.00	3.51	1,499.42	1,495.91	4.69	1,487.03	1,482.34	15.86	1,472.23	1,456.37	7.71	1,493.49	1,485.78	7.18	1,457.60	1,450.42
6/22/2016	42543.00	4.73	1,499.42	1,494.69	7.41	1,487.03	1,479.62	16.07	1,472.23	1,456.16	9.21	1,493.49	1,484.28	10.28	1,457.60	1,447.32
12/27/2016	42731.00	3.90	1,499.42	1,495.52	1.26	1,487.03	1,485.77	14.44	1,472.23	1,457.79	6.11	1,493.49	1,487.38	6.50	1,457.60	1,451.10

NA **Not Applicable**

01/18/17

Pennsylvania Tectonics, Inc.
Groundwater Elevation Data
Lewis Brothers - Shallow Monitoring Wells

Date	Number	MW-16s Static	MW-16s Elevation	MW-16s GW Elevation	MW-17s Static	MW-17s Elevation	MW-17s GW Elevation	OW-1 Static	OW-1 Elevation	OW-1 GW Elevation	OW-2 Static	OW-2 Elevation	OW-2 GW Elevation	OW-3 Static	OW-3 Elevation	OW-3 GW Elevation
3/12/2008	39519.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
3/22/2008	39529.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
4/5/2008	39543.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
4/28/2008	39566.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
4/30/2008	39568.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
5/2/2008	39570.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
5/5/2008	39573.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
5/9/2008	39577.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
5/16/2008	39584.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
5/27/2008	39595.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
6/3/2008	39602.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
6/9/2008	39608.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
6/27/2008	39626.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
7/2/2008	39631.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
7/3/2008	39632.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
7/10/2008	39639.00	NA	1482.92	NA	NA	1502.17	NA	3.85	1513.48	1509.63	3.15	1512.77	1509.62	2.96	1512.49	1509.53
7/28/2008	39657.00	NA	1482.92	NA	NA	1502.17	NA	4.47	1513.48	1509.01	NA	1512.77	NA	3.57	1512.49	1508.92
8/1/2008	39661.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
8/6/2008	39666.00	NA	1482.92	NA	NA	1502.17	NA	4.95	1513.48	1508.53	5.28	1512.77	1507.49	4.06	1512.49	1508.43
8/11/2008	39671.00	NA	1482.92	NA	NA	1502.17	NA	5.31	1513.48	1508.17	4.66	1512.77	1508.11	4.42	1512.49	1508.07
10/10/2008	39731.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
10/15/2008	39736.00	NA	1482.92	NA	NA	1502.17	NA	9.45	1513.48	1504.03	8.76	1512.77	1504.01	8.54	1512.49	1503.95
11/3/2008	39755.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
12/8/2008	39790.00	NA	1482.92	NA	NA	1502.17	NA	NA	1513.48	NA	NA	1512.77	NA	NA	1512.49	NA
4/6/2009	39909.00	NA	1482.92	NA	NA	1502.17	NA	4.39	1513.48	1509.09	3.65	1512.77	1509.12	3.48	1512.49	1509.01
3/8/2010	40245.00	NA	1482.92	NA	NA	1502.17	NA	4.91	1513.48	1508.57	4.25	1512.77	1508.52	4.06	1512.49	1508.43
8/2/2010	40392.00	NA	1482.92	NA	NA	1502.17	NA	6.31	1513.48	1507.17	5.59	1512.77	1507.18	5.44	1512.49	1507.05
9/26/2011	40812.00	32.80	1482.92	1450.12	15.47	1502.17	1486.70	2.20	1513.48	1511.28	1.50	1512.77	1511.27	1.29	1512.49	1511.20
11/9/2011	40856.00	32.76	1482.92	1450.16	15.46	1502.17	1486.71	3.13	1513.48	1510.35	2.40	1512.77	1510.37	2.22	1512.49	1510.27
6/12/2012	41072.00	32.45	1482.92	1450.47	16.61	1502.17	1485.56	2.86	1513.48	1510.62	2.14	1512.77	1510.63	1.98	1512.49	1510.51
8/9/2012	41130.00	32.81	1482.92	1450.11	17.43	1502.17	1484.74	3.51	1513.48	1509.97	2.80	1512.77	1509.97	2.60	1512.49	1509.89
10/2/2013	41549.00	32.79	1482.92	1450.13	17.18	1502.17	1484.99	4.43	1513.48	1509.05	3.75	1512.77	1509.02	3.57	1512.49	1508.92
2/3/2014	41673.00	NM	1482.92	NA	16.66	1502.17	1485.51	4.17	1513.48	1509.31	4.88	1512.77	1507.89	4.02	1512.49	1508.47
6/2/2014	41792.00	32.73	1482.92	1450.19	16.05	1502.17	1486.12	3.02	1513.48	1510.46	2.37	1512.77	1510.40	2.15	1512.49	1510.34
11/20/2014	41963.00	32.85	1482.92	1450.07	19.84	1502.17	1482.33	8.24	1513.48	1505.24	7.59	1512.77	1505.18	7.39	1512.49	1505.10
10/6/2015	41963.00	32.76	1482.92	1450.16	18.76	1502.17	1483.41	5.17	1513.48	1508.31	4.44	1512.77	1508.33	4.25	1512.49	1508.24
3/30/2016	42459.00	32.71	1482.92	1450.21	16.20	1502.17	1485.97	5.17	1513.48	1508.31	4.56	1512.77	1508.21	4.29	1512.49	1508.20
6/22/2016	42543.00	32.75	1482.92	1450.17	17.47	1502.17	1484.70	4.70	1513.48	1508.78	4.04	1512.77	1508.73	3.83	1512.49	1508.66
12/27/2016	42731.00	32.78	1482.92	1450.14	15.88	1502.17	1486.29	NM	1513.48	NM	5.82	1512.77	1506.95	5.63	1512.49	1506.86

NA **Not Applicable**

01/18/17

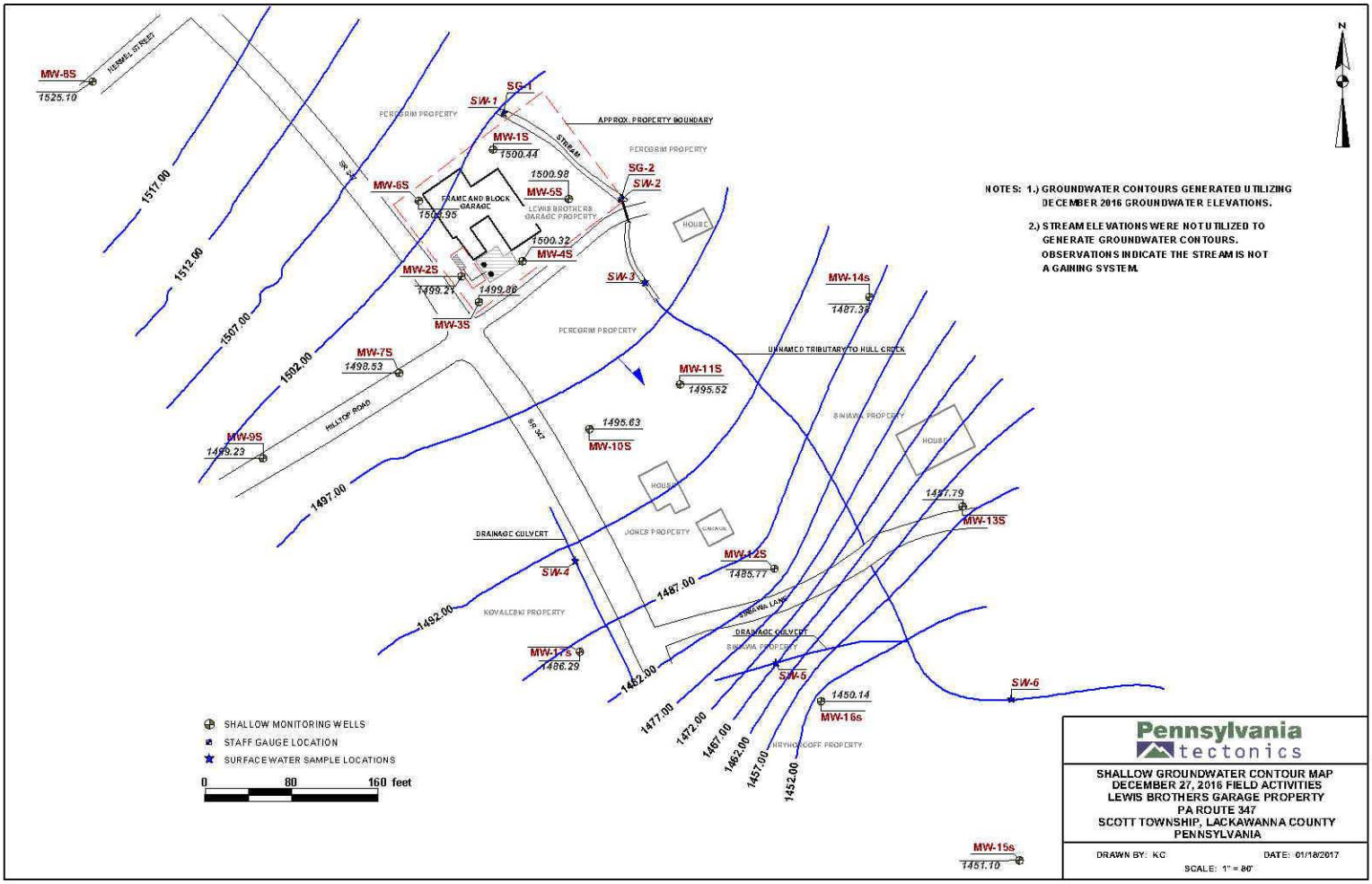
Pennsylvania Tectonics, Inc.
Groundwater Elevation Data
Lewis Brothers - Shallow Monitoring Wells

Date	Number	OW-4 Static	OW-4 Elevation	OW-4 GW Elevation	SG-1 Reading	SG-1 Elevation	Stream Elevation @ SG-1	SG-2 Reading	SG-2 Elevation	Stream Elevation @ SG-2
3/12/2008	39519.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
3/22/2008	39529.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
4/5/2008	39543.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
4/28/2008	39566.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
4/30/2008	39568.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
5/2/2008	39570.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
5/5/2008	39573.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
5/9/2008	39577.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
5/16/2008	39584.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
5/27/2008	39595.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
6/3/2008	39602.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
6/9/2008	39608.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
6/27/2008	39626.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
7/2/2008	39631.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
7/3/2008	39632.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
7/10/2008	39639.00	2.29	1,510.93	1,508.64	NA	1,509.14	NA	NA	1,508.98	NA
7/28/2008	39657.00	2.92	1,510.93	1,508.01	NA	1,509.14	NA	NA	1,508.98	NA
8/1/2008	39661.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
8/6/2008	39666.00	3.41	1,510.93	1,507.52	NA	1,509.14	NA	NA	1,508.98	NA
8/11/2008	39671.00	3.77	1,510.93	1,507.16	NA	1,509.14	NA	NA	1,508.98	NA
10/10/2008	39731.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
10/15/2008	39736.00	7.89	1,510.93	1,503.04	NA	1,509.14	NA	NA	1,508.98	NA
11/3/2008	39755.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
12/8/2008	39790.00	NA	1,510.93	NA	NA	1,509.14	NA	NA	1,508.98	NA
4/6/2009	39909.00	2.82	1,510.93	1,508.11	NA	1,509.14	NA	NA	1,508.98	NA
3/8/2010	40245.00	3.39	1,510.93	1,507.54	NA	1,509.14	NA	NA	1,508.98	NA
8/2/2010	40392.00	4.79	1,510.93	1,506.14	Dry	1,509.14	NA	Dry	1,508.98	NA
9/26/2011	40812.00	0.68	1,510.93	1,510.25	0.54	1,509.14	1,509.68	0.46	1,508.98	1,509.44
11/9/2011	40856.00	1.59	1,510.93	1,509.34	0.58	1,509.14	1,509.72	0.45	1,508.98	1,509.43
6/12/2012	41072.00	2.11	1,510.93	1,508.82	0.40	1,509.14	1,509.54	0.35	1,508.98	1,509.33
8/9/2012	41130.00	1.95	1,510.93	1,508.98	Dry	1,509.14	NA	Dry	1,508.98	NA
10/2/2013	41549.00	2.87	1,510.93	1,508.06	Dry	1,509.14	NA	Dry	1,508.98	NA
2/3/2014	41673.00	3.33	1,510.93	1,507.60	Dry	1,509.14	NA	Dry	1,508.98	NA
11/20/2014	41963.00	6.72	1,510.93	1,504.21	Dry	1,509.14	NA	Dry	1,508.98	NA
10/6/2015	42283.00	3.58	1,510.93	1,507.35	Dry	1,509.14	NA	Dry	1,508.98	NA
3/30/2016	42459.00	3.64	1,510.93	1,507.29	0.45	1,509.14	1,509.59	0.6	1,508.98	1,509.58
6/22/2016	42543.00	3.17	1,510.93	1,507.76	Dry	1,509.14	NA	Dry	1,508.98	NA
12/27/2016	42731.00	4.98	1,510.93	1,505.95	Dry	1,509.14	NA	0.39	1,508.98	1,509.37

SG **Stream Gauge**
NA **Not Applicable**

ATTACHMENT C

Groundwater Contour Maps



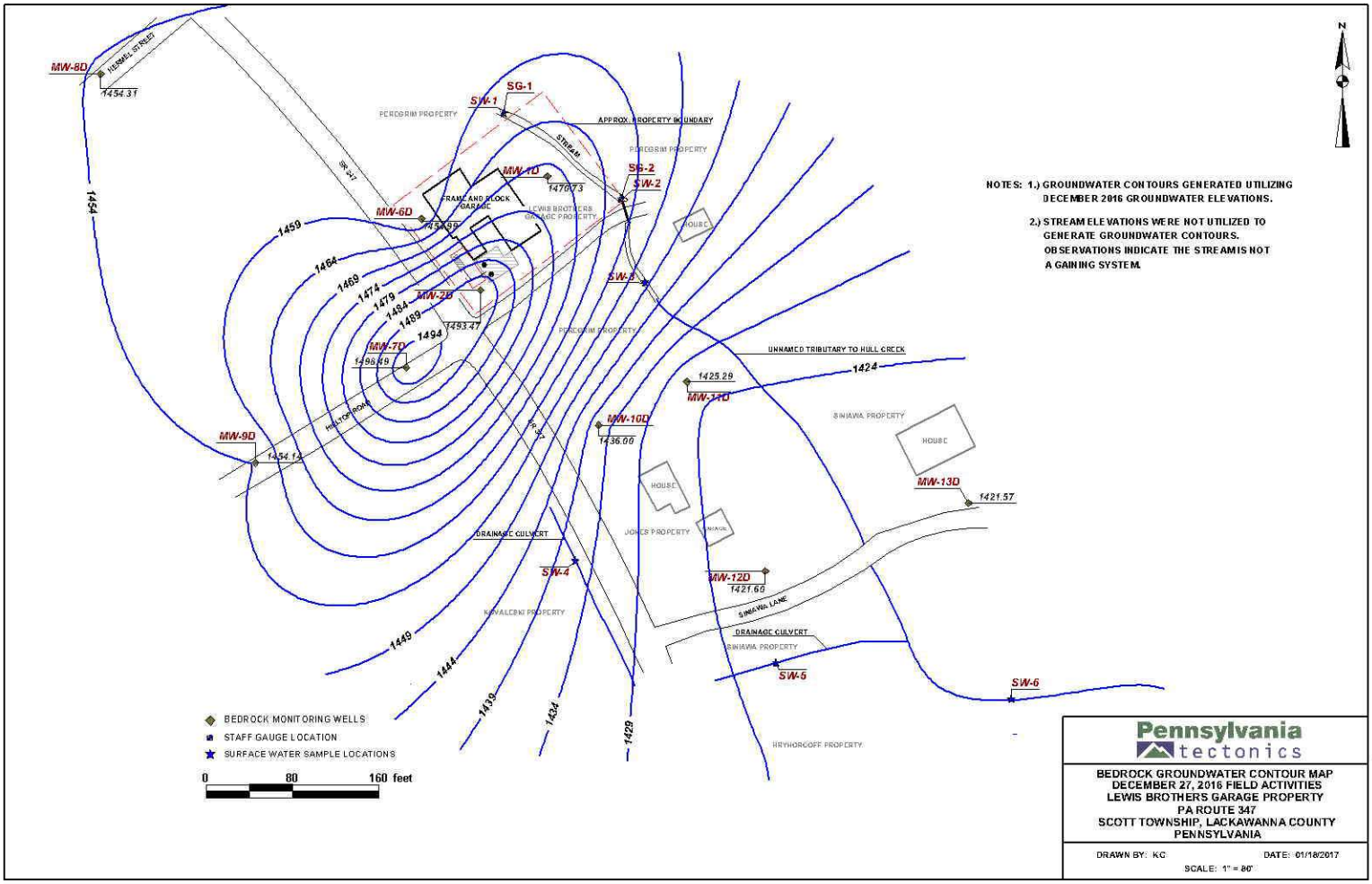
NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.

2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.

Pennsylvania tectonics

SHALLOW GROUNDWATER CONTOUR MAP
DECEMBER 27, 2016 FIELD ACTIVITIES
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA

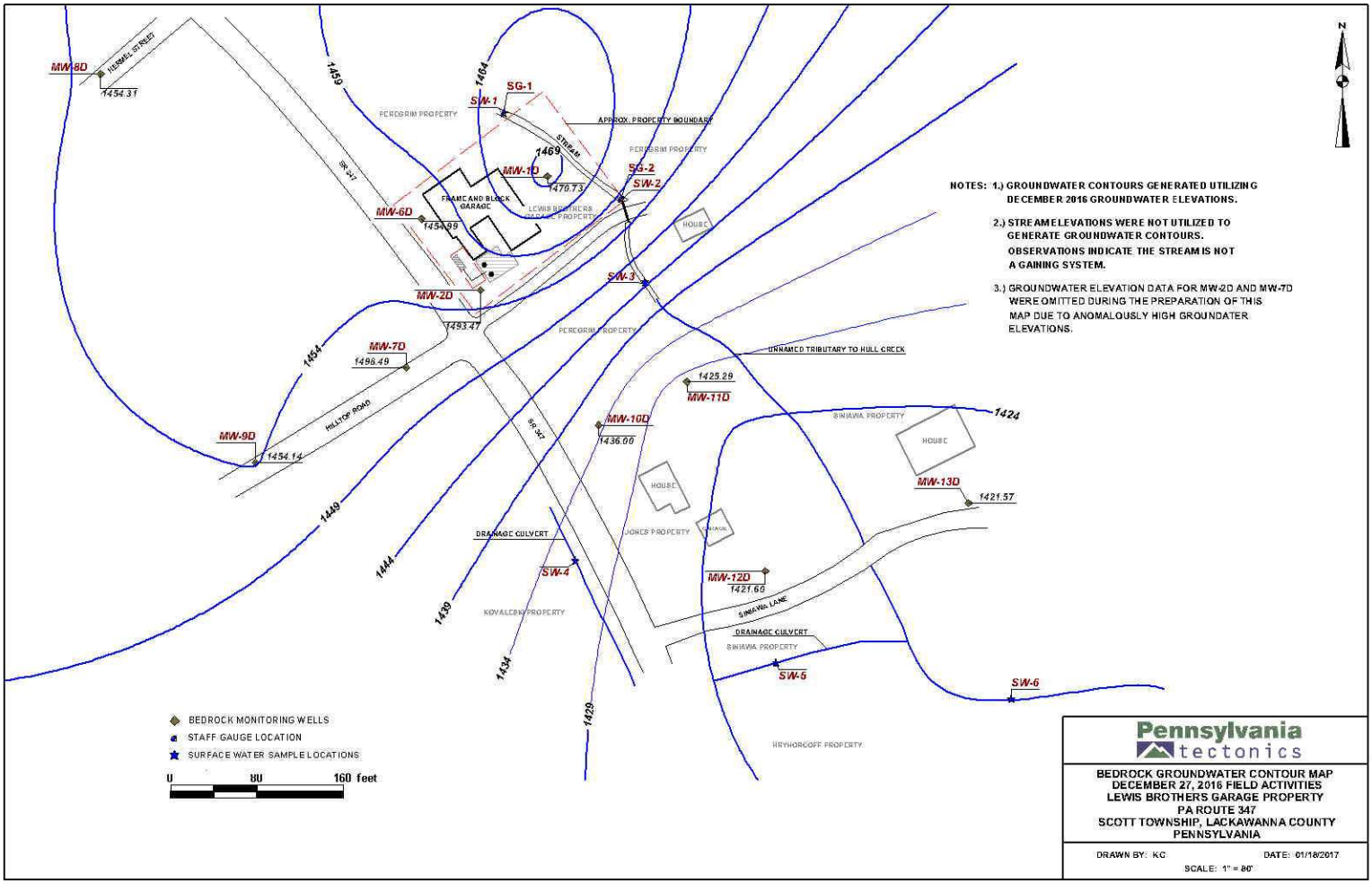
DRAWN BY: KC DATE: 01/18/2017
SCALE: 1" = 80'



Pennsylvania tectonics

BEDROCK GROUNDWATER CONTOUR MAP
DECEMBER 27, 2016 FIELD ACTIVITIES
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA

DRAWN BY: KC DATE: 01/18/2017
SCALE: 1" = 80'



NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.

2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.

3.) GROUNDWATER ELEVATION DATA FOR MW-2D AND MW-7D WERE OMITTED DURING THE PREPARATION OF THIS MAP DUE TO ANOMALOUSLY HIGH GROUNDATER ELEVATIONS.

Pennsylvania tectonics

BEDROCK GROUNDWATER CONTOUR MAP
DECEMBER 27, 2016 FIELD ACTIVITIES
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA

DRAWN BY: KC DATE: 01/18/2017
SCALE: 1" = 80'

ATTACHMENT D

Field Notes – December 2016

Field Notes

TO: File
FROM: Jared Matteucci
DATE: December 27 - 29, 2016
PROJECT: Lewis Brothers Garage Property
PROJECT NUMBER: 27058
SUBJECT: Groundwater Sampling Activities

0715: Arrived onsite and initiated site activities with the collection of static water levels from the twenty-seven (27) groundwater monitoring wells and four (4) observations well located on and adjacent to the subject property. The well volumes for those wells not suited for low flow sampling were calculated. The purpose of the field activities was to sample the twenty-seven (27) groundwater-monitoring wells and one (1) of the four (4) observations wells. The general well information is as follows:

Table 1
General Well Information
Wells Sampled via Low Flow / Low Stress Techniques

Well #	S.W.L. (Feet)	Total Depth (Feet)	Pump Depth (Feet)	Pump Rate (L/min)	Purged (Gallons)
MW-7s	15.95	27.51	21.73	0.32	2.0
MW-8s	1.28	23.52	12.4	0.14	1.5
MW-9s	25.49	39.10	32.3	0.18	1.5
MW-10s	8.80	18.53	13.7	0.13	1.0
MW-11s	3.90	23.54	13.7	0.24	1.0
MW-14s	6.11	19.85	13.0	0.12	2.0
MW-8d	71.40	100.00	90.0	0.21	1.5
MW-9d	71.16	172.00	162.0	0.10	0.5
MW-10d	67.97	186.00	176.0	0.10	2.0
MW-11d	73.89	128.00	118.0	0.30	2.0
MW-12d	65.88	201.00	191.0	0.24	2.0
MW-13d	50.28	182.00	172.0	0.30	4.0

Table 2
General Well Information
Wells Sampled via Hand-Bailing Techniques

Well #	S.W.L. (Feet)	Total Depth (Feet)	1 Volume (Gallons)	3 Volumes (Gallons)	Purged (Gallons)
MW-1s	13.15	21.95		4.4	5.0
MW-2s	14.48	29.60		7.6	8.0
MW-3s	13.49	28.00		7.3	8.0
MW-4s	10.94	24.90		7.0	5.0
MW-5s	10.23	21.31		5.6	6.0
MW-6s	11.49	16.20		2.4	3.0
MW-12s	1.26	19.97		9.4	10.0
MW-13s	14.44	18.18		7.3	4.0
MW-15s	6.50	19.13		6.3	5.0
MW-16s	32.78	37.63		2.4	2.0
MW-17s	15.88	29.20		6.7	3.0
MW-1d	41.49	68.60			41.0
MW-2d	19.44	78.78			85.0
MW-6d	60.24	85.20			37.0
MW-7d	15.34	60.40			70.0
OW-1	--	11.58	--	--	--
OW-2	5.82	10.98	--	--	--
OW-3	5.63	10.92	--	--	--
OW-4	4.98	9.95		9.7	10.0

MW-1s: MW-1s was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged and sampled utilizing hand bailing methods. A total of 5.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 3
Well Purging Data – MW-1s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
1439	12.35	6.35	248.2	2.112	1.26	0.25	V. Silty
1440	12.17	6.37	238.2	2.117	1.64	1.0	V. Silty
1441	12.26	6.42	233.0	1.951	2.42	3.0	V. Silty
1443	12.38	6.46	231.1	1.753	2.63	5.0	V. Silty

MW-2s: Due to the presence of Separate Phase Liquid (trace), MW-2 was purged without collecting water quality data. A total of 8.0 gallons of water was purged from the well. The well was sampled via a disposable bailer after being allowed to recharge. Strong odorous and visual indications of contamination were observed.

MW-3s: Due to the presence of Separate Phase Liquid (trace), MW-3s was purged without collecting water quality data. A total of 8.0 gallons of water was purged from the well. The well was sampled via a disposable bailer after being allowed to recharge. Strong odorous and visual indications of contamination were observed.

MW-4s: Due to the possible presence of Separate Phase Liquid (trace), MW-4s was purged without collecting water quality data. The well was evacuated upon completion of purging activities. A total of 5.0 gallons was purged from the well. The well was sampled via a disposable bailer after being allowed to recharge. Strong odorous indications of contamination were observed.

MW-5s: MW-5s was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged and sampled utilizing hand bailing methods. A total of 6.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 4
Well Purging Data – MW-5s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
1421	12.42	7.22	238.9	1.186	2.50	0.25	Clear
1423	12.24	6.77	247.1	1.096	3.87	2.0	V. Silty
1426	12.48	6.59	251.4	1.100	3.56	4.0	V. Silty
1429	12.53	6.49	254.7	1.143	3.31	6.0	V. Silty

MW-6s: MW-6s characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged and sampled utilizing hand bailing methods. A total of 3.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 5
Well Purging Data – MW-6s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
1452	12.83	6.26	186.8	2.834	1.45	0.25	V. Silty
1453	12.66	6.34	180.5	2.838	2.02	1.0	V. Silty
1456	12.73	6.42	179.8	2.759	2.29	2.0	V. Silty
1503	12.79	6.46	184.1	2.730	3.55	3.0	V. Silty

MW-7s: MW-7s was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 21.73'. The well was purged and sampled at 320 ml / min. The well maintained steady recharge during the purging activities. A total of 2.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 6
Well Purging Data – MW-7s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
1024	14.09	7.91	161	1.62	15.7	4.03	16.08
1027	14.41	8.01	149	1.63	14.4	4.03	16.08
1030	14.60	8.05	139	1.63	12.5	4.03	16.08
1033	14.72	8.11	128	1.64	8.8	4.03	16.08
1036	14.75	8.08	124	1.63	5.4	4.00	16.08
1039	14.81	8.08	119	1.64	2.6	4.00	16.08

MW-8s: MW-8s was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 12.4'. The well was purged and sampled at 140 ml / min. The well maintained steady recharge during the purging activities. A total of 1.5 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 7
Well Purging Data – MW-8s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
1140	7.46	8.52	154	0.708	2.6	11.47	1.75
1143	7.55	8.51	156	0.709	2.3	11.36	1.76
1146	7.55	8.51	157	0.710	2.9	11.35	1.76
1149	7.51	8.50	156	0.710	2.8	11.35	1.76

MW-9s: MW-9s was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 32.3'. The well was purged and sampled at 180 ml / min. The well maintained steady recharge during the purging activities. A total of 1.5 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 8
Well Purging Data – MW-9s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
0817	12.82	7.99	220	0.683	6.0	3.71	25.71
0820	12.71	8.06	211	0.681	0.9	3.59	25.70
0823	13.10	8.12	200	0.687	0.6	3.48	25.70
0826	13.10	8.15	194	0.685	0.3	3.44	25.70
0829	13.17	8.18	189	0.686	0.3	3.39	25.70
0832	13.19	8.21	182	0.687	0.1	3.36	25.70
0835	13.26	8.21	178	0.688	0.3	3.33	25.70
0838	13.18	8.23	174	0.686	0.3	3.31	25.70

MW-10s: MW-10s was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 13.7'. The well was purged and sampled at 130 ml / min. The well maintained steady recharge during the purging activities. A total of 1.0 gallon was extracted from the well. Odorous indications of contamination were observed.

Table 9
Well Purging Data – MW-10s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
1610	10.37	7.67	16	1.30	7.7	0.44	6.01
1613	10.81	7.67	-7	1.54	7.4	0.44	6.03
1616	11.09	7.66	-15	1.57	7.5	0.44	6.03
1619	11.24	7.70	-25	1.56	7.0	0.44	6.03
1622	11.40	7.74	-33	1.55	3.4	0.43	6.03
1625	11.46	7.76	-37	1.54	1.7	0.43	6.03
1628	11.19	7.77	-43	1.53	0.0	0.44	6.03

MW-11s: MW-11s was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 13.7'. The well was purged and sampled at 240 ml / min. The well maintained steady recharge during the purging activities. A total of 1.0 gallon was extracted from the well. Odorous indications of contamination were observed.

Table 10
Well Purging Data – MW-11s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
1520	9.62	8.15	-40	0.363	14.7	0.44	4.08
1523	9.79	8.12	-51	0.365	13.0	0.40	4.08
1526	9.98	8.01	-55	0.369	14.5	0.39	4.08
1529	10.15	7.95	-62	0.373	12.3	0.36	4.08
1532	10.14	7.94	-63	0.374	11.2	0.37	4.08
1535	10.11	7.92	-65	0.375	10.0	0.36	4.08

MW-12s: MW-12s was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged and sampled utilizing hand bailing methods. A total of 10.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 11
Well Purging Data – MW-12s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
1020	10.75	6.44	345.6	0.263	5.14	0.5	V. Silty
1021	9.16	6.46	344.1	0.253	5.51	2.0	V. Silty
1023	7.86	6.31	348.2	0.256	6.71	5.0	Cloudy
1026	9.63	6.24	345.5	0.291	5.46	8.0	V. Silty
1029	8.44	6.48	316.6	0.355	5.52	10.0	V. Silty

MW-13s: MW-13s was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged and sampled utilizing hand bailing methods. A total of 4.0 gallons was extracted from the well. The well was evacuated upon completion of the purging activities. No odorous or visual indications of contamination were observed.

Table 12
Well Purging Data – MW-13s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
0854	9.53	7.19	261.1	0.432	7.11	0.5	Clear
0855	11.29	7.38	264.2	0.389	5.52	2.0	Silty
0900	10.80	7.30	263.9	0.374	5.49	4.0	Silty

MW-14s: MW-14s was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 13.0'. The well was purged and sampled at 120 ml / min. The well maintained steady recharge during the purging activities. A total of 2.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 13
Well Purging Data – MW-14s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
1327	10.89	7.34	163	0.148	666	6.10	6.55
1330	10.90	7.29	163	0.147	564	5.91	6.50
1333	10.75	7.26	165	0.144	496	5.93	6.49
1336	10.87	7.21	167	0.142	436	5.88	6.49
1339	10.89	7.18	169	0.141	394	5.89	6.49
1342	10.84	7.15	172	0.140	336	5.86	6.49
1345	10.84	7.11	175	0.138	287	5.83	6.49
1348	10.96	7.09	177	0.138	254	5.80	6.49
1351	10.97	7.08	179	0.136	232	5.77	6.49

MW-15s: MW-15s was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged and sampled utilizing hand bailing methods. The well was nearly evacuated upon completion of the purging activities. A total of 5.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 14
Well Purging Data – MW-15s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
1300	8.90	6.93	227.2	0.341	7.40	0.25	Clear
1302	8.60	6.82	226.1	0.365	7.85	1.0	V. Silty
1305	9.20	6.74	227.1	0.411	7.27	3.0	V. Silty
1309	9.99	6.61	220.7	0.427	7.20	5.0	V. Silty

MW-16s: MW-16s was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged and sampled utilizing hand bailing methods. A total of 2.0 gallons was extracted from the well. The well was evacuated upon completion of the purging activities. No odorous or visual indications of contamination were observed.

Table 15
Well Purging Data – MW-16s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
1246	8.65	7.05	294.0	1.180	2.68	0.25	Clear
1248	10.03	7.04	292.2	1.189	3.00	1.0	V. Silty
1253	10.05	7.08	287.9	1.191	4.45	2.0	V. Silty

MW-17s: MW-17s was characterized as having effluent that was too turbid for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged and sampled utilizing hand bailing methods. A total of 3.0 gallons was extracted from the well. The well was evacuated upon completion of the purging activities. No odorous or visual indications of contamination were observed.

Table 16
Well Purging Data – MW-17s

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
1053	11.92	6.89	158.9	0.709	3.33	0.25	V. Silty
1054	12.05	6.62	202.1	0.760	3.16	1.0	V. Silty
1057	11.99	6.36	239.8	0.785	4.02	2.0	V. Silty
1058	12.16	6.35	256.3	0.816	3.84	3.0	V. Silty

MW-1d: MW-1d was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged utilizing a submersible pump and sampled with a disposable bailer upon recharge. A total of 41.0 gallons was extracted from the well. The well was nearly evacuated upon completion of the purging activities. No odorous or visual indications of contamination were observed.

Table 17
Well Purging Data – MW-1d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
0743	9.15	7.90	267.0	0.446	2.82	5.0	Clear
0744	9.64	8.08	276.8	0.446	2.71	10.0	Clear
0745	9.31	7.77	278.4	0.438	2.26	20.0	Clear
0746	9.51	7.73	278.4	0.380	2.84	30.0	Clear
0747	9.78	7.71	278.0	0.385	3.16	40.0	Clear
0749	9.08	7.72	276.6	0.385	4.04	41.0	Clear

MW-2d: MW-2d was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged utilizing a submersible pump and sampled with a disposable bailer upon recharge. A total of 85.0 gallons was extracted from the well. The well was evacuated upon completion of the purging activities. Odorous indications of contamination were observed.

Table 18
Well Purging Data – MW-2d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
1000	10.67	9.26	91.1	1.281	1.66	5.0	Silty
1001	10.86	8.99	70.0	0.974	2.07	15.0	Silty
1002	10.19	8.09	81.4	0.995	2.16	25.0	Silty
1003	10.56	8.02	86.9	0.945	2.32	35.0	Silty
1004	10.70	7.81	95.0	0.962	2.44	45.0	Silty
1005	10.93	7.79	66.1	0.744	2.01	55.0	Silty
1006	11.67	7.74	49.6	0.708	2.39	65.0	Silty
1007	12.11	7.70	31.2	0.693	2.15	75.0	Silty
1008	11.39	7.69	56.8	0.720	3.48	85.0	Silty

MW-6d: MW-6d was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged utilizing a submersible pump and sampled with a disposable bailer upon recharge. A total of 37.0 gallons was extracted from the well. The well was evacuated upon completion of the purging activities. No odorous or visual indications of contamination were observed.

Table 19
Well Purging Data – MW-6d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
0831	9.26	7.11	290.5	0.839	5.29	5.0	Silty
0832	10.33	7.55	272.7	0.779	5.20	10.0	Clear
0833	10.25	7.79	264.9	0.769	5.15	20.0	Clear
0833	10.23	7.85	264.0	0.749	5.33	30.0	Clear
0834	10.17	7.90	263.5	0.719	5.74	37.0	Clear

MW-7d: MW-7d was characterized as having insufficient recharge for low flow / low stress sampling methods (*ASTM D 6771-02*). The well was purged utilizing a submersible pump and sampled with a disposable bailer upon recharge. A total of 70.0 gallons was extracted from the well. The well was evacuated upon completion of the purging activities. No odorous or visual indications of contamination were observed.

Table 20
Well Purging Data – MW-7d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
0919	9.54	7.74	272.0	4.219	4.09	5.0	Black
0920	11.00	8.05	258.6	4.860	2.33	15.0	V. Cloudy
0921	11.01	8.19	252.3	4.905	2.10	25.0	V. Cloudy
0922	10.86	8.40	243.6	4.920	1.99	35.0	Cloudy
0923	11.12	8.43	240.9	5.181	1.76	45.0	V. Cloudy
0924	11.45	8.33	237.4	8.076	1.69	55.0	Silty
0925	11.85	8.40	230.5	8.531	1.59	65.0	Silty
0926	11.74	8.36	229.4	11.08	1.76	70.0	Silty

MW-8d: MW-8d was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 85.9'. The well was purged and sampled at 210 ml / min. The well maintained steady recharge during the purging activities. A total of 1.5 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 21
Well Purging Data – MW-8d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
1214	9.99	8.85	148	0.433	31.3	1.25	72.31
1217	10.45	8.71	138	0.438	24.6	1.25	72.31
1220	10.86	8.66	130	0.442	21.1	1.24	72.31
1223	11.29	8.66	124	0.447	18.9	1.21	72.31
1226	11.62	8.63	117	0.449	17.9	1.15	72.31

MW-9d: MW-9d was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 162.0'. The well was purged and sampled at 100 ml / min. The well maintained steady recharge during the purging activities. A total of 0.5 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 22
Well Purging Data – MW-9d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
0919	10.13	8.33	91	0.421	7.6	0.69	71.65
0922	9.89	8.33	58	0.418	6.1	0.69	71.70
0925	10.04	8.31	47	0.420	5.1	0.69	71.70
0928	9.92	8.31	37	0.419	4.8	0.72	71.70
0931	9.85	8.29	32	0.417	4.9	0.72	71.70

MW-10d: MW-10d was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 176.0'. The well was purged and sampled at 100 ml / min. The well maintained steady recharge during the purging activities. A total of 2.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 23
Well Purging Data – MW-10d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
1301	7.93	8.41	-50	0.372	0.0	0.78	68.74
1304	7.49	8.41	-48	0.369	0.0	0.80	68.74
1307	7.53	8.36	-46	0.375	0.0	0.86	68.74
1310	7.68	8.30	-41	0.378	0.0	0.88	68.74
1313	7.54	8.21	-38	0.376	0.1	0.84	68.74
1316	7.35	8.20	-38	0.375	0.0	0.92	68.74
1319	7.30	8.17	-39	0.374	0.3	0.86	68.74
1322	6.89	8.11	-37	0.370	0.0	0.84	68.74
1325	6.85	8.10	-37	0.369	0.1	0.90	68.74
1328	6.73	8.10	-38	0.369	0.2	0.89	68.74

MW-11d: MW-11d was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 118.0'. The well was purged and sampled at 300 ml / min. The well maintained steady recharge during the purging activities. A total of 2.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 24
Well Purging Data – MW-11d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
1427	10.01	8.02	136	0.335	3.6	0.55	74.41
1430	10.31	8.08	99	0.336	2.4	0.54	74.38
1433	10.50	8.08	64	0.336	1.4	0.51	74.38
1436	10.58	8.07	41	0.334	1.4	0.50	74.38
1439	10.64	8.07	27	0.333	0.9	0.50	74.38
1442	10.64	8.08	20	0.333	0.6	0.50	74.38

MW-12d: MW-12d was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 191.0'. The well was purged and sampled at 240 ml / min. The well maintained steady recharge during the purging activities. A total of 2.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 25
Well Purging Data – MW-12d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
0959	7.74	8.38	160	0.399	17.2	0.99	66.26
1002	7.88	8.42	134	0.401	13.7	0.90	66.26
1005	7.98	8.45	118	0.402	11.7	0.87	66.26
1008	8.22	8.50	94	0.404	8.7	0.83	66.26
1011	8.45	8.52	79	0.407	6.7	0.79	66.26
1014	8.53	8.54	63	0.408	4.0	0.75	66.26
1017	8.63	8.55	51	0.409	2.1	0.72	66.26

MW-13d: MW-13d was purged and sampled utilizing low flow / low stress sampling methods (*ASTM D 6771-02*). The pump was set at 172.0'. The well was purged and sampled at 300 ml / min. The well maintained steady recharge during the purging activities. A total of 4.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 26
Well Purging Data – MW-13d

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)	Depth to Water (Feet)
0822	8.94	8.83	13	0.259	1.0	1.05	50.59
0825	8.97	8.67	20	0.259	1.0	1.02	50.59
0828	8.82	8.56	28	0.258	0.7	0.98	50.66
0831	8.75	8.52	31	0.258	0.7	0.97	50.70
0834	8.92	8.50	34	0.259	0.5	0.95	50.70
0837	8.88	8.48	35	0.258	0.3	0.94	50.70
0840	8.65	8.45	36	0.257	0.3	0.93	50.70
0843	8.42	8.42	36	0.257	0.6	0.92	50.70
0846	8.38	8.38	36	0.259	0.4	0.90	50.70
0849	8.56	8.36	35	0.256	0.3	0.90	50.70
0852	8.66	8.35	34	0.258	0.2	0.89	50.70
0855	8.70	8.34	33	0.258	0.0	0.88	50.70

OW-4: OW-4 was purged and sampled utilizing hand bailing methods. A total of 10.0 gallons was extracted from the well. No odorous or visual indications of contamination were observed.

Table 27
Well Purging Data – OW-4

Time	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	D.O. (mg/L)	Gallons	Comment
1518	10.50	7.14	183.9	0.584	1.40	1.0	Clear
1519	10.36	7.11	190.2	0.460	1.87	3.0	Clear
1520	10.40	7.10	192.2	0.448	2.27	7.0	Clear
1521	10.48	7.11	193.9	0.417	1.98	10.0	Clear

Table 28
Final Sample Data Summary
Wells Sampled via Hand-Bailing Techniques

Location	pH (SU)	Temp. (°C)	Conductivity (mS/cm)	D.O. (mg/L)	ORP (mV)	Sample Depth (Feet)
MW1s	6.49	11.34	1.172	2.19	221.5	13.71
MW2s	--	--	--	--	--	--
MW3s	--	--	--	--	--	--
MW4s	--	--	--	--	--	--
MW5s	6.71	10.75	1.046	1.45	224.1	10.86
MW6s	6.36	10.94	2.481	1.94	153.7	16.84
MW12s	6.27	7.56	0.343	6.65	280.4	7.32
MW13s	6.69	9.26	0.423	6.68	340.6	16.77
MW15s	7.09	7.37	0.445	8.18	217.1	15.05
MW16s	6.32	6.48	1.151	5.43	231.5	34.65
MW17s	6.38	10.00	0.786	4.99	314.5	17.51
MW1d	7.68	9.05	0.419	4.81	178.2	65.21
MW2d	7.76	10.33	1.001	6.33	167.5	67.46
MW6d	7.49	9.64	0.499	5.08	220.6	80.68
MW7d Dup	--	--	--	--	--	--
MW7d	7.29	10.65	4.306	4.72	177.6	44.07
OW4	7.16	10.11	0.411	1.59	201.8	4.98
SW1	6.26	3.59	1.031	12.33	311.0	--
SW2	6.73	2.80	0.537	11.24	347.2	--
SW3	6.79	3.05	0.535	11.81	400.0	--
SW4	7.02	4.63	0.281	10.09	393.0	--
SW5	7.06	4.86	1.592	11.34	348.1	--
SW6	7.12	3.57	0.682	12.26	384.0	--

Table 29
Final Sample Data Summary
Wells Sampled via Low Flow / Low Stress Techniques

Well #	Temp. (°C)	pH (SU)	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	D.O. (mg/L)
MW7s	14.81	8.08	119	1.64	2.6	4.00
MW8s	7.51	8.50	156	0.710	2.8	11.35
MW9s	13.18	8.23	174	0.686	0.3	3.31
MW10s	11.19	7.77	-43	1.53	0.0	0.44
MW11s	10.11	7.92	-65	0.375	10.0	0.36
MW14s	10.97	7.08	179	0.136	232	5.77
MW8d	11.62	8.63	117	0.449	17.9	1.15
MW9d	9.85	8.29	32	0.417	4.9	0.72
MW10d	6.73	8.10	-38	0.369	0.2	0.89
MW11d	10.64	8.08	20	0.333	0.6	0.50
MW12d	8.63	8.55	51	0.409	2.1	0.72
MW13d	8.70	8.34	33	0.258	0.0	0.88

Table 30
Metals Data Summary Table

Well #	Manganese (mg/L)	Ferrous Iron (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
MW-1s	--	--	--	--
MW-2s	--	--	--	--
MW-3s	--	--	--	--
MW-4s	--	--	--	--
MW-5s	--	--	--	--
MW-6s	14.1	0.24	1.0	42
MW-7s	0.0	0.00	0.5	15
MW-8s	0.2	0.01	2.0	14
MW-9s	0.0	0.00	0.0	24
MW-10s	4.5	0.62	1.8	14
MW-11s	5.1	1.39	0.5	0
MW-12s	--	--	--	--
MW-13s	--	--	--	--
MW-14s	--	--	--	--
MW-15s	--	--	--	--
MW-16s	0.0	0.00	0.0	20
MW-17s	--	--	--	--
OW-4	0.5	0.27	3.0	20
MW-1d	0.3	--	0.9	10
MW-2d	3.6	0.01	0.4	9
MW-6d	1.0	0.00	0.0	8
MW-7d	4.8	0.98	0.0	20
MW-8d	0.8	0.01	0.7	17
MW-9d	0.2	0.02	2.5	13
MW-10d	0.3	0.02	6.2	15
MW-11d	0.0	0.01	1.0	9
MW-12d	0.5	0.35	0.4	12
MW-13d	0.0	0.01	2.9	7

Table 31
Sample Log

Location	Date	Time
MW-1s	12.27.16	1600
MW-2s	12.28.16	1511
MW-3s	12.29.16	1125
MW-4s	12.28.16	1430
MW-5s	12.27.16	1537
MW-6s	12.27.16	1616
MW-7s	12.27.16	1042
MW-8s	12.27.16	1152
MW-9s	12.27.16	0841
MW-10s	12.27.16	1631
MW-11s	12.27.16	1538
MW-12s	12.28.16	1111
MW-13s	12.28.16	1004
MW-14s	12.27.16	1354
MW-15s	12.28.16	1415
MW-16s	12.28.16	1407
MW-17s	12.28.16	1237
MW-1d	12.29.16	1220
MW-2d	12.29.16	1315
MW-6d	12.29.16	1245
MW-7d	12.29.16	1255
MW-8d	12.27.16	1229
MW-9d	12.27.16	0934
MW-10d	12.28.16	1331
MW-11d	12.27.16	1445
MW-12d	12.28.16	1020
MW-13d	12.28.16	0858
SW1	12.27.16	1113
SW2	12.27.16	1105
SW3	12.27.16	1110
SW4	12.27.16	1056
SW5	12.27.16	1046
SW6	12.27.16	1035
FB1	12.27.16	1650
FB2	12.28.16	1515
FB3	12.29.16	1330
OW-1	NS	NS
OW-2	NS	NS
OW-3	NS	NS
OW-4	12.27.16	1527
Effluent-1	NS	NS
Effluent-2	NS	NS

NS= Not Sampled

Table 32
Staff Gauge Data Summary

Staff Gauge #	Height
SG-1	--
SG-2	0.39'

Day 1 Onsite: 0715
Day 1 Offsite: 1700

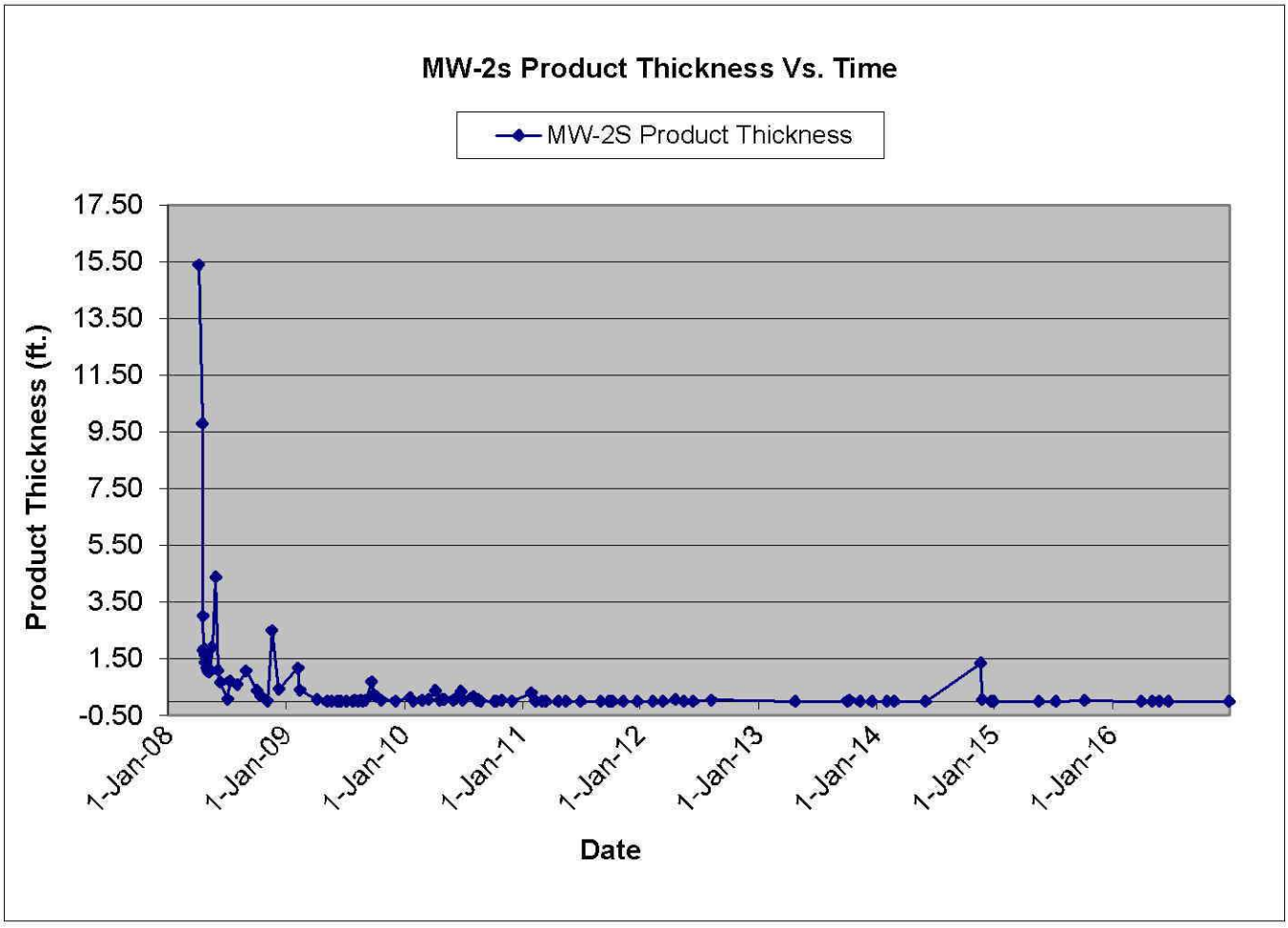
Day 2 Onsite: 0745
Day 2 Offsite: 1518

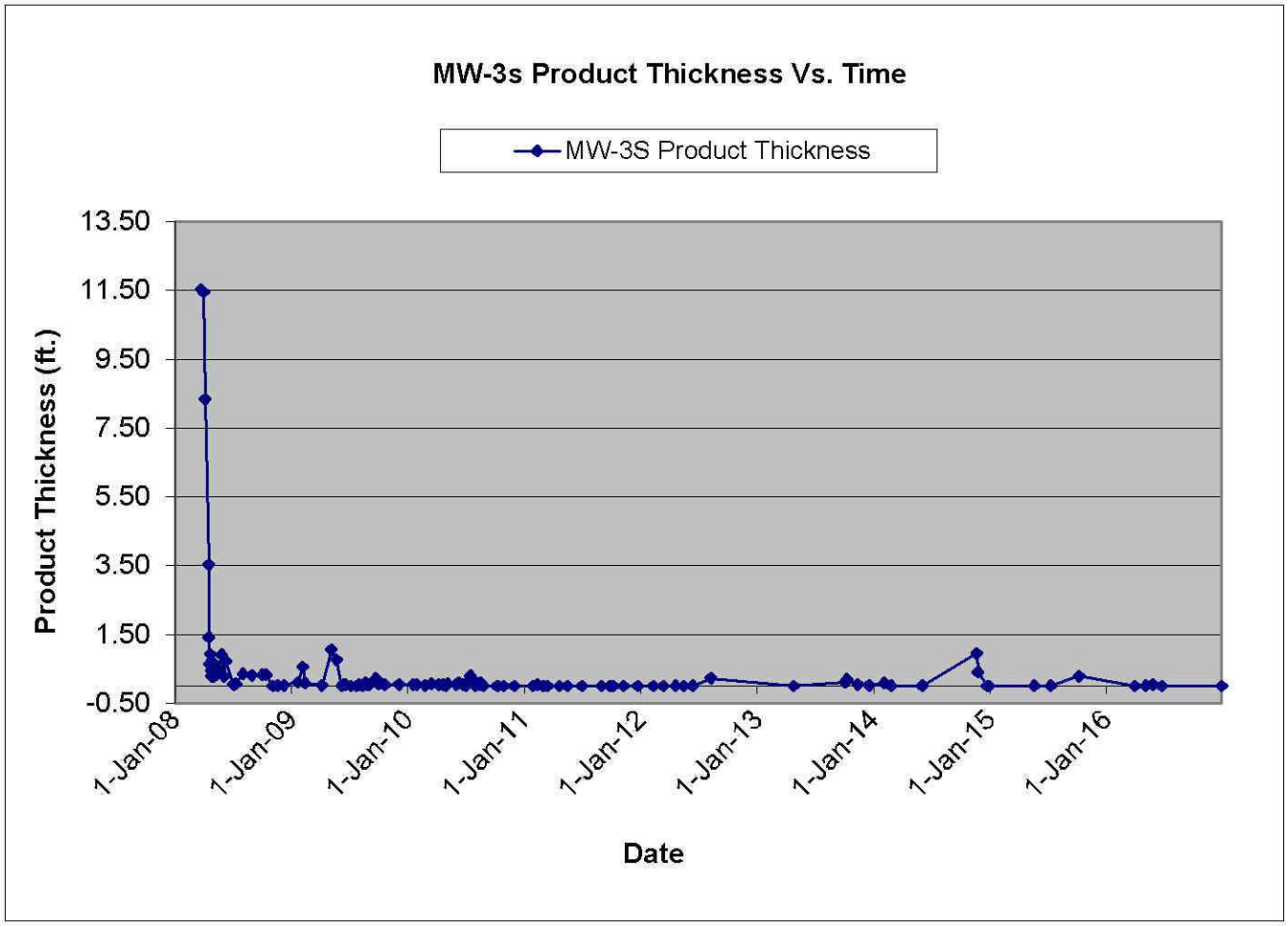
Day 3 Onsite: 0730
Day 3 Offsite: 1420

SN / ch

ATTACHMENT E

SPL Thickness Graphs


MW-2s Product Thickness Vs. Time
MW-2S Product Thickness
Product Thickness (ft.)
17.50
15.50
13.50
11.50
9.50
7.50
5.50
3.50
1.50
-0.50
1-Jan-08
1-Jan-09
1-Jan-10
1-Jan-11
1-Jan-12
1-Jan-13
1-Jan-14
1-Jan-15
1-Jan-16
Date


MW-3s Product Thickness Vs. Time
MW-3S Product Thickness
13.50
11.50
9.50
7.50
5.50
3.50
1.50
-0.50
Product Thickness (ft.)
1-Jan-08
1-Jan-09
1-Jan-10
1-Jan-11
1-Jan-12
1-Jan-13
1-Jan-14
1-Jan-15
1-Jan-16
Date

ATTACHMENT F

Groundwater & Surface Water Analytical Data Sheets

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

January 9, 2017

Mr. Marty Gilgallon
PA Tectonics
723 Main Street
Archbald, PA 18403

Certificate of Analysis

Project Name:	**27058 Lewis Brothers Garage**	Workorder:	**2198860**
Purchase Order:		Workorder ID:	**27058 Lewis Brothers Garage**

Dear Mr. Gilgallon:

Enclosed are the analytical results for samples received by the laboratory on Friday, December 30, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2198860001	058-1227-MW1S	Water	12/27/2016 16:00	12/30/2016 08:53	Collected by Client
2198860002	058-1227-MW4S	Water	12/28/2016 14:30	12/30/2016 08:53	Collected by Client
2198860003	058-1227-MW5S	Water	12/27/2016 15:37	12/30/2016 08:53	Collected by Client
2198860004	058-1227-MW6S	Water	12/27/2016 16:16	12/30/2016 08:53	Collected by Client
2198860005	058-1227-MW7S	Water	12/27/2016 10:42	12/30/2016 08:53	Collected by Client
2198860006	058-1227-MW8S	Water	12/27/2016 11:52	12/30/2016 08:53	Collected by Client
2198860007	058-1227-MW9S	Water	12/27/2016 08:41	12/30/2016 08:53	Collected by Client
2198860008	058-1227-MW10S	Water	12/27/2016 16:31	12/30/2016 08:53	Collected by Client
2198860009	058-1227-MW11S	Water	12/27/2016 15:38	12/30/2016 08:53	Collected by Client
2198860010	058-1227-MW12S	Water	12/28/2016 11:11	12/30/2016 08:53	Collected by Client
2198860011	058-1227-MW13S	Water	12/28/2016 10:04	12/30/2016 08:53	Collected by Client
2198860012	058-1227-MW14S	Water	12/27/2016 13:54	12/30/2016 08:53	Collected by Client
2198860013	058-1227-MW15S	Water	12/28/2016 14:15	12/30/2016 08:53	Collected by Client
2198860014	058-1227-MW16S	Water	12/28/2016 14:07	12/30/2016 08:53	Collected by Client
2198860015	058-1227-MW17S	Water	12/28/2016 12:37	12/30/2016 08:53	Collected by Client
2198860016	058-1227-OW4	Water	12/28/2016 15:27	12/30/2016 08:53	Collected by Client
2198860017	058-1227-MW1D	Water	12/29/2016 12:20	12/30/2016 08:53	Collected by Client
2198860018	058-1227-MW2D	Water	12/29/2016 13:15	12/30/2016 08:53	Collected by Client
2198860019	058-1227-MW6D	Water	12/29/2016 12:45	12/30/2016 08:53	Collected by Client
2198860020	058-1227-MW7D	Water	12/29/2016 12:55	12/30/2016 08:53	Collected by Client
2198860021	058-1227-MW8D	Water	12/27/2016 12:29	12/30/2016 08:53	Collected by Client
2198860022	058-1227-MW9D	Water	12/27/2016 09:34	12/30/2016 08:53	Collected by Client
2198860023	058-1227-MW10D	Water	12/28/2016 13:31	12/30/2016 08:53	Collected by Client
2198860024	058-1227-MW11D	Water	12/27/2016 14:45	12/30/2016 08:53	Collected by Client
2198860025	058-1227-MW12D	Water	12/28/2016 10:20	12/30/2016 08:53	Collected by Client
2198860026	058-1227-MW13D	Water	12/28/2016 08:58	12/30/2016 08:53	Collected by Client
2198860027	058-1227-MW5S DUP	Water	12/27/2016 15:37	12/30/2016 08:53	Collected by Client
2198860028	058-1227-MW7D DUP	Water	12/29/2016 12:55	12/30/2016 08:53	Collected by Client
2198860029	058-1227-MW9D DUP	Water	12/27/2016 09:34	12/30/2016 08:53	Collected by Client
2198860030	058-1227-FB1	Water	12/27/2016 16:50	12/30/2016 08:53	Collected by Client
2198860031	058-1227-FB2	Water	12/28/2016 15:15	12/30/2016 08:53	Collected by Client
2198860032	058-1227-FB3	Water	12/29/2016 13:30	12/30/2016 08:53	Collected by Client

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2198860 27058 Lewis Brothers Garage

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

PROJECT SUMMARY

Workorder: 2198860 27058 Lewis Brothers Garage

Sample Comments

Lab ID: 2198860002 **Sample ID:** 058-1227-MW4S **Sample Type:** SAMPLE

The GCMS volatiles analysis was performed at a dilution due to the level of target compounds.

Lab ID: 2198860008 **Sample ID:** 058-1227-MW10S **Sample Type:** SAMPLE

The GCMS volatiles analysis was performed at a dilution due to the level of target compounds.

Lab ID: 2198860009 **Sample ID:** 058-1227-MW11S **Sample Type:** SAMPLE

The GCMS volatiles analysis was performed at a dilution due to the level of target compounds.

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860001** Date Collected: 12/27/2016 16:00 Matrix: Water

Sample ID: **058-1227-MW1S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:51	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:51	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:51	SYB	A
Methyl t-Butyl Ether	3.9		ug/L	1.0	SW846 8260B			1/5/17 03:51	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 03:51	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:51	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 03:51	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:51	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:51	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	81.6		%	62 - 133	SW846 8260B			1/5/17 03:51	SYB	A
4-Bromofluorobenzene (S)	95.6		%	79 - 114	SW846 8260B			1/5/17 03:51	SYB	A
Dibromofluoromethane (S)	91.9		%	78 - 116	SW846 8260B			1/5/17 03:51	SYB	A
Toluene-d8 (S)	92.6		%	76 - 127	SW846 8260B			1/5/17 03:51	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860002** Date Collected: 12/28/2016 14:30 Matrix: Water

Sample ID: **058-1227-MW4S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	28.6		ug/L	5.0	SW846 8260B			1/5/17 06:58	SYB	A
Ethylbenzene	216		ug/L	5.0	SW846 8260B			1/5/17 06:58	SYB	A
Isopropylbenzene	39.9		ug/L	5.0	SW846 8260B			1/5/17 06:58	SYB	A
Methyl t-Butyl Ether	472		ug/L	5.0	SW846 8260B			1/5/17 06:58	SYB	A
Naphthalene	18.6		ug/L	10.0	SW846 8260B			1/5/17 06:58	SYB	A
Toluene	17.9		ug/L	5.0	SW846 8260B			1/5/17 06:58	SYB	A
Total Xylenes	121		ug/L	15.0	SW846 8260B			1/5/17 06:58	SYB	A
1,2,4-Trimethylbenzene	130		ug/L	5.0	SW846 8260B			1/5/17 06:58	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	5.0	SW846 8260B			1/5/17 06:58	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	80.2		%	62 - 133	SW846 8260B			1/5/17 06:58	SYB	A
4-Bromofluorobenzene (S)	88.7		%	79 - 114	SW846 8260B			1/5/17 06:58	SYB	A
Dibromofluoromethane (S)	86.3		%	78 - 116	SW846 8260B			1/5/17 06:58	SYB	A
Toluene-d8 (S)	89.2		%	76 - 127	SW846 8260B			1/5/17 06:58	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860003** Date Collected: 12/27/2016 15:37 Matrix: Water

Sample ID: **058-1227-MW5S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 04:59	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 04:59	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 04:59	SYB	A
Methyl t-Butyl Ether	3.0		ug/L	1.0	SW846 8260B			1/5/17 04:59	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 04:59	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 04:59	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 04:59	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 04:59	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 04:59	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	81.3		%	62 - 133	SW846 8260B			1/5/17 04:59	SYB	A
4-Bromofluorobenzene (S)	98.2		%	79 - 114	SW846 8260B			1/5/17 04:59	SYB	A
Dibromofluoromethane (S)	90.3		%	78 - 116	SW846 8260B			1/5/17 04:59	SYB	A
Toluene-d8 (S)	93.1		%	76 - 127	SW846 8260B			1/5/17 04:59	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860004** Date Collected: 12/27/2016 16:16 Matrix: Water

Sample ID: **058-1227-MW6S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:16	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:16	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:16	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 05:16	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 05:16	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:16	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 05:16	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:16	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:16	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	85.8		%	62 - 133	SW846 8260B			1/5/17 05:16	SYB	A
4-Bromofluorobenzene (S)	99.7		%	79 - 114	SW846 8260B			1/5/17 05:16	SYB	A
Dibromofluoromethane (S)	93.6		%	78 - 116	SW846 8260B			1/5/17 05:16	SYB	A
Toluene-d8 (S)	92.9		%	76 - 127	SW846 8260B			1/5/17 05:16	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860005** Date Collected: 12/27/2016 10:42 Matrix: Water

Sample ID: **058-1227-MW7S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:33	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:33	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:33	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 05:33	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 05:33	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:33	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 05:33	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:33	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:33	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	81.4		%	62 - 133	SW846 8260B			1/5/17 05:33	SYB	A
4-Bromofluorobenzene (S)	98.5		%	79 - 114	SW846 8260B			1/5/17 05:33	SYB	A
Dibromofluoromethane (S)	88.9		%	78 - 116	SW846 8260B			1/5/17 05:33	SYB	A
Toluene-d8 (S)	90.7		%	76 - 127	SW846 8260B			1/5/17 05:33	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860006** Date Collected: 12/27/2016 11:52 Matrix: Water

Sample ID: **058-1227-MW8S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:50	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:50	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:50	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 05:50	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 05:50	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:50	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 05:50	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:50	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 05:50	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	83		%	62 - 133	SW846 8260B			1/5/17 05:50	SYB	A
4-Bromofluorobenzene (S)	99.3		%	79 - 114	SW846 8260B			1/5/17 05:50	SYB	A
Dibromofluoromethane (S)	89.5		%	78 - 116	SW846 8260B			1/5/17 05:50	SYB	A
Toluene-d8 (S)	93.7		%	76 - 127	SW846 8260B			1/5/17 05:50	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860007** Date Collected: 12/27/2016 08:41 Matrix: Water

Sample ID: **058-1227-MW9S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:07	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:07	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:07	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 06:07	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 06:07	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:07	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 06:07	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:07	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:07	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	82		%	62 - 133	SW846 8260B			1/5/17 06:07	SYB	A
4-Bromofluorobenzene (S)	93.8		%	79 - 114	SW846 8260B			1/5/17 06:07	SYB	A
Dibromofluoromethane (S)	89.5		%	78 - 116	SW846 8260B			1/5/17 06:07	SYB	A
Toluene-d8 (S)	87.9		%	76 - 127	SW846 8260B			1/5/17 06:07	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860008** Date Collected: 12/27/2016 16:31 Matrix: Water

Sample ID: **058-1227-MW10S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	120		ug/L	5.0	SW846 8260B			1/6/17 00:06	CJG	B
Ethylbenzene	46.9		ug/L	5.0	SW846 8260B			1/6/17 00:06	CJG	B
Isopropylbenzene	ND		ug/L	5.0	SW846 8260B			1/6/17 00:06	CJG	B
Methyl t-Butyl Ether	18.0		ug/L	5.0	SW846 8260B			1/6/17 00:06	CJG	B
Naphthalene	ND		ug/L	10.0	SW846 8260B			1/6/17 00:06	CJG	B
Toluene	272		ug/L	5.0	SW846 8260B			1/6/17 00:06	CJG	B
Total Xylenes	233		ug/L	15.0	SW846 8260B			1/6/17 00:06	CJG	B
1,2,4-Trimethylbenzene	41.4		ug/L	5.0	SW846 8260B			1/6/17 00:06	CJG	B
1,3,5-Trimethylbenzene	6.5		ug/L	5.0	SW846 8260B			1/6/17 00:06	CJG	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	96.3		%	62 - 133	SW846 8260B			1/6/17 00:06	CJG	B
4-Bromofluorobenzene (S)	90.2		%	79 - 114	SW846 8260B			1/6/17 00:06	CJG	B
Dibromofluoromethane (S)	88		%	78 - 116	SW846 8260B			1/6/17 00:06	CJG	B
Toluene-d8 (S)	94.2		%	76 - 127	SW846 8260B			1/6/17 00:06	CJG	B

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860009** Date Collected: 12/27/2016 15:38 Matrix: Water

Sample ID: **058-1227-MW11S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	71.5		ug/L	5.0	SW846 8260B			1/5/17 07:15	SYB	A
Ethylbenzene	148		ug/L	5.0	SW846 8260B			1/5/17 07:15	SYB	A
Isopropylbenzene	16.1		ug/L	5.0	SW846 8260B			1/5/17 07:15	SYB	A
Methyl t-Butyl Ether	16.8		ug/L	5.0	SW846 8260B			1/5/17 07:15	SYB	A
Naphthalene	30.4		ug/L	10.0	SW846 8260B			1/5/17 07:15	SYB	A
Toluene	41.9		ug/L	5.0	SW846 8260B			1/5/17 07:15	SYB	A
Total Xylenes	575		ug/L	15.0	SW846 8260B			1/5/17 07:15	SYB	A
1,2,4-Trimethylbenzene	323		ug/L	5.0	SW846 8260B			1/5/17 07:15	SYB	A
1,3,5-Trimethylbenzene	91.1		ug/L	5.0	SW846 8260B			1/5/17 07:15	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	78.4		%	62 - 133	SW846 8260B			1/5/17 07:15	SYB	A
4-Bromofluorobenzene (S)	91		%	79 - 114	SW846 8260B			1/5/17 07:15	SYB	A
Dibromofluoromethane (S)	87		%	78 - 116	SW846 8260B			1/5/17 07:15	SYB	A
Toluene-d8 (S)	93.1		%	76 - 127	SW846 8260B			1/5/17 07:15	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860010** Date Collected: 12/28/2016 11:11 Matrix: Water

Sample ID: **058-1227-MW12S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:24	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:24	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:24	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 06:24	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 06:24	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:24	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 06:24	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:24	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:24	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	85.4		%	62 - 133	SW846 8260B			1/5/17 06:24	SYB	A
4-Bromofluorobenzene (S)	99.2		%	79 - 114	SW846 8260B			1/5/17 06:24	SYB	A
Dibromofluoromethane (S)	93.2		%	78 - 116	SW846 8260B			1/5/17 06:24	SYB	A
Toluene-d8 (S)	93.5		%	76 - 127	SW846 8260B			1/5/17 06:24	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860011** Date Collected: 12/28/2016 10:04 Matrix: Water

Sample ID: **058-1227-MW13S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:41	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:41	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:41	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 06:41	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 06:41	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:41	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 06:41	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:41	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 06:41	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	83.8		%	62 - 133	SW846 8260B			1/5/17 06:41	SYB	A
4-Bromofluorobenzene (S)	98.4		%	79 - 114	SW846 8260B			1/5/17 06:41	SYB	A
Dibromofluoromethane (S)	93.2		%	78 - 116	SW846 8260B			1/5/17 06:41	SYB	A
Toluene-d8 (S)	93.4		%	76 - 127	SW846 8260B			1/5/17 06:41	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860012** Date Collected: 12/27/2016 13:54 Matrix: Water

Sample ID: **058-1227-MW14S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:17	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:17	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:17	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 21:17	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 21:17	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:17	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 21:17	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:17	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:17	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	94.8		%	62 - 133	SW846 8260B			1/5/17 21:17	TMP	A
4-Bromofluorobenzene (S)	108		%	79 - 114	SW846 8260B			1/5/17 21:17	TMP	A
Dibromofluoromethane (S)	106		%	78 - 116	SW846 8260B			1/5/17 21:17	TMP	A
Toluene-d8 (S)	105		%	76 - 127	SW846 8260B			1/5/17 21:17	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860013** Date Collected: 12/28/2016 14:15 Matrix: Water

Sample ID: **058-1227-MW15S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:16	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:16	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:16	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 23:16	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 23:16	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:16	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 23:16	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:16	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:16	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	95.7		%	62 - 133	SW846 8260B			1/5/17 23:16	TMP	A
4-Bromofluorobenzene (S)	107		%	79 - 114	SW846 8260B			1/5/17 23:16	TMP	A
Dibromofluoromethane (S)	105		%	78 - 116	SW846 8260B			1/5/17 23:16	TMP	A
Toluene-d8 (S)	102		%	76 - 127	SW846 8260B			1/5/17 23:16	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860014** Date Collected: 12/28/2016 14:07 Matrix: Water

Sample ID: **058-1227-MW16S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/7/17 02:20	SYB	B
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 02:20	SYB	B
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 02:20	SYB	B
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/7/17 02:20	SYB	B
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/7/17 02:20	SYB	B
Toluene	ND		ug/L	1.0	SW846 8260B			1/7/17 02:20	SYB	B
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/7/17 02:20	SYB	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 02:20	SYB	B
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 02:20	SYB	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.8		%	62 - 133	SW846 8260B			1/7/17 02:20	SYB	B
4-Bromofluorobenzene (S)	85.9		%	79 - 114	SW846 8260B			1/7/17 02:20	SYB	B
Dibromofluoromethane (S)	88.4		%	78 - 116	SW846 8260B			1/7/17 02:20	SYB	B
Toluene-d8 (S)	93.3		%	76 - 127	SW846 8260B			1/7/17 02:20	SYB	B

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860015** Date Collected: 12/28/2016 12:37 Matrix: Water

Sample ID: **058-1227-MW17S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:25	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:25	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:25	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 22:25	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 22:25	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:25	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 22:25	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:25	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:25	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	92.6		%	62 - 133	SW846 8260B			1/5/17 22:25	TMP	A
4-Bromofluorobenzene (S)	108		%	79 - 114	SW846 8260B			1/5/17 22:25	TMP	A
Dibromofluoromethane (S)	101		%	78 - 116	SW846 8260B			1/5/17 22:25	TMP	A
Toluene-d8 (S)	101		%	76 - 127	SW846 8260B			1/5/17 22:25	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860016** Date Collected: 12/28/2016 15:27 Matrix: Water

Sample ID: **058-1227-OW4** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:33	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:33	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:33	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 23:33	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 23:33	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:33	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 23:33	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:33	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:33	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	94.8		%	62 - 133	SW846 8260B			1/5/17 23:33	TMP	A
4-Bromofluorobenzene (S)	109		%	79 - 114	SW846 8260B			1/5/17 23:33	TMP	A
Dibromofluoromethane (S)	102		%	78 - 116	SW846 8260B			1/5/17 23:33	TMP	A
Toluene-d8 (S)	101		%	76 - 127	SW846 8260B			1/5/17 23:33	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860017** Date Collected: 12/29/2016 12:20 Matrix: Water

Sample ID: **058-1227-MW1D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:51	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:51	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:51	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 23:51	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 23:51	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:51	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 23:51	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:51	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 23:51	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	70.7		%	62 - 133	SW846 8260B			1/5/17 23:51	TMP	A
4-Bromofluorobenzene (S)	85.6		%	79 - 114	SW846 8260B			1/5/17 23:51	TMP	A
Dibromofluoromethane (S)	78.6		%	78 - 116	SW846 8260B			1/5/17 23:51	TMP	A
Toluene-d8 (S)	78		%	76 - 127	SW846 8260B			1/5/17 23:51	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860018** Date Collected: 12/29/2016 13:15 Matrix: Water

Sample ID: **058-1227-MW2D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	2.2		ug/L	1.0	SW846 8260B			1/6/17 01:17	TMP	A
Ethylbenzene	7.2		ug/L	1.0	SW846 8260B			1/6/17 01:17	TMP	A
Isopropylbenzene	4.2		ug/L	1.0	SW846 8260B			1/6/17 01:17	TMP	A
Methyl t-Butyl Ether	5.9		ug/L	1.0	SW846 8260B			1/6/17 01:17	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/6/17 01:17	TMP	A
Toluene	2.8		ug/L	1.0	SW846 8260B			1/6/17 01:17	TMP	A
Total Xylenes	12.7		ug/L	3.0	SW846 8260B			1/6/17 01:17	TMP	A
1,2,4-Trimethylbenzene	7.3		ug/L	1.0	SW846 8260B			1/6/17 01:17	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 01:17	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.5		%	62 - 133	SW846 8260B			1/6/17 01:17	TMP	A
4-Bromofluorobenzene (S)	118	1	%	79 - 114	SW846 8260B			1/6/17 01:17	TMP	A
Dibromofluoromethane (S)	110		%	78 - 116	SW846 8260B			1/6/17 01:17	TMP	A
Toluene-d8 (S)	109		%	76 - 127	SW846 8260B			1/6/17 01:17	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860019** Date Collected: 12/29/2016 12:45 Matrix: Water

Sample ID: **058-1227-MW6D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:08	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:08	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:08	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/6/17 00:08	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/6/17 00:08	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:08	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/6/17 00:08	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:08	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:08	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	89		%	62 - 133	SW846 8260B			1/6/17 00:08	TMP	A
4-Bromofluorobenzene (S)	98.9		%	79 - 114	SW846 8260B			1/6/17 00:08	TMP	A
Dibromofluoromethane (S)	98.5		%	78 - 116	SW846 8260B			1/6/17 00:08	TMP	A
Toluene-d8 (S)	98.4		%	76 - 127	SW846 8260B			1/6/17 00:08	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860020** Date Collected: 12/29/2016 12:55 Matrix: Water

Sample ID: **058-1227-MW7D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:42	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:42	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:42	TMP	A
Methyl t-Butyl Ether	7.2		ug/L	1.0	SW846 8260B			1/6/17 00:42	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/6/17 00:42	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:42	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/6/17 00:42	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:42	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:42	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	95.9		%	62 - 133	SW846 8260B			1/6/17 00:42	TMP	A
4-Bromofluorobenzene (S)	113		%	79 - 114	SW846 8260B			1/6/17 00:42	TMP	A
Dibromofluoromethane (S)	105		%	78 - 116	SW846 8260B			1/6/17 00:42	TMP	A
Toluene-d8 (S)	107		%	76 - 127	SW846 8260B			1/6/17 00:42	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860021** Date Collected: 12/27/2016 12:29 Matrix: Water

Sample ID: **058-1227-MW8D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:59	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:59	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:59	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 20:59	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 20:59	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:59	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 20:59	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:59	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:59	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	95.2		%	62 - 133	SW846 8260B			1/5/17 20:59	TMP	A
4-Bromofluorobenzene (S)	106		%	79 - 114	SW846 8260B			1/5/17 20:59	TMP	A
Dibromofluoromethane (S)	105		%	78 - 116	SW846 8260B			1/5/17 20:59	TMP	A
Toluene-d8 (S)	102		%	76 - 127	SW846 8260B			1/5/17 20:59	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860022** Date Collected: 12/27/2016 09:34 Matrix: Water

Sample ID: **058-1227-MW9D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:25	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:25	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:25	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 20:25	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 20:25	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:25	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 20:25	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:25	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:25	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	89.6		%	62 - 133	SW846 8260B			1/5/17 20:25	TMP	A
4-Bromofluorobenzene (S)	108		%	79 - 114	SW846 8260B			1/5/17 20:25	TMP	A
Dibromofluoromethane (S)	99.9		%	78 - 116	SW846 8260B			1/5/17 20:25	TMP	A
Toluene-d8 (S)	101		%	76 - 127	SW846 8260B			1/5/17 20:25	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860023** Date Collected: 12/28/2016 13:31 Matrix: Water

Sample ID: **058-1227-MW10D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:42	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:42	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:42	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 22:42	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 22:42	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:42	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 22:42	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:42	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:42	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	91.2		%	62 - 133	SW846 8260B			1/5/17 22:42	TMP	A
4-Bromofluorobenzene (S)	110		%	79 - 114	SW846 8260B			1/5/17 22:42	TMP	A
Dibromofluoromethane (S)	101		%	78 - 116	SW846 8260B			1/5/17 22:42	TMP	A
Toluene-d8 (S)	101		%	76 - 127	SW846 8260B			1/5/17 22:42	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860024** Date Collected: 12/27/2016 14:45 Matrix: Water

Sample ID: **058-1227-MW11D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:34	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:34	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:34	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 21:34	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 21:34	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:34	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 21:34	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:34	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:34	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	105		%	62 - 133	SW846 8260B			1/5/17 21:34	TMP	A
4-Bromofluorobenzene (S)	120	1	%	79 - 114	SW846 8260B			1/5/17 21:34	TMP	A
Dibromofluoromethane (S)	113		%	78 - 116	SW846 8260B			1/5/17 21:34	TMP	A
Toluene-d8 (S)	117		%	76 - 127	SW846 8260B			1/5/17 21:34	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860025** Date Collected: 12/28/2016 10:20 Matrix: Water

Sample ID: **058-1227-MW12D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:08	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:08	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:08	TMP	A
Methyl t-Butyl Ether	2.0		ug/L	1.0	SW846 8260B			1/5/17 22:08	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 22:08	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:08	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 22:08	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:08	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:08	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	87.5		%	62 - 133	SW846 8260B			1/5/17 22:08	TMP	A
4-Bromofluorobenzene (S)	95.1		%	79 - 114	SW846 8260B			1/5/17 22:08	TMP	A
Dibromofluoromethane (S)	98.2		%	78 - 116	SW846 8260B			1/5/17 22:08	TMP	A
Toluene-d8 (S)	94.9		%	76 - 127	SW846 8260B			1/5/17 22:08	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860026** Date Collected: 12/28/2016 08:58 Matrix: Water

Sample ID: **058-1227-MW13D** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:25	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:25	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:25	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/6/17 00:25	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/6/17 00:25	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:25	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/6/17 00:25	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:25	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 00:25	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	95.6		%	62 - 133	SW846 8260B			1/6/17 00:25	TMP	A
4-Bromofluorobenzene (S)	107		%	79 - 114	SW846 8260B			1/6/17 00:25	TMP	A
Dibromofluoromethane (S)	104		%	78 - 116	SW846 8260B			1/6/17 00:25	TMP	A
Toluene-d8 (S)	103		%	76 - 127	SW846 8260B			1/6/17 00:25	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860027** Date Collected: 12/27/2016 15:37 Matrix: Water

Sample ID: **058-1227-MW5S DUP** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:51	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:51	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:51	TMP	A
Methyl t-Butyl Ether	2.7		ug/L	1.0	SW846 8260B			1/5/17 21:51	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 21:51	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:51	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 21:51	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:51	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 21:51	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	92.8		%	62 - 133	SW846 8260B			1/5/17 21:51	TMP	A
4-Bromofluorobenzene (S)	114		%	79 - 114	SW846 8260B			1/5/17 21:51	TMP	A
Dibromofluoromethane (S)	103		%	78 - 116	SW846 8260B			1/5/17 21:51	TMP	A
Toluene-d8 (S)	107		%	76 - 127	SW846 8260B			1/5/17 21:51	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860028** Date Collected: 12/29/2016 12:55 Matrix: Water

Sample ID: **058-1227-MW7D DUP** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/6/17 01:00	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 01:00	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 01:00	TMP	A
Methyl t-Butyl Ether	7.4		ug/L	1.0	SW846 8260B			1/6/17 01:00	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/6/17 01:00	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/6/17 01:00	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/6/17 01:00	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 01:00	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 01:00	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.7		%	62 - 133	SW846 8260B			1/6/17 01:00	TMP	A
4-Bromofluorobenzene (S)	116	1	%	79 - 114	SW846 8260B			1/6/17 01:00	TMP	A
Dibromofluoromethane (S)	111		%	78 - 116	SW846 8260B			1/6/17 01:00	TMP	A
Toluene-d8 (S)	112		%	76 - 127	SW846 8260B			1/6/17 01:00	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860029** Date Collected: 12/27/2016 09:34 Matrix: Water

Sample ID: **058-1227-MW9D DUP** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:58	SYB	B
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:58	SYB	B
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:58	SYB	B
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/7/17 01:58	SYB	B
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/7/17 01:58	SYB	B
Toluene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:58	SYB	B
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/7/17 01:58	SYB	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:58	SYB	B
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:58	SYB	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	101		%	62 - 133	SW846 8260B			1/7/17 01:58	SYB	B
4-Bromofluorobenzene (S)	87		%	79 - 114	SW846 8260B			1/7/17 01:58	SYB	B
Dibromofluoromethane (S)	88.2		%	78 - 116	SW846 8260B			1/7/17 01:58	SYB	B
Toluene-d8 (S)	94.4		%	76 - 127	SW846 8260B			1/7/17 01:58	SYB	B

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860030** Date Collected: 12/27/2016 16:50 Matrix: Water

Sample ID: **058-1227-FB1** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/6/17 12:30	DD	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 12:30	DD	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 12:30	DD	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/6/17 12:30	DD	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/6/17 12:30	DD	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/6/17 12:30	DD	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/6/17 12:30	DD	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 12:30	DD	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/6/17 12:30	DD	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.5		%	62 - 133	SW846 8260B			1/6/17 12:30	DD	A
4-Bromofluorobenzene (S)	88.2		%	79 - 114	SW846 8260B			1/6/17 12:30	DD	A
Dibromofluoromethane (S)	88.4		%	78 - 116	SW846 8260B			1/6/17 12:30	DD	A
Toluene-d8 (S)	94.5		%	76 - 127	SW846 8260B			1/6/17 12:30	DD	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860031** Date Collected: 12/28/2016 15:15 Matrix: Water

Sample ID: **058-1227-FB2** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:14	SYB	B
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:14	SYB	B
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:14	SYB	B
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/7/17 01:14	SYB	B
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/7/17 01:14	SYB	B
Toluene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:14	SYB	B
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/7/17 01:14	SYB	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:14	SYB	B
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/7/17 01:14	SYB	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.7		%	62 - 133	SW846 8260B			1/7/17 01:14	SYB	B
4-Bromofluorobenzene (S)	88		%	79 - 114	SW846 8260B			1/7/17 01:14	SYB	B
Dibromofluoromethane (S)	87.3		%	78 - 116	SW846 8260B			1/7/17 01:14	SYB	B
Toluene-d8 (S)	95.9		%	76 - 127	SW846 8260B			1/7/17 01:14	SYB	B

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198860 27058 Lewis Brothers Garage

Lab ID: **2198860032** Date Collected: 12/29/2016 13:30 Matrix: Water

Sample ID: **058-1227-FB3** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:08	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:08	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:08	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 20:08	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 20:08	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:08	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 20:08	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:08	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 20:08	TMP	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	94.4		%	62 - 133	SW846 8260B			1/5/17 20:08	TMP	A
4-Bromofluorobenzene (S)	109		%	79 - 114	SW846 8260B			1/5/17 20:08	TMP	A
Dibromofluoromethane (S)	102		%	78 - 116	SW846 8260B			1/5/17 20:08	TMP	A
Toluene-d8 (S)	104		%	76 - 127	SW846 8260B			1/5/17 20:08	TMP	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2198860018	1	058-1227-MW2D	SW846 8260B	4-Bromofluorobenzene
The surrogate 4-Bromofluorobenzene for method SW846 8260B was outside of control limits. The % Recovery was reported as 118 and the control limits were 79 to 114. This result was reported at a dilution of 1.				
2198860024	1	058-1227-MW11D	SW846 8260B	4-Bromofluorobenzene
The surrogate 4-Bromofluorobenzene for method SW846 8260B was outside of control limits. The % Recovery was reported as 120 and the control limits were 79 to 114. This result was reported at a dilution of 1.				
2198860028	1	058-1227-MW7D DUP	SW846 8260B	4-Bromofluorobenzene
The surrogate 4-Bromofluorobenzene for method SW846 8260B was outside of control limits. The % Recovery was reported as 116 and the control limits were 79 to 114. This result was reported at a dilution of 1.				

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

DM

Courier: FED EX
Tracking #: 8110 0423 1720

2198860

Co. Name: PENNSYLVANIA TECTONICS INC
Contact (Report to): MARTIN GILGALLON Phone: 570-487-1959
Address: 723 MAIN STREET
ARCHBALD PA 18403

Bill to (if different than Report to): PO#:

Project Name/#: 27058/LEWIS BROS GARAGE ALS Quote #:

TAT: [X] Normal-Standard TAT is 10-12 business days. Date Required:
[ ] Rush-Subject to ALS approval and surcharges. Approved By:

Email? [X] Y mgilgallon@patectonics.com
Fax? [ ] Y No.:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	ANALYSES/METHOD REQUESTED: UNLEADED GASOLINE	Enter Number of Containers Per Analysis
1 058-1227-MW1S		12.27.16	1600	G	GW	AT 12/30/16	2
2 058-1227-MW4S		12.28.16	1430	G	GW		2
3 058-1227-MW5S		12.27.16	1537	G	GW		2
4 058-1227-MW6S		12.27.16	1616	G	GW		2
5 058-1227-MW7S		12.27.16	1042	G	GW		2
6 058-1227-MW8S		12.27.16	1152	G	GW		2
7 058-1227-MW9S		12.27.16	0841	G	GW		2
8 058-1227-MW10S		12.27.16	1631	G	GW		2

***Container Type: C6
***Container Size: 40mL
***Preservative: HCl

(completed by Sample Receiving)
Preserved by: [illegible]
Cooler Temp: 4.2°C
Therm. ID: TH-350
No. of Coolers:

Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y N	Y N	Y N	Y N	

Custody seals Present?	(if present) Seals intact?	Received on ice	COC/Labels complete/accurate	Container in good condition?
Y N	Y N	Y N	Y N	Y N

SAMPLED BY (Please Print): Jared Matteucci

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] / Patectonics	12.29.16	1500	2 FED EX 8110 0423 1720	12/29/16	1500
8			4 [signature] JZS	12/30/16	0853
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? ⇨ yes
State Samples Collected In? MD NJ NY PA [X]
Other

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Oi=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL, CANARY - CUSTOMER COPY

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS

DM

Courier: FED EX
Tracking #: 8110 0423 1720

2198860

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Co. Name: PENNSYLVANIA TECTONICS INC
Contact (Report to): MARTIN GILGALLON Phone: 570-487-1959
Address: 723 MAIN STREET ARCHBALD PA 18403

Bill to (if different than Report to): PO#:

Project Name/#: 27058/LEWIS BROS GARAGE ALS Quote #:

TAT: [X] Normal-Standard TAT is 10-12 business days. Date Required:
[ ] Rush-Subject to ALS approval and surcharges. Approved By:

Email? [X] Y mgilgallon@patectonics.com
Fax? [ ] Y No.:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	UNLEADED GASOLINE								
						Enter Number of Containers Per Analysis								
1 058-1227-MW11S		12/27/16	1538	G	GW	2								
2 058-1227-MW12S		12/28/16	1111	G	GW	2								
3 058-1227-MW13S		12/28/16	1004	G	GW	2								
4 058-1227-MW14S		12/27/16	1354	G	GW	2								
5 058-1227-MW15S		12/28/16	1415	G	GW	2								
6 058-1227-MW16S		12/28/16	1407	G	GW	2								
7 058-1227-MW17S		12/28/16	1237	G	GW	2								
8 058-1227-OW4		12/27/16	1527	G	GW	2								

AT 12/30/16

***Container Type: CG
***Container Size: 40mL
***Preservative: HCl

ANALYSES/METHOD REQUESTED

Receipt Information (completed by Sample Receiving)
Preserved In: ICE
Cooler Temp: 4°C
Therm. ID: IR-357
No. of Coolers:
Notes:

	Circle appropriate Y or N.
Correct containers?	Y N
Correct sample volumes?	Y N
Correct preservation?	Y N
Headspace/Volatiles?	Y N
COC/Labels complete/accurate?	Y N
Received on Ice?	Y N
(if present) Seals intact?	Y N
Custody seals Present?	Y N

SAMPLED BY (Please Print): Jared Matheccia

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] PA Tectonics	12/29/16	1500	2 FEDEX 8110 0423 1720	12/29/16	1500
3			4 [signature] ADS	12/30	0883
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [X]
Other
EDD: PASDAS

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 3 of 4
Courier: FED EX
Tracking #: 8110 0423 1720

2198860

Co. Name: PENNSYLVANIA TECTONICS INC
Contact (Report to): MARTIN GILGALLON
Phone: 570-487-1959
Address: 723 MAIN STREET
ARCHBALD PA 18403

Bill to (if different than Report to):
PO#:

Project Name/#: 27058/LEWIS BROS GARAGE
ALS Quote #:

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y mgilgallon@patectonics.com
Fax? [ ] Y No.:

***Container Type	CG	
***Container Size	40ML	
***Preservative	HCl	

ANALYSES/METHOD REQUESTED: UNLEADED GASOLINE

Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	UNLEADED GASOLINE
1	058-1227-MW1D		12.29.16	1220	G	GW	2
2	058-1227-MW2D		12.29.16	1315	G	GW	2
3	058-1227-MW6D		12.29.16	1245	G	GW	2
4	058-1227-MW7D		12.29.16	1255	G	GW	2
5	058-1227-MW8D	12.27.16	12.29.16	1229	G	GW	2
6	058-1227-MW9D		12.27.16	0934	G	GW	2
7	058-1227-MW10D		12.28.16	1331	G	GW	2
8	058-1227-MW11D		12.27.16	1445	G	GW	2

AG 12/30/16

Receipt Information (completed by Sample Receiving)
Performed by: 15
Cooler Temp: 4°C
Therm. ID: TH-35
No. of Coolers:
Notes:

Circle appropriate Y or N.

Correct containers?	Y
Correct sample volume?	Y
Correct preservation?	Y
Headspace/Volatiles?	N
Custody seals Present?	N
(If present) Seals intact?	N
Received on ice?	Y
COC/Labels complete/accurate?	Y
Container in good condition?	Y

SAMPLED BY (Please Print): Jareb Matteucci

Project Comments:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature] / PATectonics	12.29.16	1500	2	FED EX 8110 0423 1720	12/29/16	1500
3				4	[signature]	12/30	0853
5				6			
7				8			
9				10			

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other
EDDs Required? [ ] If yes, format type:
SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [X]
DOD Criteria Required?

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY
Rev 01-2013

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 4 of 4
Courier: FED EX
Tracking #: 8110 0423 1720

219886C

Co. Name: PENNSYLVANIA TECTONICS INC
Contact (Report to): MARTIN GILGALLON Phone: 570-487-1959
Address: 723 MAIN STREET ARCHBALD PA 18403

Bill to (if different than Report to): PO#:

Project Name/#: 27058/LEWIS BROS GARAGE ALS Quote #:

TAT: [X] Normal-Standard TAT is 10-12 business days. Date Required:
[ ] Rush-Subject to ALS approval and surcharges. Approved By:

Email? [X] Y mGILGALLON@PATECTONICS.com
Fax? [ ] Y No.:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	***Container Type	***Container Size	*** Preservative	ANALYSES/METHOD REQUESTED
						CG	40mL	HCl	UNLEADED GASOLINE
1 058-1227-MW12D		12.28.16	1020	G	GW	2			AD 12/30/16
2 058-1227-MW13D		12.28.16	0858	G	GW	2			
3 058-1227-MW5S DUP	12.29.16	12.28.16	1537	G	GW	2			
4 058-1227-MW7D DUP		12.29.16	1255	G	GW	2			
5 058-1227-MW9D DUP		12.29.16	0934	G	GW	2			
6 058-1227-FB1		12.27.16	1650	G	DI	2			
7 058-1227-FB2		12.28.16	1515	G	DI	2			
8 058-1227-FB3		12.29.16	1330	G	DI	2			

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Preserved In: ICE
Cooler Temp: 4°
Therm. ID: TH-362
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	N	N	N	N	
	Y	Y	Y	Y	

	Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y
	N	N	N	N	N

SAMPLED BY (Please Print): Jared Matthews

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] / PA Tectonics	12.29.16	1500	2 FED EX 8110 0423 1720	12/29/16	1500
3			4 [signature] DS	12/30	0853
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] other:
EDDs Required? [ ] If yes, format type:
SDWA Forms? ⇨ yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [X]
Other
DOD Criteria Required?

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

January 9, 2017

Mr. Marty Gilgallon
PA Tectonics
723 Main Street
Archbald, PA 18403

Certificate of Analysis

Project Name:	**Routine Sample Submission**	Workorder:	**2198859**
Purchase Order:		Workorder ID:	**Leaded/Unleaded Testing**

Dear Mr. Gilgallon:

Enclosed are the analytical results for samples received by the laboratory on Friday, December 30, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2198859 Leaded/Unleaded Testing

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2198859001	058-1227-MW2S	Ground Water	12/28/2016 15:11	12/30/2016 08:53	Collected by Client
2198859002	058-1227-MW3S	Ground Water	12/29/2016 11:25	12/30/2016 08:53	Collected by Client

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2198859 Leaded/Unleaded Testing

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

PROJECT SUMMARY

Workorder: 2198859 Leaded/Unleaded Testing

Sample Comments

Lab ID: 2198859001 **Sample ID:** 058-1227-MW2S **Sample Type:** SAMPLE

The GCMS volatiles analysis was performed at a dilution due to the level of target compounds.

Lab ID: 2198859002 **Sample ID:** 058-1227-MW3S **Sample Type:** SAMPLE

The GCMS volatiles analysis was performed at a dilution due to the level of target compounds.

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198859 Leaded/Unleaded Testing

Lab ID: **2198859001** Date Collected: 12/28/2016 15:11 Matrix: Ground Water

Sample ID: **058-1227-MW2S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	1310		ug/L	20.0	SW846 8260B			1/6/17 03:01	CJG	A
1,2-Dibromoethane	2.7		ug/L	0.39	EPA 504.1	1/5/17 03:05	EGO	1/6/17 03:57	BS	C
1,2-Dichloroethane	ND		ug/L	20.0	SW846 8260B			1/6/17 03:01	CJG	A
Ethylbenzene	1820		ug/L	20.0	SW846 8260B			1/6/17 03:01	CJG	A
Isopropylbenzene	154		ug/L	20.0	SW846 8260B			1/6/17 03:01	CJG	A
Methyl t-Butyl Ether	158		ug/L	20.0	SW846 8260B			1/6/17 03:01	CJG	A
Naphthalene	330		ug/L	40.0	SW846 8260B			1/6/17 03:01	CJG	A
Toluene	2710		ug/L	20.0	SW846 8260B			1/6/17 03:01	CJG	A
Total Xylenes	7340		ug/L	60.0	SW846 8260B			1/6/17 03:01	CJG	A
1,2,4-Trimethylbenzene	2340		ug/L	20.0	SW846 8260B			1/6/17 03:01	CJG	A
1,3,5-Trimethylbenzene	599		ug/L	20.0	SW846 8260B			1/6/17 03:01	CJG	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1-Chloro-2-Fluorobenzene (S)	114		%	70 - 130	EPA 504.1	1/5/17 03:05	EGO	1/6/17 03:57	BS	C
1-Chloro-2-Fluorobenzene (S)	78.4		%	70 - 130	EPA 504.1	1/5/17 03:05	EGO	1/5/17 06:47	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.1		%	62 - 133	SW846 8260B			1/6/17 03:01	CJG	A
4-Bromofluorobenzene (S)	89.4		%	79 - 114	SW846 8260B			1/6/17 03:01	CJG	A
Dibromofluoromethane (S)	88.1		%	78 - 116	SW846 8260B			1/6/17 03:01	CJG	A
Toluene-d8 (S)	95.5		%	76 - 127	SW846 8260B			1/6/17 03:01	CJG	A
METALS										
Lead, Dissolved	ND		mg/L	0.0020	SW846 6020A	1/2/17 22:49	ZMC	1/3/17 04:00	ZMC	E1

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198859 Leaded/Unleaded Testing

Lab ID: **2198859002** Date Collected: 12/29/2016 11:25 Matrix: Ground Water

Sample ID: **058-1227-MW3S** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	4490		ug/L	200	SW846 8260B			1/7/17 02:41	SYB	B
1,2-Dibromoethane	0.76		ug/L	0.20	EPA 504.1	1/5/17 03:05	EGO	1/6/17 04:24	BS	C
1,2-Dichloroethane	ND		ug/L	20.0	SW846 8260B			1/6/17 03:23	CJG	A
Ethylbenzene	2080		ug/L	20.0	SW846 8260B			1/6/17 03:23	CJG	A
Isopropylbenzene	145		ug/L	20.0	SW846 8260B			1/6/17 03:23	CJG	A
Methyl t-Butyl Ether	468		ug/L	20.0	SW846 8260B			1/6/17 03:23	CJG	A
Naphthalene	456		ug/L	40.0	SW846 8260B			1/6/17 03:23	CJG	A
Toluene	10800		ug/L	200	SW846 8260B			1/7/17 02:41	SYB	B
Total Xylenes	12100		ug/L	600	SW846 8260B			1/7/17 02:41	SYB	B
1,2,4-Trimethylbenzene	2590		ug/L	20.0	SW846 8260B			1/6/17 03:23	CJG	A
1,3,5-Trimethylbenzene	611		ug/L	20.0	SW846 8260B			1/6/17 03:23	CJG	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1-Chloro-2-Fluorobenzene (S)	71		%	70 - 130	EPA 504.1	1/5/17 03:05	EGO	1/5/17 07:15	BS	C
1-Chloro-2-Fluorobenzene (S)	88.5		%	70 - 130	EPA 504.1	1/5/17 03:05	EGO	1/6/17 04:24	BS	C
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	93.6		%	62 - 133	SW846 8260B			1/6/17 03:23	CJG	A
1,2-Dichloroethane-d4 (S)	96.7		%	62 - 133	SW846 8260B			1/7/17 02:41	SYB	B
4-Bromofluorobenzene (S)	88.4		%	79 - 114	SW846 8260B			1/6/17 03:23	CJG	A
4-Bromofluorobenzene (S)	84.8		%	79 - 114	SW846 8260B			1/7/17 02:41	SYB	B
Dibromofluoromethane (S)	88.5		%	78 - 116	SW846 8260B			1/6/17 03:23	CJG	A
Dibromofluoromethane (S)	84.2		%	78 - 116	SW846 8260B			1/7/17 02:41	SYB	B
Toluene-d8 (S)	95.3		%	76 - 127	SW846 8260B			1/6/17 03:23	CJG	A
Toluene-d8 (S)	92.5		%	76 - 127	SW846 8260B			1/7/17 02:41	SYB	B
METALS										
Lead, Dissolved	ND		mg/L	0.0020	SW846 6020A	1/2/17 22:49	ZMC	1/3/17 04:04	ZMC	E1

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

OM

Page 1 of 1
Courier: FED EX
Tracking #: 8110 0423 1720

* 2 1 9 8 8 5 9 *

Co. Name: Pennsylvania Tectonics Inc
Contact (Report to): Martin Gilgallon
Address: 723 Main Street, Archbald, PA 18403
Phone: 570-487-1959
Bill to (if different than Report to):
PO#:
Project Name/#:
ALS Quote #:
TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? [X] -Y mgilgallon@Patectonics.com
Fax? [ ] -Y No.:

	***Container Type	CG	CG	PL						
	***Container Size	40ml	40ml	250ml						
	***Preservative	HCl	$Na_2S_2O_3$	HNO_3						

ANALYSES/METHOD REQUESTED: unleaded gasoline + LEADED NEW LIST-EPA 8260B; Leaded/unleaded gasoline EDB portion 504-NEW LIST; Dissolved Lead Field Filtered LEADED/UNLEADED GASOLINE NEW LIST

AT 12/30/16

Enter Number of Containers Per Analysis

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	unleaded gasoline + LEADED NEW LIST-EPA 8260B	Leaded/unleaded gasoline EDB portion 504-NEW LIST	Dissolved Lead Field Filtered LEADED/UNLEADED GASOLINE NEW LIST							
1 058-1227-MW25		12/28/16	1511	G	GW	2	2	1							
2 058-1227-MW35		12/29/16	1125	G	GW	2	2	1							
3															
4															
5															
6															
7															
8															

Receipt Information (completed by Sample Receiving)
Performed by: JF
Cooler Temp: 4°C
Therm. ID: TH-252
No. of Coolers:
Notes:

Circle appropriate Y or N.

Correct containers?	(Y) N
Correct sample volume?	(Y) N
Correct preservation?	(Y) N
Headspace/Volatiles?	Y (N)
Custody seals Present?	Y (N)
(If present) Seals Intact?	Y N
Received on ice?	(Y) N
COC/Labels complete/accurate?	(Y) N
Container in good condition?	(Y) N

SAMPLED BY (Please Print): Jared McHenry

Project Comments:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature] / PA Tectonics	12/29/16	1500	2	FED EX # 8110 0423 1720	12/29/16	1500
3				4	[signature]	12/30/16	0853
5				6			
7				8			
9				10			

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other
State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [X]

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY
Rev 01-2013

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

January 6, 2017

Mr. Marty Gilgallon
PA Tectonics
723 Main Street
Archbald, PA 18403

Certificate of Analysis

Project Name:	**27058 Lewis Brothers Garage**	Workorder:	**2198857**
Purchase Order:		Workorder ID:	**27058 Lewis Brothers Garage**

Dear Mr. Gilgallon:

Enclosed are the analytical results for samples received by the laboratory on Friday, December 30, 2016.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2198857 27058 Lewis Brothers Garage

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2198857001	058-1227-SW1	Water	12/27/2016 11:13	12/30/2016 08:53	Collected by Client
2198857002	058-1227-SW2	Water	12/27/2016 11:05	12/30/2016 08:53	Collected by Client
2198857003	058-1227-SW3	Water	12/27/2016 11:10	12/30/2016 08:53	Collected by Client
2198857004	058-1227-SW4	Water	12/27/2016 10:56	12/30/2016 08:53	Collected by Client
2198857005	058-1227-SW5	Water	12/27/2016 10:46	12/30/2016 08:53	Collected by Client
2198857006	058-1227-SW6	Water	12/27/2016 10:35	12/30/2016 08:53	Collected by Client

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2198857 27058 Lewis Brothers Garage

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
-- For microbiological analyses, the "Prepared" value is the date/time into the incurbator and the "Analyzed" value is the date/time out the incubator.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198857 27058 Lewis Brothers Garage

Lab ID: **2198857001** Date Collected: 12/27/2016 11:13 Matrix: Water

Sample ID: **058-1227-SW1** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:39	CJG	B
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:39	CJG	B
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:39	CJG	B
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 22:39	CJG	B
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 22:39	CJG	B
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:39	CJG	B
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 22:39	CJG	B
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:39	CJG	B
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 22:39	CJG	B
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	96.8		%	62 - 133	SW846 8260B			1/5/17 22:39	CJG	B
4-Bromofluorobenzene (S)	89.6		%	79 - 114	SW846 8260B			1/5/17 22:39	CJG	B
Dibromofluoromethane (S)	88		%	78 - 116	SW846 8260B			1/5/17 22:39	CJG	B
Toluene-d8 (S)	94.2		%	76 - 127	SW846 8260B			1/5/17 22:39	CJG	B

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198857 27058 Lewis Brothers Garage

Lab ID: **2198857002** Date Collected: 12/27/2016 11:05 Matrix: Water

Sample ID: **058-1227-SW2** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:26	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:26	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:26	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 02:26	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 02:26	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:26	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 02:26	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:26	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:26	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	81.9		%	62 - 133	SW846 8260B			1/5/17 02:26	SYB	A
4-Bromofluorobenzene (S)	95		%	79 - 114	SW846 8260B			1/5/17 02:26	SYB	A
Dibromofluoromethane (S)	90.2		%	78 - 116	SW846 8260B			1/5/17 02:26	SYB	A
Toluene-d8 (S)	92.3		%	76 - 127	SW846 8260B			1/5/17 02:26	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198857 27058 Lewis Brothers Garage

Lab ID: **2198857003** Date Collected: 12/27/2016 11:10 Matrix: Water

Sample ID: **058-1227-SW3** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:43	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:43	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:43	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 02:43	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 02:43	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:43	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 02:43	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:43	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 02:43	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	83.9		%	62 - 133	SW846 8260B			1/5/17 02:43	SYB	A
4-Bromofluorobenzene (S)	95.3		%	79 - 114	SW846 8260B			1/5/17 02:43	SYB	A
Dibromofluoromethane (S)	90.7		%	78 - 116	SW846 8260B			1/5/17 02:43	SYB	A
Toluene-d8 (S)	94		%	76 - 127	SW846 8260B			1/5/17 02:43	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198857 27058 Lewis Brothers Garage

Lab ID: **2198857004** Date Collected: 12/27/2016 10:56 Matrix: Water

Sample ID: **058-1227-SW4** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:00	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:00	SYB	A
Isopropylbenzene	ND	1	ug/L	1.0	SW846 8260B			1/5/17 03:00	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 03:00	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 03:00	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:00	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 03:00	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:00	SYB	A
1,3,5-Trimethylbenzene	ND	2	ug/L	1.0	SW846 8260B			1/5/17 03:00	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	79.8		%	62 - 133	SW846 8260B			1/5/17 03:00	SYB	A
4-Bromofluorobenzene (S)	91.2		%	79 - 114	SW846 8260B			1/5/17 03:00	SYB	A
Dibromofluoromethane (S)	88.5		%	78 - 116	SW846 8260B			1/5/17 03:00	SYB	A
Toluene-d8 (S)	89.7		%	76 - 127	SW846 8260B			1/5/17 03:00	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198857 27058 Lewis Brothers Garage

Lab ID: **2198857005** Date Collected: 12/27/2016 10:46 Matrix: Water

Sample ID: **058-1227-SW5** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:17	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:17	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:17	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 03:17	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 03:17	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:17	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 03:17	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:17	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:17	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	82.7		%	62 - 133	SW846 8260B			1/5/17 03:17	SYB	A
4-Bromofluorobenzene (S)	96.2		%	79 - 114	SW846 8260B			1/5/17 03:17	SYB	A
Dibromofluoromethane (S)	91.8		%	78 - 116	SW846 8260B			1/5/17 03:17	SYB	A
Toluene-d8 (S)	89.8		%	76 - 127	SW846 8260B			1/5/17 03:17	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2198857 27058 Lewis Brothers Garage

Lab ID: **2198857006** Date Collected: 12/27/2016 10:35 Matrix: Water

Sample ID: **058-1227-SW6** Date Received: 12/30/2016 08:53

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	*Cntr*
VOLATILE ORGANICS										
Benzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:34	SYB	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:34	SYB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:34	SYB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B			1/5/17 03:34	SYB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B			1/5/17 03:34	SYB	A
Toluene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:34	SYB	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B			1/5/17 03:34	SYB	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:34	SYB	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B			1/5/17 03:34	SYB	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	78.8		%	62 - 133	SW846 8260B			1/5/17 03:34	SYB	A
4-Bromofluorobenzene (S)	88.5		%	79 - 114	SW846 8260B			1/5/17 03:34	SYB	A
Dibromofluoromethane (S)	87.2		%	78 - 116	SW846 8260B			1/5/17 03:34	SYB	A
Toluene-d8 (S)	86.2		%	76 - 127	SW846 8260B			1/5/17 03:34	SYB	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2198857004	1	058-1227-SW4	SW846 8260B	Isopropylbenzene

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Isopropylbenzene. The % Recovery was reported as 131 and the control limits were 73 to 129.

2198857004	2	058-1227-SW4	SW846 8260B	1,3,5-Trimethylbenzene

The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 1,3,5-Trimethylbenzene. The % Recovery was reported as 126 and the control limits were 76 to 125.

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 1

Courier: FED EX

Tracking #: 8110 0423 1720

★ 2198857 ★

Co. Name: PENNSYLVANIA TECTONICS INC

Contact (Report to): MARTIN GILGALLON Phone: 570-487-1959

Address: 723 MAIN STREET ARCHBALD PA 18403

Bill to (if different than Report to): PO#:

Project Name/#: 27058/LEWIS BROS GARAGE ALS Quote #:

TAT: [X] Normal-Standard TAT is 10-12 business days. Date Required:
[ ] Rush-Subject to ALS approval and surcharges. Approved By:

Email? [X] -Y MGILGALLON@PATECTONICS.COM
Fax? [ ] -Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	ANALYSES/METHOD REQUESTED: UNLEADED GASOLINE	Enter Number of Containers Per Analysis
1	058-1227-SW1		12.27.16	1113	G	SW	2	
2	058-1227-SW2		12.27.16	1105	G	SW	2	
3	058-1227-SW3		12.27.16	1110	G	SW	2	
4	058-1227-SW4		12.27.16	1056	G	SW	2	
5	058-1227-SW5		12.27.16	1046	G	SW	2	
6	058-1227-SW6		12.27.16	1035	G	SW	2	
7								
8								

***Container Type: CG
***Container Size: 40mL
***Preservative: HCl

AT 12/30/16

(Completed by Sample Receiving)
Preserved by:
Cooler Temp: 4 °C
Therm. ID: TH
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y	Y	Y	Y		
N	N	N	N		

	Custody seals Present?	(If present) Seals Intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y			Y	Y	Y
N	NO		N	N	N

SAMPLED BY (Please Print): Jared Maffucci

Project Comments:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	[signature] / PA Tectonics	12.29.16	1500	2	FED EX 8110 0423 1720	12/29/16	1500
3				4	[signature]	12/30	0825
5				6			
7				8			
9				10			

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] If yes, format type:

EDDs Required?

SDWA Forms? ⇒ yes [ ]

State Samples Collected in? MD [ ] NJ [ ] NY [ ] PA [X]

Other

DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ATTACHMENT G

Groundwater & Surface Water Analytical Data Summary Tables

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)*	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
MW-1s	4/5/2008	1513.59	10.32	1503.27	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
	7/10/2008	1513.59	12.77	1500.82	0.00	NA	80.4	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
Total Depth: 22.5'	7/28/2008	1513.59	12.77	1500.82	0.00	NA	58.6	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	NA	<5.0	<5.0	NA	NA
	4/6/2009	1513.59	11.87	1501.72	0.00	NA	11.5	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Screened Interval:	3/8/2010	1513.59	12.98	1500.61	0.00	NA	21.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
22.5' - 4.5'	8/3/2010	1513.59	14.90	1498.69	0.00	NA	7.7	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	9/26/2011	1513.59	9.35	1504.24	0.00	NA	6.7	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1513.59	9.87	1503.72	0.00	NA	21.9	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/12/2012	1513.59	10.74	1502.85	0.00	NA	3.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	1513.59	12.24	1501.35	0.00	NA	5.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/3/2014	1513.59	NM	NA	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	1513.59	10.26	1503.33	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1513.59	18.62	1494.97	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1513.59	NM	NA	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/1/2016	1513.59	NA	NA	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/24/2016	1513.59	13.93	1499.66	0.00	NA	2.4	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	12/27/2016	1513.59	13.15	1500.44	0.00	NA	3.9	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
MW-2s	4/5/2008	1513.69	NM	NM	15.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/10/2008	1513.69	14.99	1498.70	0.72	NA	2190.0	5868.0	2498.0	193.0	12044.0	681.0	11834.0	92.3	3432.0	975.0	17.50	14.0
Total Depth: 30.0'	4/6/2009	1513.69	13.36	1500.33	0.06	NA	5380.0	15300.0	14400.0	1810.0	56400.0	4480.0	95700.0	NA	78800.0	8840.0	NA	NA
	3/8/2010	1513.69	15.19	1498.50	0.57	NA	3050.0	11100.0	4260.0	575.0	24800.0	3160.0	22700.0	NA	6760.0	1640.0	NA	NA
Screened Interval:	8/2/2010	1513.69	17.65	1496.04	0.18	NA	1970.0	7180.0	6810.0	436.0	26400.0	2480.0	27700.0	NA	9810.0	2810.0	NA	NA
30.0' - 10.0'	9/27/2011	1513.69	11.57	1502.12	0.00	NA	620.0	3080.0	1810.0	128.0	7210.0	303.0	8480.0	NA	2380.0	363.0	NA	NA
	11/9/2011	1513.69	11.77	1501.92	0.00	NA	709.0	3810.0	2260.0	205.0	7750.0	652.0	12900.0	NA	3680.0	1020.0	NA	NA
	6/12/2012	1513.69	13.81	1499.88	0.00	NA	971.0	3250.0	2770.0	250.0	8650.0	888.0	14500.0	NA	5160.0	1460.0	NA	NA
	10/2/2013	1513.69	14.41	1499.28	0.01	NA	453.0	1930.0	1570.0	138.0	3500.0	266.0	5230.0	NA	2080.0	556.0	NA	NA
	2/6/2014	1513.69	13.42	1500.27	0.00	NA	405.0	2030.0	2140.0	189.0	3790.0	479.0	9020.0	NA	2910.0	734.0	NA	NA
	6/2/2014	1513.69	12.18	1501.51	0.00	NA	346.0	1840.0	1580.0	112.0	4160.0	319.0	8310.0	NA	2540.0	639.0	NA	NA
	11/20/2014	1513.69	20.26	1493.43	0.06	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/7/2015	1513.69	18.43	1495.26	0.02	NA	224.0	1020.0	1260.0	94.9	1410.0	359.0	4190.0	<50.0	2400.0	484.0	2.6	<2.0
	4/1/2016	1513.69	12.68	1501.01	0.00	NA	175.0	972.0	1040.0	99.6	1610.0	191.0	3540.0	<50.0	1300.0	299.0	5.5	<2.0
	6/24/2016	1513.69	15.41	1498.28	0.00	NA	185.0	843.0	1030.0	92.1	1370.0	<100.0	2970.0	<50.0	1260.0	282.0	2.8	<4.0
	12/28/2016	1513.69	14.48	1499.21	0.00	NA	158.0	1310.0	1820.0	154.0	2710.0	330.0	7340.0	<20.0	2340.0	599.0	2.7	<2.0
MW-3s	4/5/2008	1513.35	NM	NM	8.34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/10/2008	1513.35	13.00	1500.35	0.06	NA	987.0	6956.0	3180.0	172.0	18303.0	820.0	15668.0	12.9	3026.0	804.0	4.54	<5.0
Total Depth: 28.0'	4/6/2009	1513.35	11.96	1501.39	0.02	NA	752.0	13700.0	6400.0	496.0	68900.0	1400.0	101000.0	NA	63200.0	2710.0	NA	<5.0
	3/8/2010	1513.35	13.76	1499.59	0.16	NA	905.0	8500.0	4250.0	200.0	19600.0	874.0	23500.0	NA	11400.0	817.0	NA	<5.0
Screened Interval:	8/2/2010	1513.35	16.23	1497.12	0.10	NA	831.0	6210.0	3320.0	225.0	21400.0	1120.0	19300.0	NA	4640.0	1230.0	NA	NA
28.0' - 8.0'	9/27/2011	1513.35	10.36	1502.99	0.00	NA	714.0	6800.0	1910.0	175.0	15300.0	811.0	14300.0	NA	3620.0	916.0	NA	NA
	11/9/2011	1513.35	10.54	1502.81	0.00	NA	748.0	7380.0	1730.0	177.0	15200.0	486.0	11200.0	NA	3050.0	695.0	NA	NA
	6/12/2012	1513.35	11.62	1501.73	0.00	NA	650.0	4660.0	1150.0	97.6	8940.0	461.0	7570.0	NA	1920.0	450.0	NA	NA
	10/2/2013	1513.35	13.54	1499.81	0.11	NA	1930.0	7740.0	5800.0	893.0	24400.0	2540.0	37500.0	NA	17600.0	4700.0	NA	NA
	2/6/2014	1513.35	12.20	1501.15	0.08	NA	1110.0	9800.0	12500.0	2260.0	43900.0	9460.0	88900.0	NA	2740.0	13000.0	NA	NA
	6/2/2014	1513.35	10.97	1502.38	0.01	NA	894.0	6670.0	1760.0	123.0	16200.0	354.0	12800.0	NA	2060.0	538.0	NA	NA
	11/20/2014	1513.35	19.17	1494.18	0.40	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/7/2015	1513.35	17.38	1495.97	0.29	NA	517.0	4480.0	2630.0	168.0	12000.0	624.0	17100.0	<100.0	4390.0	866.0	1.0	<2.0
	4/1/2016	1513.35	13.74	1499.61	0.00	NA	595.0	4730.0	2310.0	208.0	12100.0	713.0	14700.0	<100.0	3980.0	985.0	1.1	<2.0
	6/24/2016	1513.35	14.39	1498.96	0.00	NA	640.0	6400.0	2310.0	160.0	15000.0	267.0	13100.0	<100.0	3000.0	707.0	1.3	<4.0
	12/29/2016	1513.35	13.49	1499.86	0.00	NA	468.0	4490.0	2080.0	145.0	10800.0	456.0	12100.0	<20.0	2590.0	611.0	0.76	<2.0

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

*** Where free product is present, depth to groundwater is compensated assuming a product density of 0.74.**

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.
Refer to the Well Construction Details for specific depths and elevations.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)[1]	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
MW-4s	4/5/2008	1511.26	9.36	1501.90	0.00	NA	60.5	96.1	62.3	37.0	122	78.5	696	<5.0	292	206	<0.02	<5.0
	7/10/2008	1511.26	11.23	1500.03	0.00	NA	105.0	194.0	437.0	66.9	103.0	122.0	785.0	<5.0	440.0	151.0	<0.02	<5.0
Total Depth: 28.0'	4/6/2009	1511.26	9.85	1501.41	0.00	NA	118.0	259.0	668.0	63.3	48.4	64.9	336.0	NA	376.0	<5.0	NA	NA
	3/9/2010	1511.26	11.89	1499.37	0.00	NA	93.7	322.0	680.0	74.9	109.0	79.7	565.0	NA	447.0	28.7	NA	NA
Screened Interval:	8/4/2010	1511.26	13.45	1497.81	0.00	NA	33.4	168.0	417.0	55.9	39.8	22.4	188.0	NA	203.0	<5.0	NA	NA
28.0' - 8.0'	9/28/2011	1511.26	7.25	1504.01	0.00	NA	97.9	85.6	444.0	46.8	19.3	37.9	239.0	NA	274.0	<10.0	NA	NA
	11/9/2011	1511.26	7.69	1503.57	0.00	NA	130.0	112.0	514.0	79.4	27.3	56.5	281.0	NA	332.0	<5.0	NA	NA
	6/14/2012	1511.26	8.41	1502.85	0.00	NA	537.0	82.9	376.0	52.8	33.9	57.2	355.0	NA	316.0	25.5	NA	NA
	10/2/2013	1511.26	9.69	1501.57	0.00	NA	1100.0	56.5	158.0	24.0	16.8	17.9	106.0	NA	117.0	<5.0	NA	NA
	2/6/2014	1511.26	8.96	1502.30	0.00	NA	1100.0	51.2	266.0	39.9	27.7	<50.0	241.0	NA	209.0	<25.0	NA	NA
	6/2/2014	1511.26	7.48	1503.78	0.00	NA	1150.0	48.3	284.0	35.2	40.1	<50.0	269.0	NA	214.0	<25.0	NA	NA
	11/21/2014	1511.26	16.31	1494.95	0.00	NA	576.0	59.0	151.0	17.5	16.6	<10.0	47.6	<5.0	46.9	<5.0	<0.02	<2.0
	10/7/2015	1511.26	14.30	1496.96	0.00	NA	432.0	80.6	302.0	31.4	28.1	<10.0	108.0	<5.0	158.0	<5.0	<0.02	<2.0
	4/1/2016	1511.26	11.18	1500.08	0.00	NA	519.0	35.0	243.0	38.0	42.5	34.3	224.0	<5.0	178.0	10.1	<0.02	<2.0
	6/24/2016	1511.26	11.41	1499.85	0.00	NA	548.0	37.1	194.0	26.1	27.5	15.7	152.0	<5.0	154.0	<5.0	<0.019	<2.0
	12/28/2016	1511.26	10.94	1500.32	0.00	NA	472.0	28.6	216.0	39.9	17.9	18.6	121.0	NA	130.0	<5.0	NA	NA
MW-5s	4/5/2008	1511.21	8.29	1502.92	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
	7/10/2008	1511.21	11.70	1499.51	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
Total Depth: 23.0'	4/6/2009	1511.21	10.00	1501.21	0.00	NA	2.1	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	3/9/2010	1511.21	11.54	1499.67	0.00	NA	1.1	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Screened Interval:	8/3/2010	1511.21	14.21	1497.00	0.00	NA	3.3	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
23.0' - 5.0'	9/26/2011	1511.21	7.48	1503.73	0.00	NA	22.8	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1511.21	8.32	1502.89	0.00	NA	41.1	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/12/2012	1511.21	9.28	1501.93	0.00	NA	8.4	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	1511.21	10.84	1500.37	0.00	NA	6.7	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/3/2014	1511.21	9.74	1501.47	0.00	NA	7.7	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/2/2014	1511.21	8.59	1502.62	0.00	NA	4.9	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1511.21	16.64	1494.57	0.00	NA	1.7	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/7/2015	1511.21	14.32	1496.89	0.00	NA	5.1	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	4/1/2016	1511.21	10.32	1500.89	0.00	NA	7.3	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/24/2016	1511.21	11.92	1499.29	0.00	NA	2.3	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/27/2016	1511.21	10.23	1500.98	0.00	NA	3.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-6s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	1515.44	10.71	1504.73	0.00	NA	<5.0	<5.0	<5.0	<5.0	5.1	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
Total Depth: 17.0'	4/6/2009	1515.44	9.41	1506.03	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	3/9/2010	1515.44	12.21	1503.23	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Screened Interval:	8/3/2010	1515.44	14.86	1500.58	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
17.0' - 2.0'	9/26/2011	1515.44	8.44	1507.00	0.00	NA	5.6	61.9	3.1	<1.0	<1.0	<2.0	<3.0	NA	1.9	<1.0	NA	NA
	11/9/2011	1515.44	5.97	1509.47	0.00	NA	13.7	180.0	14.8	2.0	2.9	2.6	13.6	NA	10.8	<1.0	NA	NA
	6/12/2012	1515.44	9.35	1506.09	0.00	NA	1.3	11.9	1.4	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	1515.44	11.24	1504.20	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/3/2014	1515.44	10.29	1505.15	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/2/2014	1515.44	8.89	1506.55	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/20/2014	1515.44	15.14	1500.30	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/6/2015	1515.44	15.56	1499.88	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/1/2016	1515.44	11.53	1503.91	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/24/2016	1515.44	13.50	1501.94	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/27/2016	1515.44	11.49	1503.95	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

*** MW-6s was not sampled during the November 2014 Sampling Event due to insufficient volume.**

[1] Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only. Refer to the Well Construction Details for specific depths and elevations.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)[a]	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
MW-7s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth:28.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/4/2010	1514.48	18.80	1495.68	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
28.0' - 3.0'	9/28/2011	1514.48	12.88	1501.60	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1514.48	12.92	1501.56	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/12/2012	1514.48	13.94	1500.54	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	1514.48	15.70	1498.78	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/6/2014	1514.48	14.41	1500.07	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/4/2014	1514.48	13.15	1501.33	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1514.48	21.51	1492.97	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1514.48	19.63	1494.85	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	3/30/2016	1514.48	15.34	1499.14	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1514.48	16.66	1497.82	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/27/2016	1514.48	15.95	1498.53	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-8s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 23.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1526.38	12.08	1514.30	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
23.0' - 3.0'	9/28/2011	1526.38	3.31	1523.07	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1526.38	6.43	1519.95	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/14/2012	1526.38	6.82	1519.56	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/3/2013	1526.38	10.33	1516.05	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/6/2014	1526.38	8.48	1517.90	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/4/2014	1526.38	6.68	1519.70	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1526.38	13.96	1512.42	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1526.38	11.70	1514.68	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/30/2016	1526.38	6.60	1519.78	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1526.38	10.58	1515.80	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/27/2016	1526.38	1.28	1525.10	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-9s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 38.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1524.72	28.03	1496.69	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
38.0' - 8.0'	9/26/2011	1524.72	22.11	1502.61	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/10/2011	1524.72	21.92	1502.80	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/12/2012	1524.72	23.11	1501.61	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/3/2013	1524.72	24.87	1499.85	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/6/2014	1524.72	23.62	1501.10	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/4/2014	1524.72	22.34	1502.38	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1524.72	31.30	1493.42	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1524.72	29.40	1495.32	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/30/2016	1524.72	24.78	1499.94	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1524.72	26.08	1498.64	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	12/27/2016	1524.72	25.49	1499.23	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.
Refer to the Well Construction Details for specific depths and elevations.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)[a]	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
MW-10s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 20.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/4/2010	1504.43	11.35	1493.08	0.00	NA	14.2	229.0	17.1	18.4	183.0	24.6	719.0	NA	261.0	127.0	NA	NA
20.0' - 3.0'	9/28/2011	1504.43	6.36	1498.07	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/10/2011	1504.43	6.43	1498.00	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/14/2012	1504.43	7.19	1497.24	0.00	NA	<1.0	2.4	<1.0	<1.0	3.3	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/3/2013	1504.43	8.74	1495.69	0.00	NA	<1.0	14.5	<1.0	<1.0	5.1	<2.0	8.0	NA	1.4	<1.0	NA	NA
	2/4/2014	1504.43	7.58	1496.85	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/4/2014	1504.43	6.45	1497.98	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1504.43	14.04	1490.39	0.00	NA	60.2	409.0	219.0	23.5	2080.0	72.1	1760.0	<5.0	389.0	81.0	<0.02	<2.0
	10/6/2015	1504.43	12.12	1492.31	0.00	NA	11.2	115.0	83.7	5.4	581.0	11.4	399.0	<5.0	91.5	11.7	<0.02	<2.0
	3/30/2016	1504.43	8.25	1496.18	0.00	NA	14.7	170.0	97.8	8.1	578.0	15.9	446.0	<5.0	72.0	11.7	<0.02	<2.0
	6/23/2016	1504.43	9.41	1495.02	0.00	NA	67.2	719.0	310.0	23.6	2340.0	77.8	2190.0	<5.0	383.0	82.1	0.024	<1.0
	12/27/2016	1504.43	8.80	1495.63	0.00	NA	18.0	120.0	46.9	<5.0	272.0	<10.0	233.0	NA	41.4	6.5	NA	NA
MW-11s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 23.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/4/2010	1499.42	6.50	1492.92	0.00	NA	52.6	592.0	681.0	71.2	271.0	144.0	2340.0	NA	717.0	196.0	NA	NA
23.0' - 3.0'	9/28/2011	1499.42	1.51	1497.91	0.00	NA	32.8	437.0	559.0	41.1	164.0	99.8	1760.0	NA	544.0	165.0	NA	NA
	11/10/2011	1499.42	1.65	1497.77	0.00	NA	44.7	724.0	764.0	65.3	254.0	80.6	2370.0	NA	606.0	245.0	NA	NA
	6/14/2012	1499.42	2.35	1497.07	0.00	NA	45.2	483.0	637.0	49.7	211.0	105.0	1890.0	NA	547.0	168.0	NA	NA
	10/3/2013	1499.42	3.92	1495.50	0.00	NA	80.9	306.0	563.0	44.9	139.0	64.1	1470.0	NA	509.0	150.0	NA	NA
	2/6/2014	1499.42	2.87	1496.55	0.00	NA	96.2	479.0	812.0	69.4	222.0	117.0	2240.0	NA	739.0	221.0	NA	NA
	6/4/2014	1499.42	1.85	1497.57	0.00	NA	119.0	426.0	599.0	46.9	241.0	83.2	1620.0	NA	517.0	162.0	NA	NA
	11/21/2014	1499.42	9.22	1490.20	0.00	NA	143.0	335.0	544.0	41.9	108.0	85.1	1370.0	<5.0	515.0	133.0	<0.02	<2.0
	10/8/2015	1499.42	7.33	1492.09	0.00	NA	37.2	167.0	477.0	38.0	86.5	43.4	1130.0	<5.0	549.0	150.0	<0.019	<2.0
	4/1/2016	1499.42	3.51	1495.91	0.00	NA	30.5	181.0	467.0	46.9	111.0	62.6	1160.0	<5.0	519.0	141.0	<0.02	<2.0
	6/23/2016	1499.42	4.73	1494.69	0.00	NA	26.3	166.0	461.0	42.4	96.1	58.5	1070.0	<5.0	480.0	139.0	<0.019	<2.0
	12/27/2017	1499.42	3.90	1495.52	0.00	NA	16.8	71.5	148.0	16.1	41.9	30.4	575.0	NA	323.0	91.1	NA	NA
MW-12s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 20.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1487.03	8.18	1478.85	0.00	NA	68.9	238.0	16.3	3.1	6.7	4.4	15.7	NA	3.6	1.1	NA	NA
20.0' - 3.0'	9/26/2011	1487.03	0.66	1486.37	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/10/2011	1487.03	4.38	1482.65	0.00	NA	51.4	266.0	53.2	6.6	10.3	2.3	38.5	NA	6.6	<1.0	NA	NA
	6/13/2012	1487.03	3.61	1483.42	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/3/2013	1487.03	5.67	1481.36	0.00	NA	33.5	133.0	22.3	3.9	8.1	5.4	27.9	NA	3.9	<1.0	NA	NA
	2/3/2014	1487.03	4.98	1482.05	0.00	NA	51.8	198.0	31.7	5.9	10.2	<2.0	22.2	NA	1.2	<1.0	NA	NA
	6/2/2014	1487.03	4.10	1482.93	0.00	NA	37.3	147.0	19.5	3.5	9.1	<2.0	20.8	NA	2.2	<1.0	NA	NA
	11/21/2014	1487.03	8.57	1478.46	0.00	NA	60.7	134.0	5.2	2.2	2.0	<2.0	3.2	<1.0	<1.0	<1.0	<0.02	<2.0
	10/7/2015	1487.03	5.87	1481.16	0.00	NA	12.8	8.8	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1487.03	4.69	1482.34	0.00	NA	46.9	99.7	5.2	4.6	4.1	<2.0	8.6	<1.0	<1.0	<1.0	<0.02	<2.0
	6/23/2016	1487.03	7.41	1479.62	0.00	NA	68.3	156.0	6.6	4.8	7.1	<2.0	10.5	<1.0	<1.0	<1.0	<0.019	<2.0
	12/28/2016	1487.03	1.26	1485.77	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.
Refer to the Well Construction Details for specific depths and elevations.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)[a]	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
MW-13s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 17.5'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1472.23	15.96	1456.27	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
17.5' - 3.0'	9/26/2011	1472.23	14.55	1457.68	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1472.23	15.25	1456.98	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/13/2012	1472.23	14.64	1457.59	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	1472.23	15.53	1456.70	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/3/2014	1472.23	14.89	1457.34	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/2/2014	1472.23	14.68	1457.55	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1472.23	16.17	1456.06	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1472.23	15.59	1456.64	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1472.23	15.86	1456.37	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/23/2016	1472.23	16.07	1456.16	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/28/2016	1472.23	14.44	1457.79	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-14s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 20.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/3/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20.0' - 3.0'	9/28/2011	1493.49	2.29	1491.20	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/10/2011	1493.49	6.71	1486.78	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/14/2012	1493.49	2.86	1490.63	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/3/2013	1493.49	8.14	1485.35	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/6/2014	1493.49	7.63	1485.86	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/3/2014	1493.49	7.19	1486.30	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1493.49	10.53	1482.96	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1493.49	9.43	1484.06	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	3/30/2016	1493.49	7.71	1485.78	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/23/2016	1493.49	9.21	1484.28	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/27/2016	1493.49	6.11	1487.38	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-15s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 20.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/3/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
20.0' - 3.0'	9/26/2011	1457.60	3.49	1454.11	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1457.60	3.51	1454.09	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/13/2012	1457.60	4.96	1452.64	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	1457.60	4.25	1453.35	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/3/2014	1457.60	7.63	1449.97	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/2/2014	1457.60	5.15	1452.45	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1457.60	10.13	1447.47	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/7/2015	1457.60	10.32	1447.28	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1457.60	7.18	1450.42	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1457.60	10.28	1447.32	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/28/2016	1457.60	6.50	1451.10	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.
Refer to the Well Construction Details for specific depths and elevations.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)[a]	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
MW-16s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 38.2'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/3/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
38.2' - 18.2'	9/26/2011	1482.92	32.80	1450.12	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1482.92	32.76	1450.16	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/13/2012	1482.92	32.45	1450.47	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	1482.92	32.79	1450.13	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/3/2014	1482.92	NM	NA	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	1482.92	32.73	1450.19	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1482.92	32.85	1450.07	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/7/2015	1482.92	32.76	1450.16	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1482.92	32.71	1450.21	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1482.92	32.75	1450.17	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/28/2016	1482.92	32.78	1450.14	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-17s	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 30.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/3/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
30.0' - 10.0'	9/26/2011	1502.17	15.47	1486.70	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/10/2011	1502.17	15.46	1486.71	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/14/2012	1502.17	16.61	1485.56	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/3/2013	1502.17	17.18	1484.99	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/6/2014	1502.17	16.66	1485.51	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/4/2014	1502.17	16.05	1486.12	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1502.17	19.84	1482.33	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1502.17	18.76	1483.41	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1502.17	16.20	1485.97	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1502.17	17.47	1484.70	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	12/28/2016	1502.17	15.88	1486.29	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-1D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	1512.22	54.61	1457.61	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
Total Depth: 70.0'	4/6/2009	1512.22	42.90	1469.32	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	3/9/2010	1512.22	43.11	1469.11	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Open Rock Interval:	8/3/2010	1512.22	43.67	1468.55	0.00	NA	<1.0	<1.0	<1.0	<1.0	2.4	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
70.0' - 40.0'	9/28/2011	1512.22	41.79	1470.43	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/10/2011	1512.22	41.65	1470.57	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/14/2012	1512.22	41.29	1470.93	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/4/2013	1512.22	41.41	1470.81	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/5/2014	1512.22	40.80	1471.42	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/4/2014	1512.22	40.65	1471.57	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1512.22	43.03	1469.19	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/8/2015	1512.22	42.91	1469.31	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	4/1/2016	1512.22	41.33	1470.89	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	6/24/2016	1512.22	41.54	1470.68	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/29/2016	1512.22	41.49	1470.73	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.
Refer to the Well Construction Details for specific depths and elevations.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)[a]	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
MW-2D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	1512.91	17.53	1495.38	0.00	NA	17.7	14.6	<5.0	<5.0	7.0	<5.0	47.6	<5.0	<5.0	5.2	<0.02	<5.0
Total Depth: 85.0'	4/6/2009	1512.91	14.64	1498.27	0.00	NA	18.5	25.5	145.0	11.0	17.8	16.1	19.2	NA	56.5	<5.0	NA	NA
	3/9/2010	1512.91	15.43	1497.48	0.00	NA	18.1	16.7	8.9	10.7	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Open Rock Interval:	8/3/2010	1512.91	17.14	1495.77	0.00	NA	12.4	4.5	15.9	1.7	2.2	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
85.0' - 45.0'	9/28/2011	1512.91	12.46	1500.45	0.00	NA	10.1	27.3	68.7	5.4	10.3	9.0	74.0	NA	47.3	2.2	NA	NA
	11/10/2011	1512.91	11.28	1501.63	0.00	NA	9.2	25.4	46.3	6.1	4.2	<2.0	10.3	NA	4.8	<1.0	NA	NA
	6/14/2012	1512.91	12.91	1500.00	0.00	NA	6.8	19.6	50.8	7.3	6.5	2.0	33.6	NA	19.5	<1.0	NA	NA
	10/4/2013	1512.91	14.95	1497.96	0.00	NA	5.9	10.9	47.5	6.8	5.1	5.9	27.1	NA	12.0	<1.0	NA	NA
	2/5/2014	1512.91	13.89	1499.02	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/4/2014	1512.91	14.16	1498.75	0.00	NA	5.4	7.1	26.9	4.6	3.4	<2.0	9.0	NA	1.3	<1.0	NA	NA
	11/21/2014	1512.91	20.61	1492.30	0.00	NA	4.6	5.5	20.6	5.1	2.1	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/8/2015	1512.91	23.53	1489.38	0.00	NA	8.0	4.5	11.5	3.8	1.7	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	4/1/2016	1512.91	20.10	1492.81	0.00	NA	5.7	3.3	10.7	5.1	2.9	<2.0	9.1	<1.0	1.2	<1.0	<0.019	<2.0
	6/24/2016	1512.91	19.95	1492.96	0.00	NA	4.9	1.8	<1.0	1.8	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.020	<2.0
	12/29/2016	1512.91	19.44	1493.47	0.00	NA	5.9	2.2	7.2	4.2	2.8	<2.0	12.7	NA	7.3	<1.0	NA	NA
MW-5D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	1515.23	62.17	1453.06	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
Total Depth: 85.0'	4/6/2009	1515.23	54.87	1460.36	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	3/9/2010	1515.23	55.77	1459.46	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Open Rock Interval:	8/3/2010	1515.23	59.83	1455.40	0.00	NA	<1.0	<1.0	<1.0	<1.0	1.2	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
85.0' - 45.5'	9/28/2011	1515.23	55.38	1459.85	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/10/2011	1515.23	54.37	1460.86	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/14/2012	1515.23	56.70	1458.53	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/4/2013	1515.23	59.09	1456.14	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/5/2014	1515.23	57.02	1458.21	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/4/2014	1515.23	57.17	1458.06	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1515.23	63.62	1451.61	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/7/2015	1515.23	62.97	1452.26	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	4/1/2016	1515.23	58.60	1456.63	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	6/24/2016	1515.23	60.84	1454.39	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/29/2016	1515.23	60.24	1454.99	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-7D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 60.0'	4/6/2009	1513.83	26.84	1486.99	0.00	NA	42.0	18.7	3.7	<1.0	1.1	<2.0	<3.0	NA	1.7	<1.0	NA	NA
	3/9/2010	1513.83	27.35	1486.48	0.00	NA	47.4	6.2	1.1	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Open Rock Interval:	8/3/2010	1513.83	30.28	1483.55	0.00	NA	30.0	5.7	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
60.0' - 45.0'	9/28/2011	1513.83	27.75	1486.08	0.00	NA	23.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/11/2011	1513.83	28.78	1485.05	0.00	NA	23.3	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/14/2012	1513.83	25.80	1488.03	0.00	NA	13.3	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/4/2013	1513.83	17.69	1496.14	0.00	NA	2.6	<1.0	<1.0	<1.0	4.9	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/5/2014	1513.83	20.70	1493.13	0.00	NA	7.6	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/4/2014	1513.83	19.37	1494.46	0.00	NA	4.8	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1513.83	20.88	1492.95	0.00	NA	5.0	4.6	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/8/2015	1513.83	19.08	1494.75	0.00	NA	9.1	7.5	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1513.83	14.94	1498.89	0.00	NA	5.3	3.1	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1513.83	16.12	1497.71	0.00	NA	7.2	4.5	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/29/2016	1513.83	15.34	1498.49	0.00	NA	7.4	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.
Refer to the Well Construction Details for specific depths and elevations.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)[a]	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
MW-8D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 100.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/8/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1525.71	72.37	1453.34	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
100.0' - 80.0'	9/27/2011	1525.71	67.20	1458.51	0.00	NA	<1.0	<1.0	<1.0	<1.0	3.1	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1525.71	66.12	1459.59	0.00	NA	<1.0	<1.0	<1.0	<1.0	3.1	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/13/2012	1525.71	69.37	1456.34	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/4/2013	1525.71	72.43	1453.28	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/4/2014	1525.71	68.41	1457.30	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/3/2014	1525.71	68.37	1457.34	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/24/2014	1525.71	74.01	1451.70	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1525.71	74.55	1451.16	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1525.71	69.10	1456.61	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1525.71	71.84	1453.87	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	12/27/2016	1525.71	71.40	1454.31	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-9D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 172.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/8/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1525.30	73.06	1452.24	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
172.0' - 152.0'	9/27/2011	1525.30	67.44	1457.86	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1525.30	66.44	1458.86	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/13/2012	1525.30	67.72	1457.58	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/4/2013	1525.30	72.38	1452.92	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/4/2014	1525.30	69.60	1455.70	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/3/2014	1525.30	69.39	1455.91	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/24/2014	1525.30	74.50	1450.80	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1525.30	74.35	1450.95	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1525.30	69.37	1455.93	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1525.30	72.68	1452.62	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	12/27/2016	1525.30	71.16	1454.14	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-10D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 186.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/8/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1503.97	74.96	1429.01	0.00	NA	1.4	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
186.0' - 166.0'	9/27/2011	1503.97	68.98	1434.99	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1503.97	69.61	1434.36	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/13/2012	1503.97	68.75	1435.22	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/4/2013	1503.97	69.22	1434.75	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/4/2014	1503.97	66.65	1437.32	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/3/2014	1503.97	66.43	1437.54	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/24/2014	1503.97	70.64	1433.33	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1503.97	70.38	1433.59	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	4/1/2016	1503.97	66.54	1437.43	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	6/22/2016	1503.97	68.96	1435.01	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.020	<2.0
	12/28/2016	1503.97	67.97	1436.00	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.
Refer to the Well Construction Details for specific depths and elevations.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)[a]	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
MW-11D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 128.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/8/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1499.18	78.31	1420.87	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
128.0' - 108.0'	9/27/2011	1499.18	67.95	1431.23	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1499.18	69.23	1429.95	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/13/2012	1499.18	70.68	1428.50	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/4/2013	1499.18	73.42	1425.76	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/4/2014	1499.18	72.00	1427.18	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/3/2014	1499.18	72.59	1426.59	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/24/2014	1499.18	76.94	1422.24	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1499.18	76.28	1422.90	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	4/1/2016	1499.18	73.03	1426.15	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/22/2016	1499.18	74.74	1424.44	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	12/27/2016	1499.18	73.89	1425.29	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-12D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 201.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/8/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1487.48	66.57	1420.91	0.00	NA	4.6	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
201.0' - 181.0'	9/27/2011	1487.48	59.53	1427.95	0.00	NA	5.3	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1487.48	61.07	1426.41	0.00	NA	7.9	17.6	<1.0	<1.0	<1.0	<2.0	4.4	NA	<1.0	<1.0	NA	NA
	6/13/2012	1487.48	62.69	1424.79	0.00	NA	2.3	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	8/9/2012	1487.48	64.39	1423.09	0.00	NA	4.4	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/4/2013	1487.48	65.33	1422.15	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/4/2014	1487.48	63.96	1423.52	0.00	NA	1.4	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/3/2014	1487.48	64.38	1423.10	0.00	NA	1.7	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/24/2014	1487.48	68.31	1419.17	0.00	NA	2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1487.48	68.01	1419.47	0.00	NA	2.6	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1487.48	65.09	1422.39	0.00	NA	2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/23/2016	1487.48	66.76	1420.72	0.00	NA	2.8	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/28/2016	1487.48	65.88	1421.60	0.00	NA	2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
MW-13D	4/5/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/10/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Depth: 182.0'	4/6/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/8/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screened Interval:	8/2/2010	1471.85	51.02	1420.83	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
182.0' - 162.0'	9/27/2011	1471.85	43.94	1427.91	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1471.85	45.49	1426.36	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/13/2012	1471.85	47.11	1424.74	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/4/2013	1471.85	49.72	1422.13	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/4/2014	1471.85	48.44	1423.41	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/3/2014	1471.85	48.76	1423.09	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/24/2014	1471.85	52.69	1419.16	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/6/2015	1471.85	52.45	1419.40	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	3/31/2016	1471.85	49.48	1422.37	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	6/23/2016	1471.85	51.11	1420.74	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	12/28/2016	1471.85	50.28	1421.57	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.
Refer to the Well Construction Details for specific depths and elevations.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)*	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
OW-1	6/6/2007	1513.48	4.22	1509.26	0.00	NA	17.2	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	NA	<5.0	<5.0	NA	NA
	2/21/2008	1513.48	NM	NM	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	NA	<5.0	<5.0	NA	NA
Total Depth: 11.58'	7/10/2008	1513.48	3.85	1509.63	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
	4/6/2009	1513.48	4.39	1509.09	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Screened Interval:	3/8/2010	1513.48	4.91	1508.57	0.00	NA	7.1	19.7	<1.0	<1.0	12.8	<2.0	17.0	NA	1.3	1.4	NA	NA
11.58' - 1.0'	8/2/2010	1513.48	6.31	1507.17	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/26/2011	1513.48	2.20	1511.28	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/8/2011	1513.48	3.13	1510.35	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/2012	1513.48	2.86	1510.62	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/2/2013	1513.48	4.43	1509.05	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2014	1513.48	4.17	1509.31	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	1513.48	3.02	1510.46	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/20/2014	1513.48	8.24	1505.24	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/6/2015	1513.48	5.17	1508.31	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/30/2016	1513.48	5.17	1508.31	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/22/2016	1513.48	4.70	1508.78	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2016	1513.48	NM	NM	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
OW-2	6/6/2007	1512.77	3.73	1509.04	0.00	NA	65.8	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	NA	<5.0	<5.0	NA	NA
	2/21/2008	1512.77	NM	NM	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	NA	<5.0	<5.0	NA	NA
Total Depth: 10.98'	7/10/2008	1512.77	3.15	1509.62	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
	4/6/2009	1512.77	3.65	1509.12	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Screened Interval:	3/8/2010	1512.77	4.25	1508.52	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10.98' - 1.0'	8/2/2010	1512.77	5.59	1507.18	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/26/2011	1512.77	1.50	1511.27	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/8/2011	1512.77	2.40	1510.37	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/2012	1512.77	2.14	1510.63	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/2/2013	1512.77	3.75	1509.02	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2014	1512.77	4.88	1507.89	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	1512.77	2.37	1510.40	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/20/2014	1512.77	7.59	1505.18	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/6/2015	1512.77	4.44	1508.33	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/30/2016	1512.77	4.56	1508.21	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/22/2016	1512.77	4.04	1508.73	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2016	1512.77	5.82	1506.95	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
OW-3	6/6/2007	1512.49	3.58	1508.91	0.00	NA	12.3	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	NA	<5.0	<5.0	NA	NA
	2/21/2008	1512.49	NM	NM	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	NA	<5.0	<5.0	NA	NA
Total Depth: 10.92'	7/10/2008	1512.49	2.96	1509.53	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
	4/6/2009	1512.49	3.48	1509.01	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Screened Interval:	3/8/2010	1512.49	4.06	1508.43	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10.92' - 1.0'	8/2/2010	1512.49	5.44	1507.05	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/26/2011	1512.49	1.29	1511.20	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/8/2011	1512.49	2.22	1510.27	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/2012	1512.49	1.98	1510.51	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NS
	10/2/2013	1512.49	3.57	1508.92	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2014	1512.49	4.02	1508.47	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	1512.49	2.15	1510.34	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/20/2014	1512.49	7.39	1505.10	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/6/2015	1512.49	4.25	1508.24	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/30/2016	1512.49	4.29	1508.20	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/22/2016	1512.49	3.83	1508.66	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2016	1512.49	5.63	1506.86	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/18/17

Table G-1
Groundwater Analytical Data Summary
Groundwater Monitoring Wells
Lewis Brothers

Well Number	Date Sampled	Well Head Elevation (feet)	Depth to Groundwater (feet)*	Relative Groundwater Elevation (feet)	Product Thickness (feet)	Remediation Status	MTBE (ug/L)	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	1,2-EDC (ug/L)	1,2,4-TMB (ug/L)	1,3,5-TMB (ug/L)	1,2-EDB (ug/L)	Lead (ug/L)
							20	**5**	**700**	**840**	**1,000**	**100**	**10,000**	**5**	**15**	**420**	**0.05**	**5**
OW-4	6/6/2007	1510.93	2.81	1508.12	0.00	NA	41.8	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	NA	<5.0	<5.0	NA	NA
	2/21/2008	1510.93	NM	NM	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	NA	<5.0	<5.0	NA	NA
Total Depth: 9.95'	7/10/2008	1510.93	2.29	1508.64	0.00	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.02	<5.0
	4/6/2009	1510.93	2.82	1508.11	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
Screened Interval:	3/8/2010	1510.93	3.39	1507.54	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
9.95' -1.0'	8/2/2010	1510.93	4.79	1506.14	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	9/26/2011	1510.93	0.68	1510.25	0.00	NA	7.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/9/2011	1510.93	1.59	1509.34	0.00	NA	769.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/12/2012	1510.93	2.11	1508.82	0.00	NA	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/2/2013	1510.93	2.87	1508.06	0.00	NA	310.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	2/3/2014	1510.93	3.33	1507.60	0.00	NA	71.9	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/2/2014	1510.93	1.48	1509.45	0.00	NA	83.2	2.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/21/2014	1510.93	6.72	1504.21	0.00	NA	2.1	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.02	<2.0
	10/7/2015	1510.93	3.58	1507.35	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	4/1/2016	1510.93	3.64	1507.29	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	6/24/2016	1510.93	3.17	1507.76	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	<0.019	<2.0
	12/27/2016	1510.93	4.98	1505.95	0.00	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	NA	<1.0	NA	NA

NM Not Measured
MTBE Methyl Tert Butyl Ether
1,2-EDC 1,2-Dichloroethane
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane
NS Not Sampled
ND Not Detected
NA Not Analyzed

Total Depth, Open Rock Interval and Screened Interval measured from grade for reference only.

PA Act 2 Statewide Health Standards for Residential Used Aquifer setting

Shaded values indicate Act 2 Statewide Health Standard exceedances

01/19/17

Table G-2
Lentz Brothers Garage Property
Site Characterization Activities
Surface Water Analytical Data Summary

Well Number	Date Sampled	Stream Gauge Elevation (feet)	Gauge Level (feet)	Relative Surface Water Elevation (feet)	Product Thickness (feet)	Remediation Status	MT BE (µg/L)	Benzene (µg/L)	Ethyl-Benzene (µg/L)	Cumene (µg/L)	Toluene (µg/L)	Naphthalene (µg/L)	Xylenes (µg/L)	1,2-EDC (µg/L)	1,2,4-TMB (µg/L)	1,2,6-TMB (µg/L)	1,2-EDB (µg/L)	Lead (µg/L)
							61	1.0	600	61	600	10	2.10	61	61	61	61	NC
BW-1	6/13/2008	1505.14	NM	–	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.01	<5
	4/5/2009	1505.14	NM	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	3/2/2010	1505.14	NM	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	9/2/2010	1505.14	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/27/2011	1505.14	0.64	1505.82	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/5/2011	1505.14	0.68	1505.72	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/12/2012	1505.14	0.40	1505.54	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	1505.14	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2014	1505.14	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	1505.14	0.32	1505.46	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/20/2014	1505.14	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/6/2015	1505.14	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/30/2016	1505.14	0.45	1505.55	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	9/22/2016	1505.14	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2016	1505.14	dry	dry	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
BW-2	6/13/2008	1502.56	NM	–	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.01	<5
	4/5/2009	1502.56	NM	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	3/2/2010	1502.56	NM	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	9/2/2010	1502.56	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/27/2011	1502.56	0.46	1505.44	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/5/2011	1502.56	0.48	1505.43	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/12/2012	1502.56	0.26	1505.33	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	1502.56	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2014	1502.56	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	1502.56	0.22	1505.20	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/20/2014	1502.56	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/6/2015	1502.56	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/30/2016	1502.56	0.00	1505.56	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	9/22/2016	1502.56	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2016	1502.56	dry	dry	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
BW-3	6/13/2008	NC	–	–	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.01	<5
	4/5/2009	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	3/2/2010	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	9/2/2010	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/27/2011	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/5/2011	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	6/12/2012	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2014	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/20/2014	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/6/2015	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/30/2016	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	9/22/2016	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2016	NC	dry	dry	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
BW-4	6/13/2008	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/5/2009	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/2/2010	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/2/2010	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/27/2011	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/5/2011	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/2012	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2014	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/20/2014	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/6/2015	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/30/2016	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/22/2016	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2016	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
BW-5	6/13/2008	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/5/2009	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/2/2010	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/2/2010	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/27/2011	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/5/2011	NC	–	–	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/2012	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	10/2/2013	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2014	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2014	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	11/20/2014	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/6/2015	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/30/2016	NC	–	–	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA
	9/22/2016	NC	dry	dry	–	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2016	NC	dry	dry	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	NA	<1.0	<1.0	NA	NA

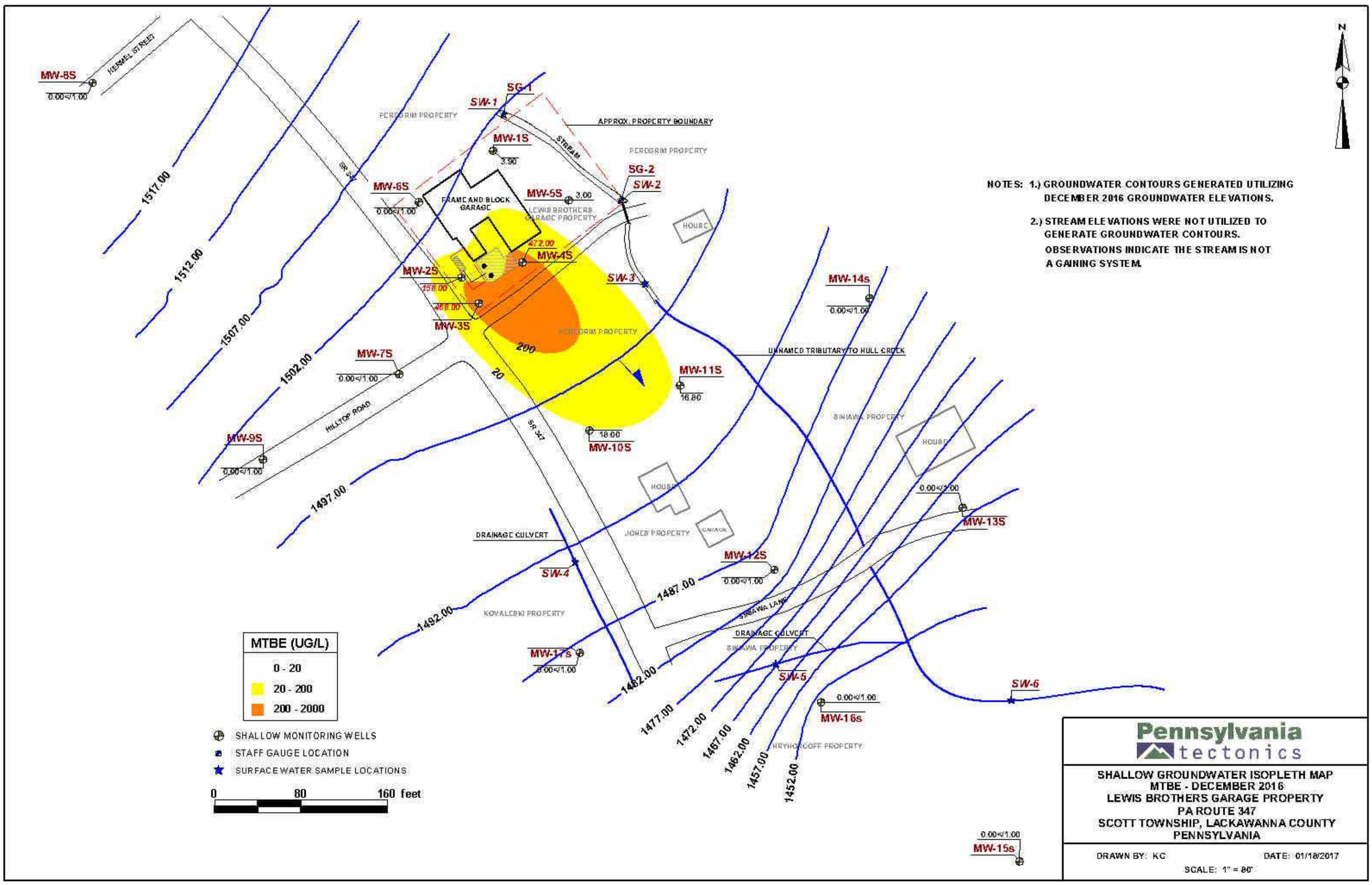
NC Not Calculated
NM Not Measured
NO Not Stream Gauge Installed
NS Not Sampled
ND Not Detected
NA Not Analyzed
NL Not Listed
MT BE Methyl Tert Butyl Ether
1,2,4-TMB 1,2,4-Trimethylbenzene
1,2,6-TMB 1,2,6-Trimethylbenzene
1,2-EDB 1,2-Dibromoethane

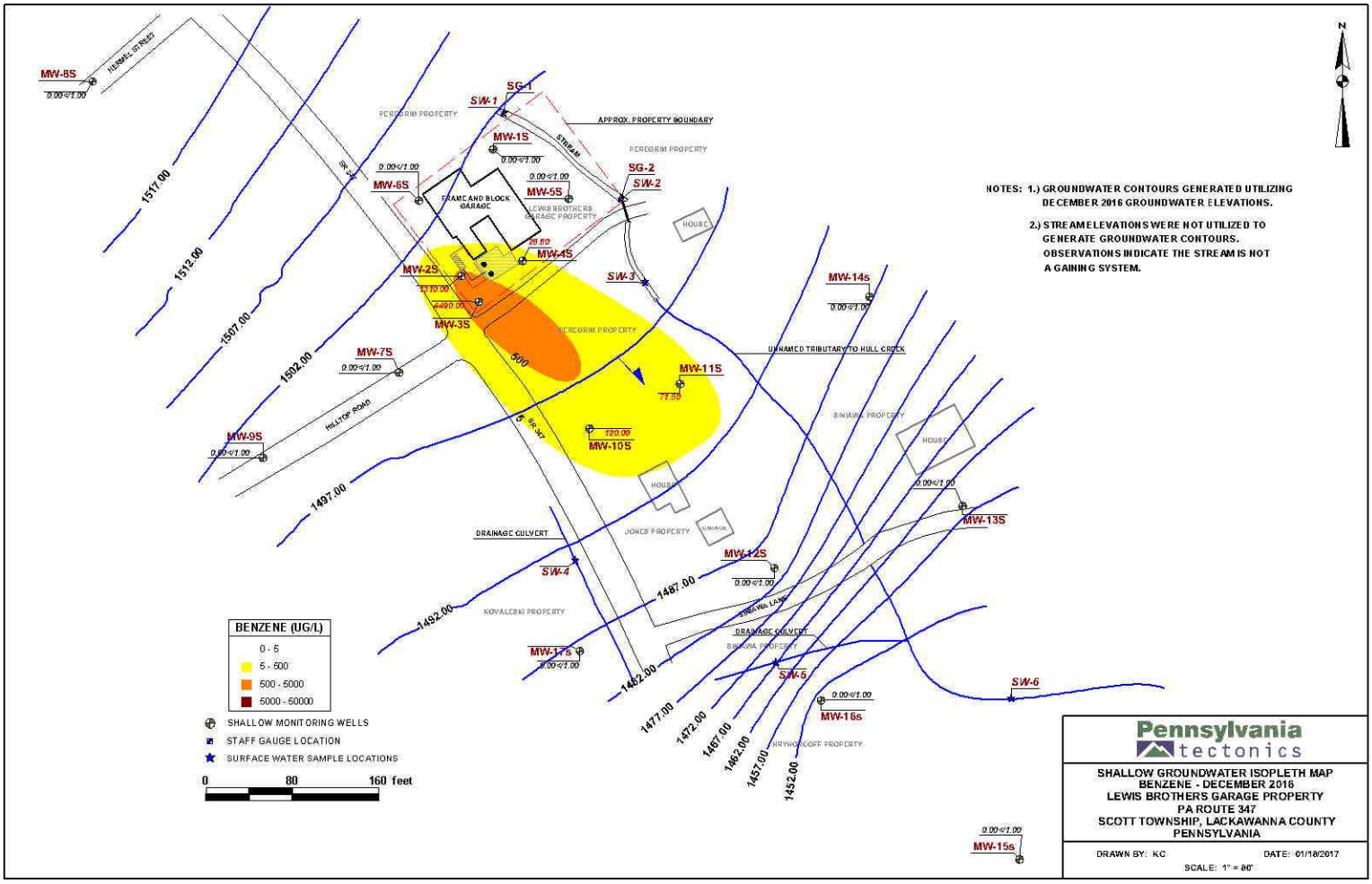
25 PA code Chapter 16 - Water Quality Toxics Management (Strategy) Standards

Shaded values indicate Chapter 16 Standards Exceeded

ATTACHMENT H

Groundwater Isopleth Maps


NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.
2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.
MTBE (UG/L)
0 - 20
20 - 200
200 - 2000
SHALLOW MONITORING WELLS
STAFF GAUGE LOCATION
SURFACE WATER SAMPLE LOCATIONS
0 80 160 feet
N
MW-8S
0.00<1.00
MW-6S
0.00<1.00
MW-1S
3.90
MW-5S
3.00
MW-2S
158.00
MW-4S
472.00
MW-3S
466.00
MW-7S
0.00<1.00
MW-9S
0.00<1.00
MW-10S
18.00
MW-11S
16.80
MW-14s
0.00<1.00
MW-13S
0.00<2.00
MW-12S
0.00<1.00
MW-17s
0.00<1.00
MW-16s
0.00<1.00
MW-15s
0.00<1.00
SG-1
SG-2
SW-1
SW-2
SW-3
SW-4
SW-5
SW-6
FRAME AND BLOCK GARAGE
LEWIS BROTHERS GARAGE PROPERTY
APPROX. PROPERTY BOUNDARY
STREAM
UNNAMED TRIBUTARY TO HULL CREEK
DRAINAGE CULVERT
HILLTOP ROAD
SR 347
HERMEL STREET
HOUSE
GARAGE
KOVALESKI PROPERTY
JONES PROPERTY
HRYHORCOFF PROPERTY
1517.00
1512.00
1507.00
1502.00
1497.00
1492.00
1487.00
1482.00
1477.00
1472.00
1467.00
1462.00
1457.00
1452.00
200
20
Pennsylvania tectonics
SHALLOW GROUNDWATER ISOPLETH MAP
MTBE - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA
DRAWN BY: KC
DATE: 01/18/2017
SCALE: 1" = 80'



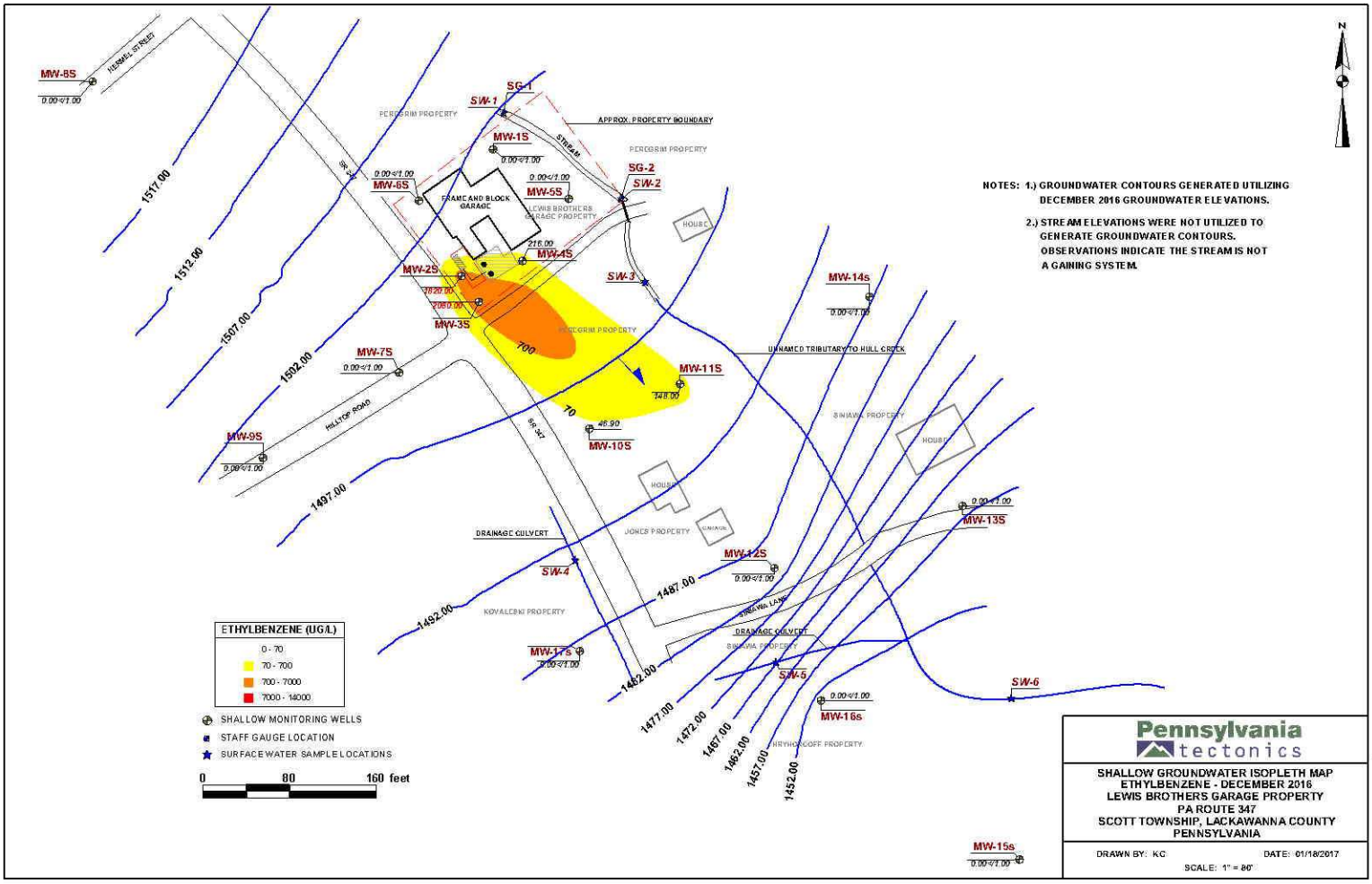
NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.

2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.

Pennsylvania tectonics

SHALLOW GROUNDWATER ISOPLETH MAP
BENZENE - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA

DRAWN BY: KC DATE: 01/18/2017
SCALE: 1" = 80'



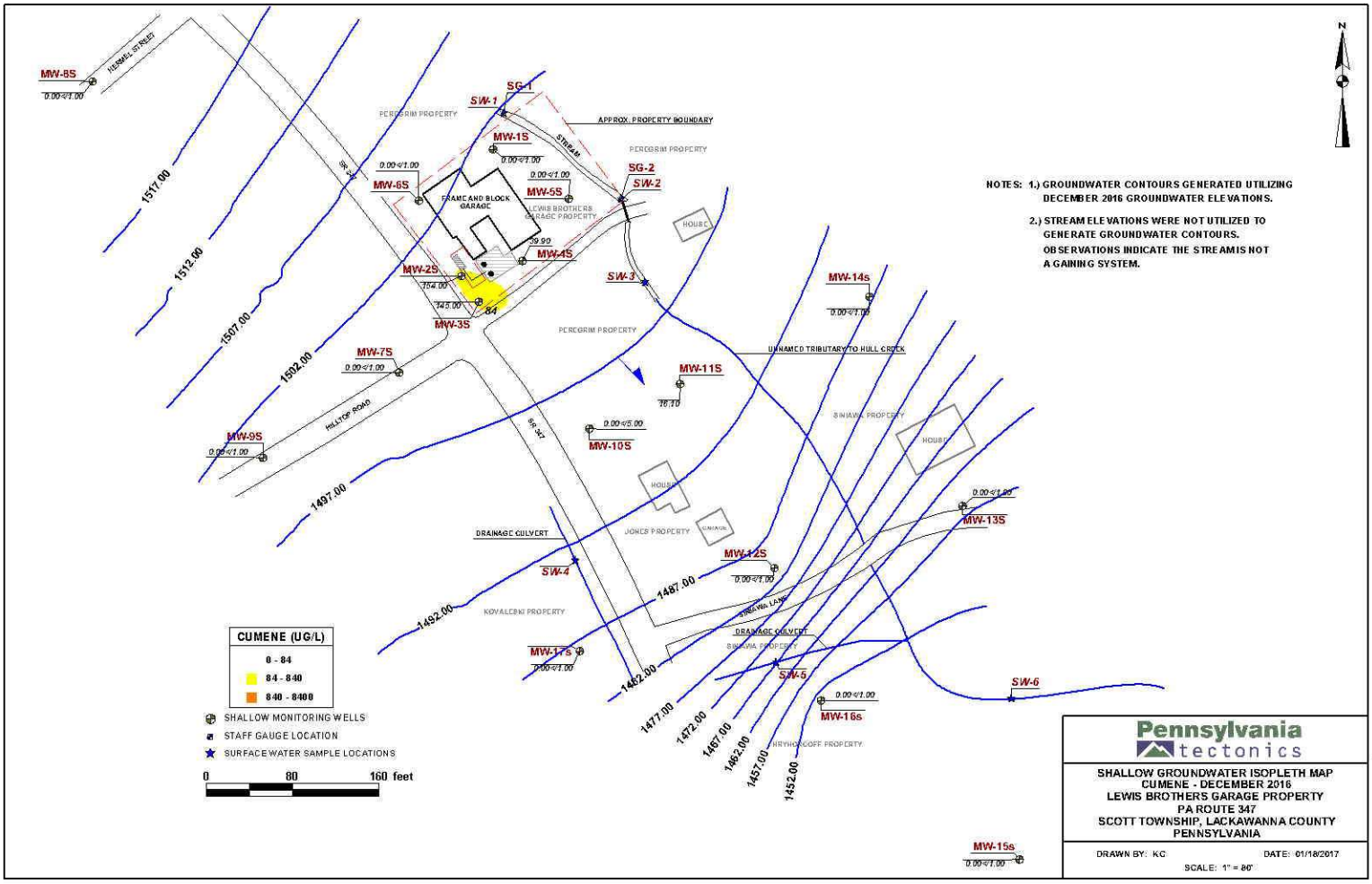
NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.

2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.

Pennsylvania tectonics

SHALLOW GROUNDWATER ISOPLETH MAP
ETHYLBENZENE - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA

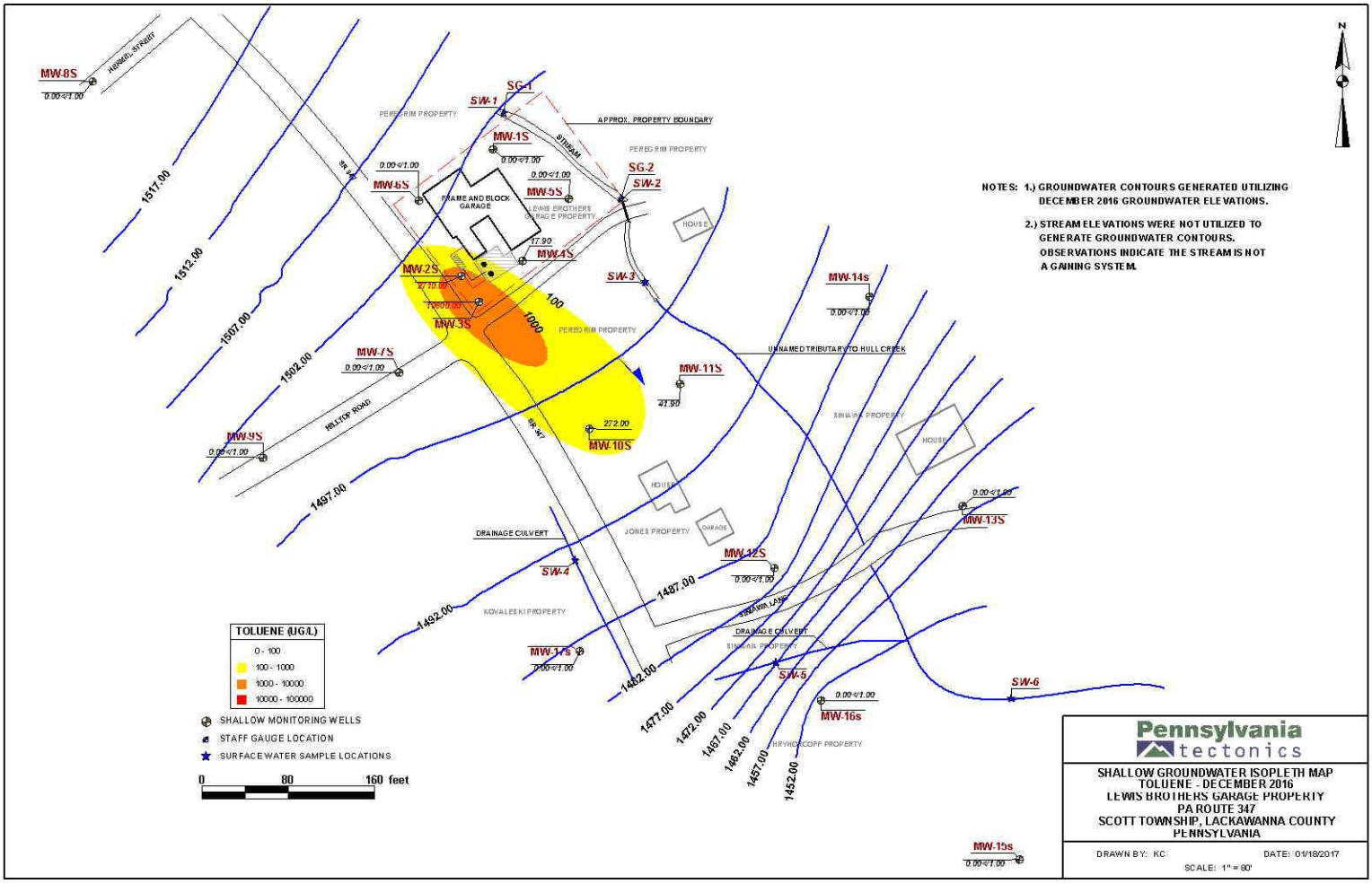
DRAWN BY: KC DATE: 01/18/2017
SCALE: 1" = 80'



Pennsylvania tectonics

SHALLOW GROUNDWATER ISOPLETH MAP
CUMENE - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA

DRAWN BY: KC DATE: 01/18/2017
SCALE: 1" = 80'



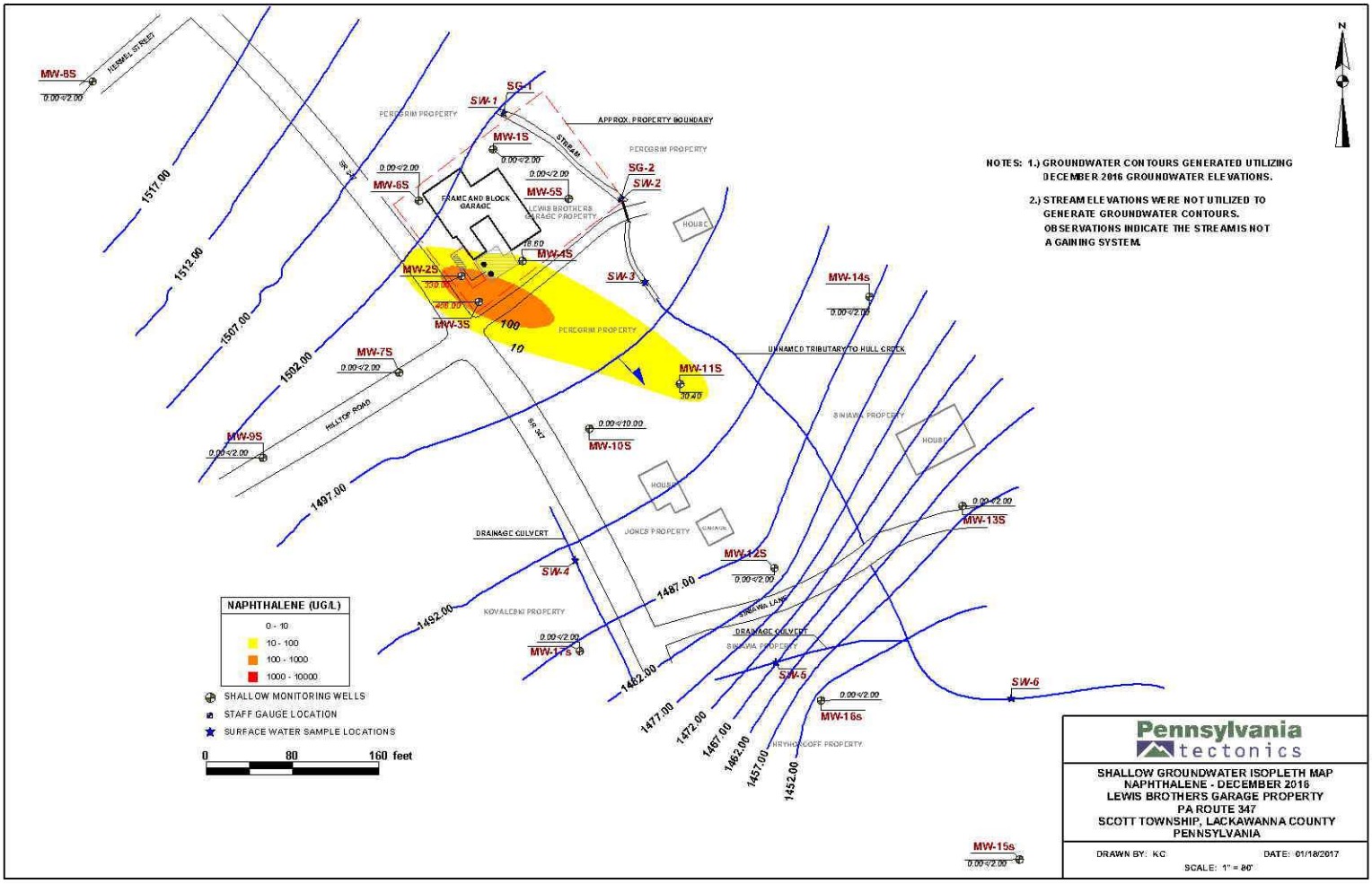
NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.

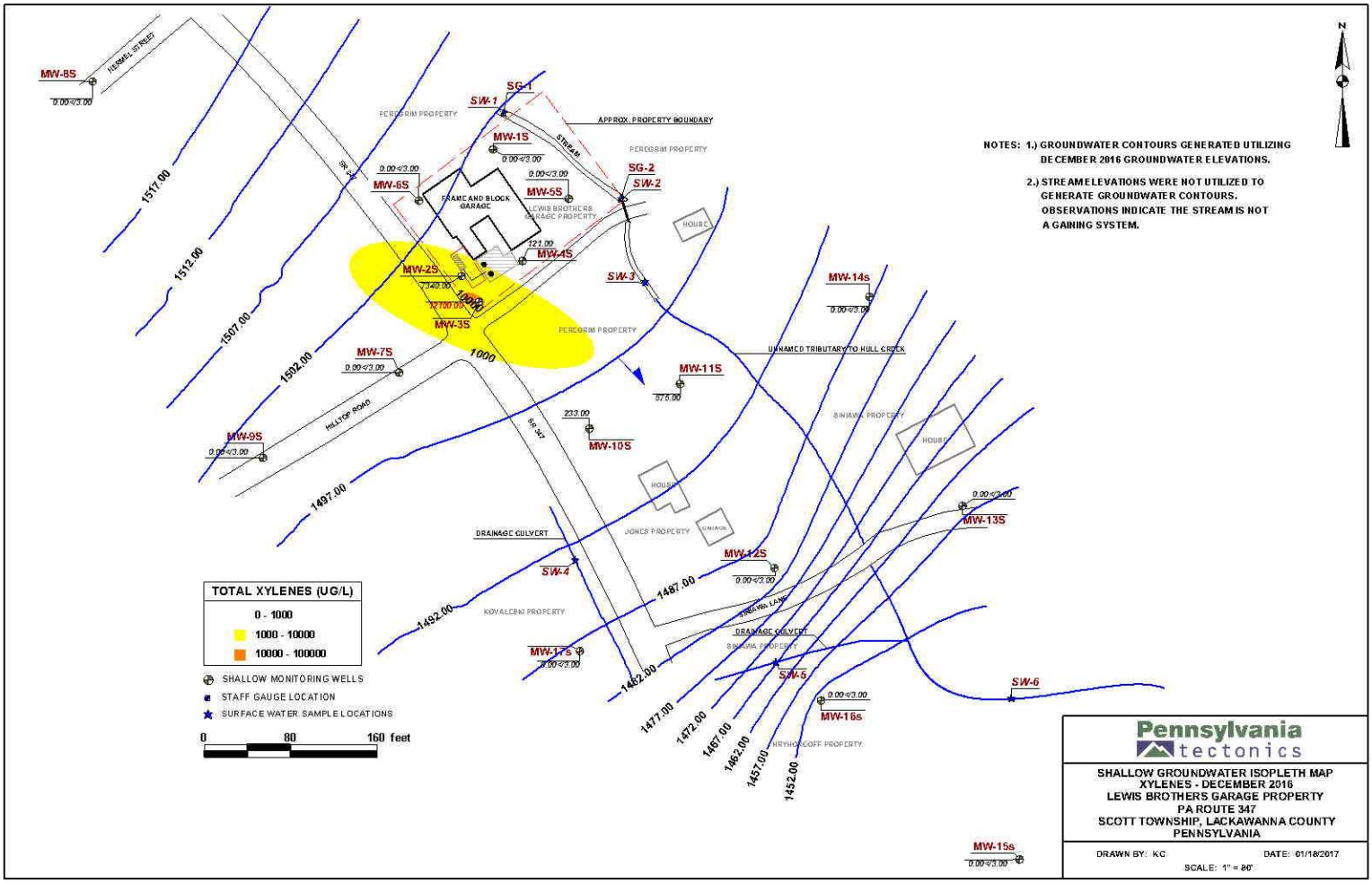
2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.

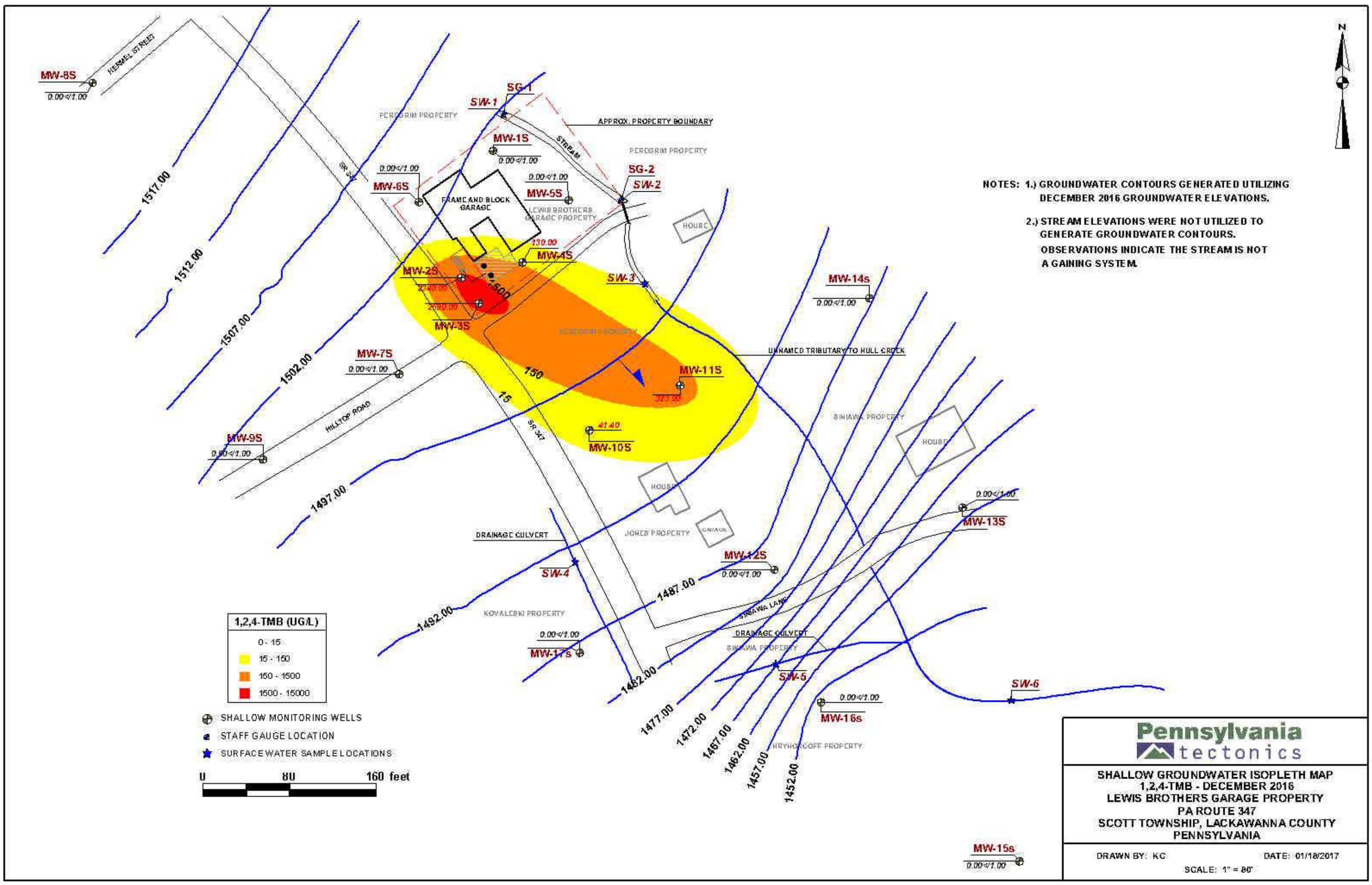
Pennsylvania tectonics

SHALLOW GROUNDWATER ISOPLETH MAP
TOLUENE - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA

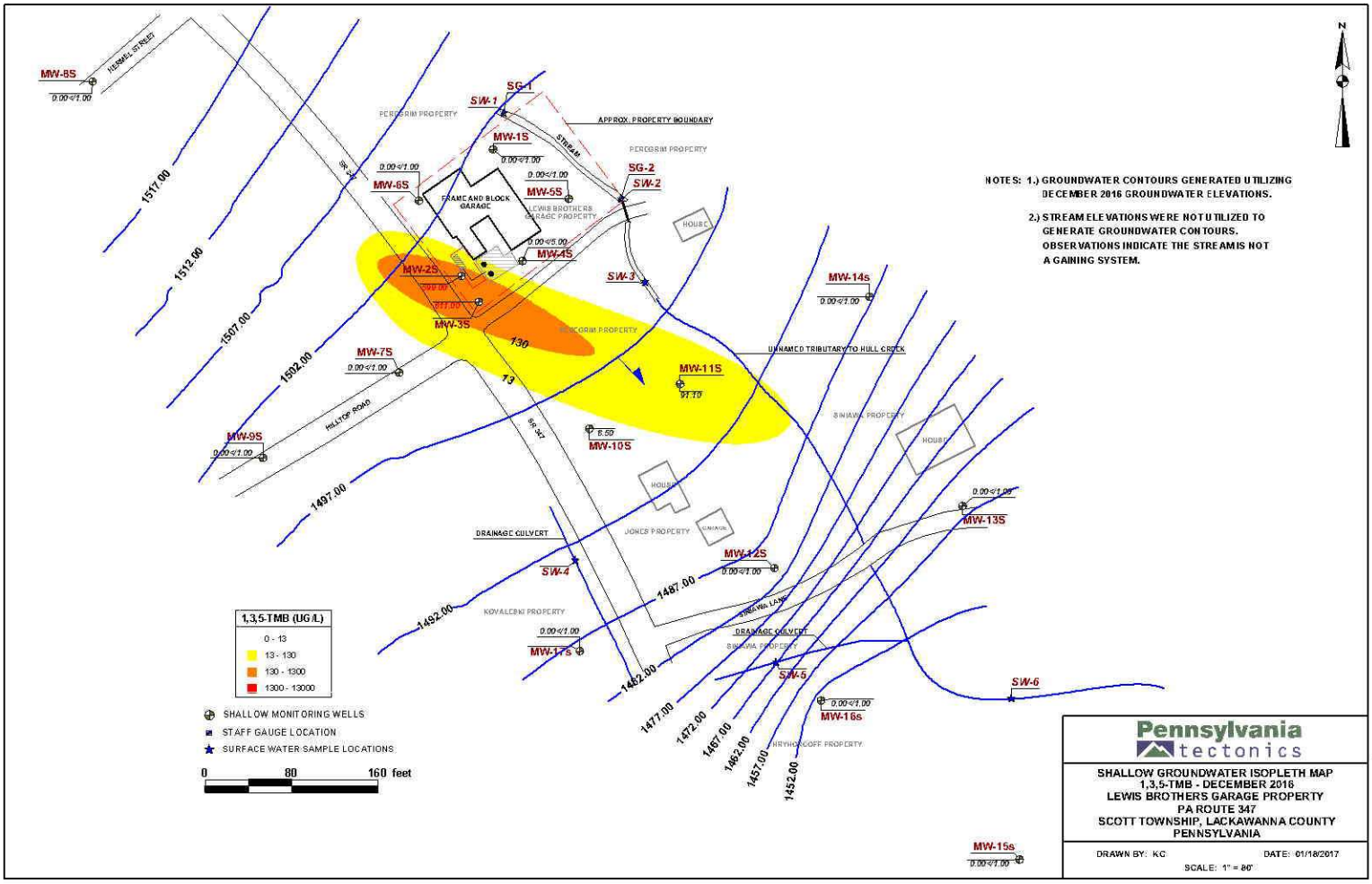
DRAWN BY: KC DATE: 01/18/2017
SCALE: 1" = 80'

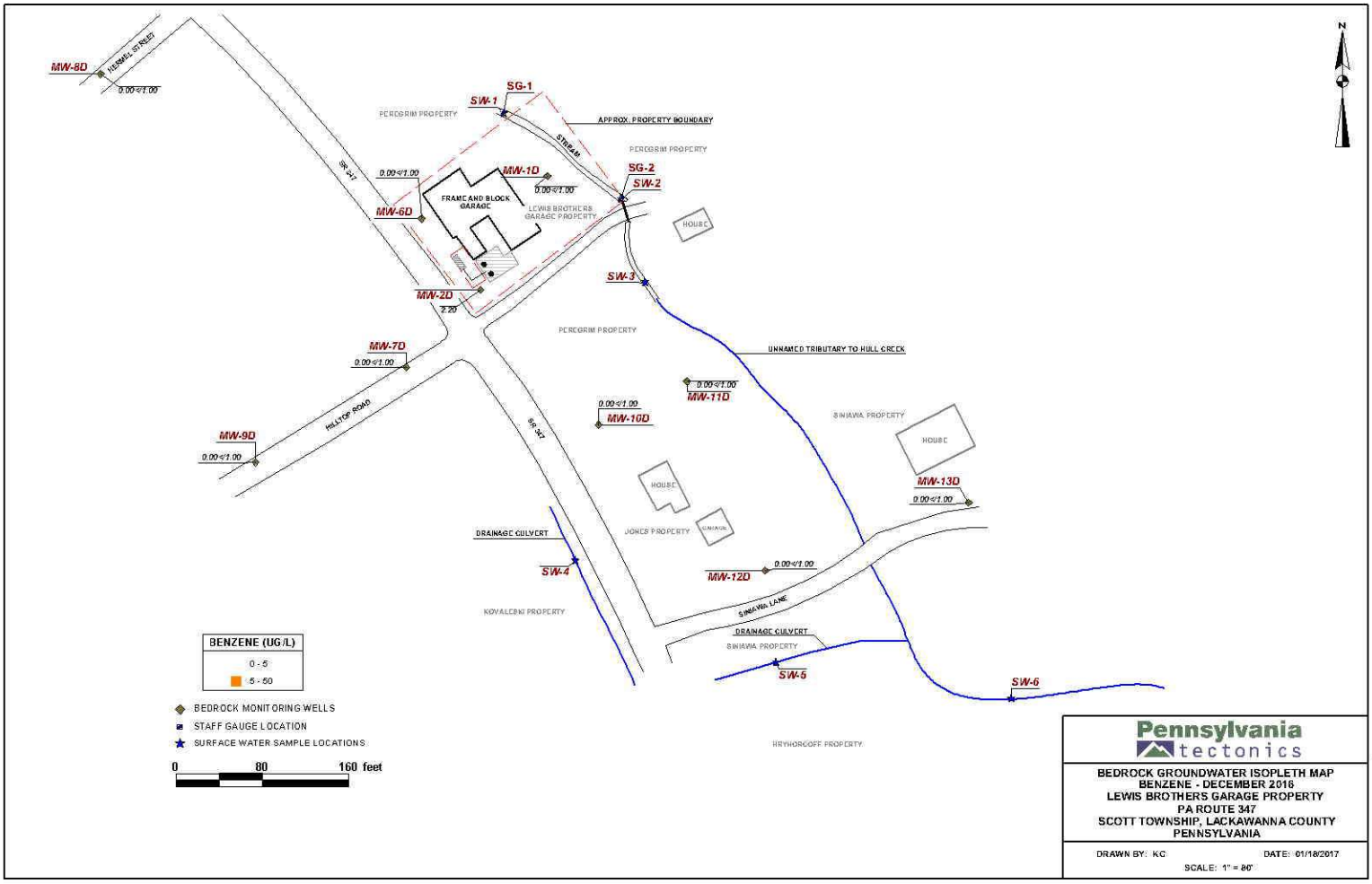

N
NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.
2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.
MW-8S
0.00<2.00
HEMMEL STREET
SG-1
SW-1
PEREGRIM PROPERTY
APPROX. PROPERTY BOUNDARY
MW-1S
0.00<2.00
STREAM
PEREGRIM PROPERTY
SG-2
SW-2
MW-6S
0.00<2.00
MW-5S
0.00<2.00
FRAME AND BLOCK GARAGE
LEWIS BROTHERS GARAGE PROPERTY
HOUSE
MW-4S
18.60
MW-2S
330.00
408.00
SW-3
MW-3S
100
10
PEREGRIM PROPERTY
MW-14s
0.00<2.00
MW-7S
0.00<2.00
UNNAMED TRIBUTARY TO HULL CREEK
MW-11S
30.40
HILLTOP ROAD
SR 347
MW-9S
0.00<2.00
0.00<10.00
MW-10S
SINIAVA PROPERTY
HOUSE
HOUSE
GARAGE
JONES PROPERTY
0.00<2.00
MW-13S
DRAINAGE CULVERT
SW-4
MW-12S
0.00<2.00
KOVALCHIK PROPERTY
SINIAVA LANE
DRAINAGE CULVERT
SINIAVA PROPERTY
0.00<2.00
MW-17S
SW-5
SW-6
0.00<2.00
MW-16s
HRYHOROFF PROPERTY
1517.00
1512.00
1507.00
1502.00
1497.00
1492.00
1487.00
1482.00
1477.00
1472.00
1467.00
1462.00
1457.00
1452.00
NAPHTHALENE (UG/L)
0 - 10
10 - 100
100 - 1000
1000 - 10000
SHALLOW MONITORING WELLS
STAFF GAUGE LOCATION
SURFACE WATER SAMPLE LOCATIONS
0
80
160 feet
MW-15s
0.00<2.00
Pennsylvania tectonics
SHALLOW GROUNDWATER ISOPLETH MAP
NAPHTHALENE - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA
DRAWN BY: KC
DATE: 01/18/2017
SCALE: 1" = 80'


NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.
2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.
N
MW-8S
0.00<3.00
HEMMEL STREET
SG-1
SW-1
PERCORIM PROPERTY
APPROX. PROPERTY BOUNDARY
MW-1S
0.00<3.00
STREAM
PERCORIM PROPERTY
SG-2
SW-2
0.00<3.00
MW-6S
0.00<3.00
MW-5S
0.00<3.00
FRAME AND BLOCK GARAGE
LEWIS BROTHERS GARAGE PROPERTY
HOUSE
121.00
MW-4S
SW-3
MW-2S
7340.00
10000
>100.00
MW-3S
1517.00
1512.00
1507.00
1502.00
1497.00
1492.00
1487.00
1482.00
1477.00
1472.00
1467.00
1462.00
1457.00
1452.00
1000
PERCORIM PROPERTY
MW-14s
0.00<3.00
UNNAMED TRIBUTARY TO HULL CREEK
MW-7S
0.00<3.00
HILLTOP ROAD
MW-11S
575.00
MW-9S
0.00<3.00
233.00
MW-10S
SR 347
SINIAVA PROPERTY
HOUSE
HOUSE
GARAGE
0.00<3.00
MW-13S
DRAINAGE CULVERT
JONES PROPERTY
SW-4
MW-12S
0.00<3.00
KOVALCSIK PROPERTY
SINIAVA LANE
DRAINAGE CULVERT
SINIAVA PROPERTY
MW-17S
0.00<3.00
SW-5
SW-6
0.00<3.00
MW-16s
HRYHORCOFF PROPERTY
MW-15s
0.00<3.00
TOTAL XYLENES (UG/L)
0 - 1000
1000 - 10000
10000 - 100000
SHALLOW MONITORING WELLS
STAFF GAUGE LOCATION
SURFACE WATER SAMPLE LOCATIONS
0
80
160 feet
Pennsylvania tectonics
SHALLOW GROUNDWATER ISOPLETH MAP
XYLENES - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA
DRAWN BY: KC
DATE: 01/18/2017
SCALE: 1" = 80'



NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.
2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.
1,2,4-TMB (UG/L)
0 - 15
15 - 150
150 - 1500
1500 - 15000
SHALLOW MONITORING WELLS
STAFF GAUGE LOCATION
SURFACE WATER SAMPLE LOCATIONS
0
80
160 feet
N
MW-8S
0.00</1.00
MW-6S
MW-1S
MW-5S
MW-2S
2340.00
MW-3S
2090.00
MW-4S
130.00
MW-7S
MW-9S
MW-10S
41.40
MW-11S
327.00
MW-12S
MW-13S
MW-14s
MW-15s
MW-16s
MW-17s
SG-1
SG-2
SW-1
SW-2
SW-3
SW-4
SW-5
SW-6
APPROX. PROPERTY BOUNDARY
STREAM
FRAME AND BLOCK GARAGE
LEWIS BROTHERS GARAGE PROPERTY
HOUSE
GARAGE
UNNAMED TRIBUTARY TO HULL CREEK
HILLTOP ROAD
SR 347
SINAWA LANE
DRAINAGE CULVERT
KOVALCSKI PROPERTY
JONES PROPERTY
SINAWA PROPERTY
1517.00
1512.00
1507.00
1502.00
1497.00
1492.00
1487.00
1482.00
1477.00
1472.00
1467.00
1462.00
1457.00
1452.00
1500
150
15
Pennsylvania tectonics
SHALLOW GROUNDWATER ISOPLETH MAP
1,2,4-TMB - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA
DRAWN BY: KC
DATE: 01/18/2017
SCALE: 1" = 80'


N
NOTES: 1.) GROUNDWATER CONTOURS GENERATED UTILIZING DECEMBER 2016 GROUNDWATER ELEVATIONS.
2.) STREAM ELEVATIONS WERE NOT UTILIZED TO GENERATE GROUNDWATER CONTOURS. OBSERVATIONS INDICATE THE STREAM IS NOT A GAINING SYSTEM.
MW-8S
0.00</1.00
HEMMEL STREET
SG-1
SW-1
PEREGRIM PROPERTY
APPROX. PROPERTY BOUNDARY
MW-1S
0.00</1.00
STREAM
PEREGRIM PROPERTY
SG-2
SW-2
MW-6S
0.00</1.00
MW-5S
0.00</1.00
FRAME AND BLOCK GARAGE
LEWIS BROTHERS GARAGE PROPERTY
HOUSE
0.00</5.00
MW-4S
SW-3
MW-2S
MW-3S
MW-14s
0.00</1.00
PEREGRIM PROPERTY
UNNAMED TRIBUTARY TO HULL CREEK
MW-7S
0.00</1.00
MW-11S
91.10
MW-9S
0.00</1.00
HILLTOP ROAD
SR 347
6.50
MW-10S
SINIAWA PROPERTY
HOUSE
HOUSE
0.00</1.00
MW-13S
DRAINAGE CULVERT
JONES PROPERTY
GARAGE
SW-4
MW-12S
0.00</1.00
SINIAWA LANE
KOVALCHIK PROPERTY
0.00</1.00
MW-17s
DRAINAGE CULVERT
SINIAWA PROPERTY
SW-5
SW-6
0.00</1.00
MW-16s
HRYHORCOFF PROPERTY
1517.00
1512.00
1507.00
1502.00
1497.00
1492.00
1487.00
1482.00
1477.00
1472.00
1467.00
1462.00
1457.00
1452.00
1,3,5-TMB (UG/L)
0 - 13
13 - 130
130 - 1300
1300 - 13000
SHALLOW MONITORING WELLS
STAFF GAUGE LOCATION
SURFACE WATER SAMPLE LOCATIONS
0
80
160 feet
MW-15s
0.00</1.00
Pennsylvania tectonics
SHALLOW GROUNDWATER ISOPLETH MAP
1,3,5-TMB - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA
DRAWN BY: KC
DATE: 01/18/2017
SCALE: 1" = 80'



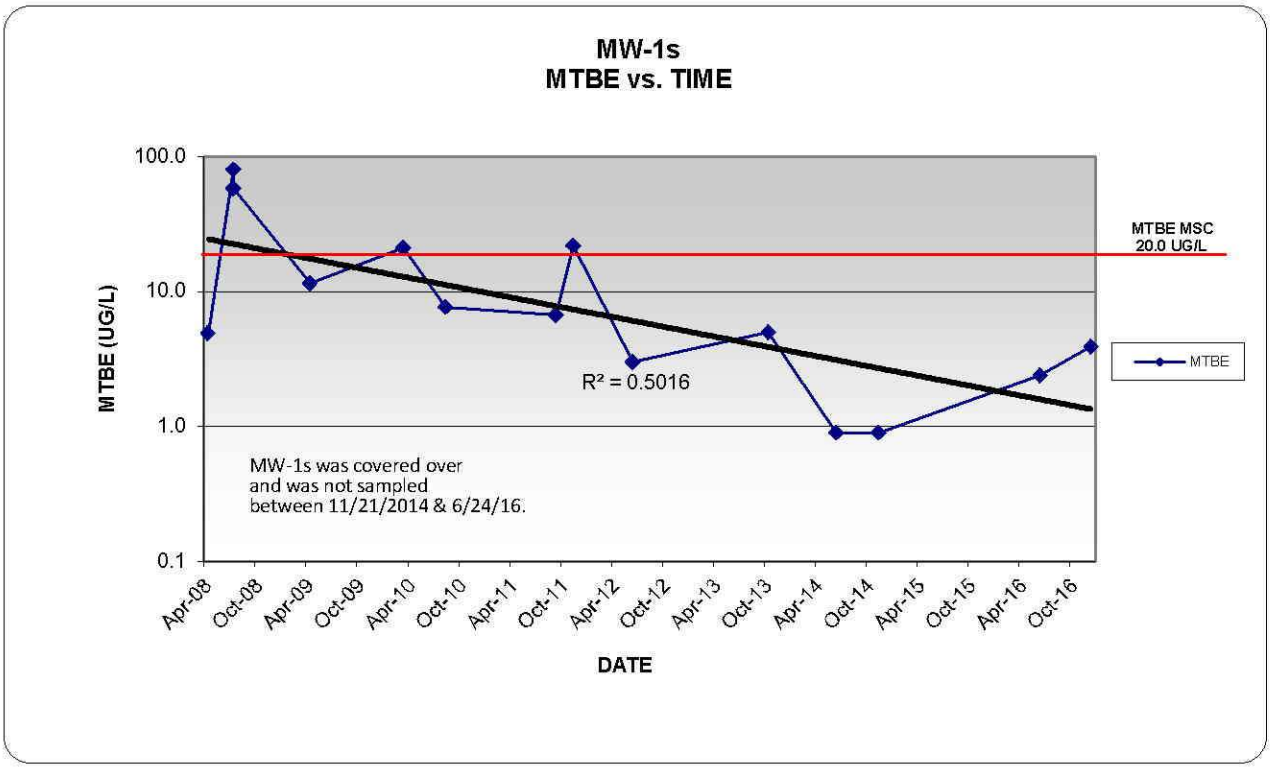
Pennsylvania tectonics

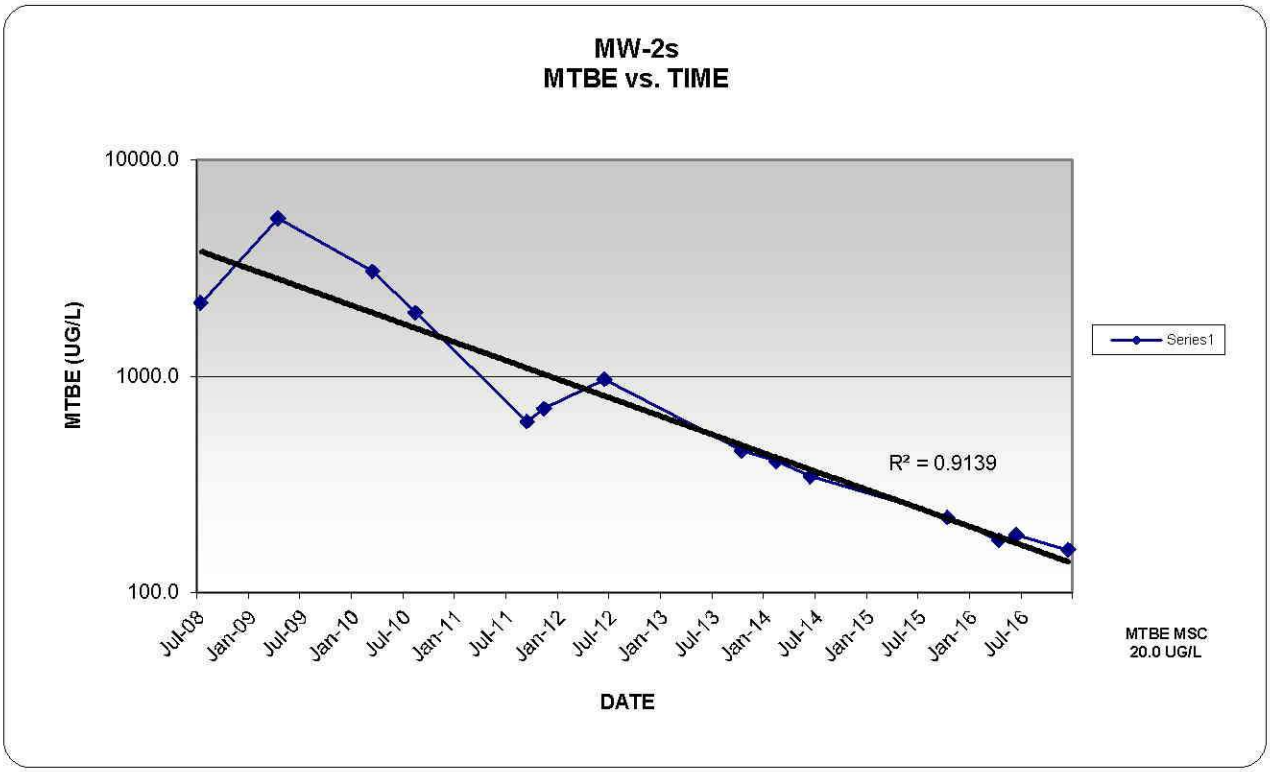
BEDROCK GROUNDWATER ISOPLETH MAP
BENZENE - DECEMBER 2016
LEWIS BROTHERS GARAGE PROPERTY
PA ROUTE 347
SCOTT TOWNSHIP, LACKAWANNA COUNTY
PENNSYLVANIA

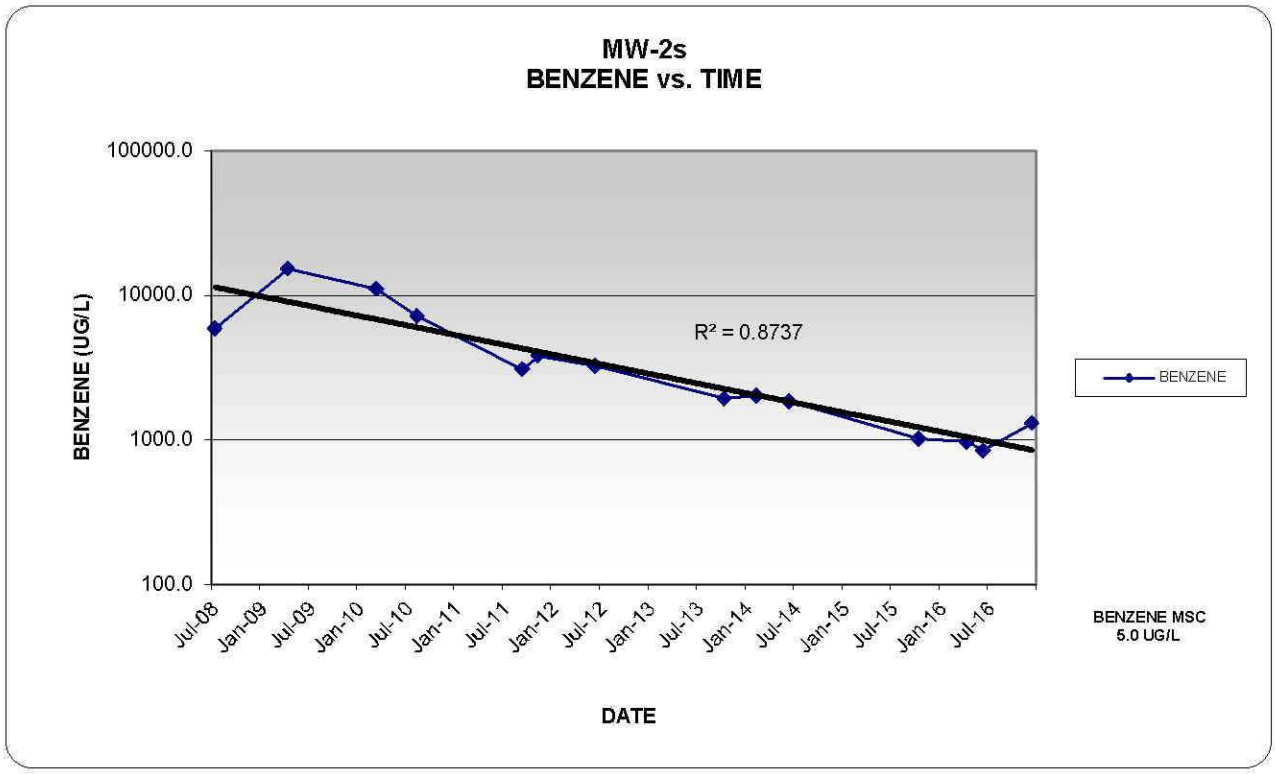
DRAWN BY: KC DATE: 01/18/2017
SCALE: 1" = 80'

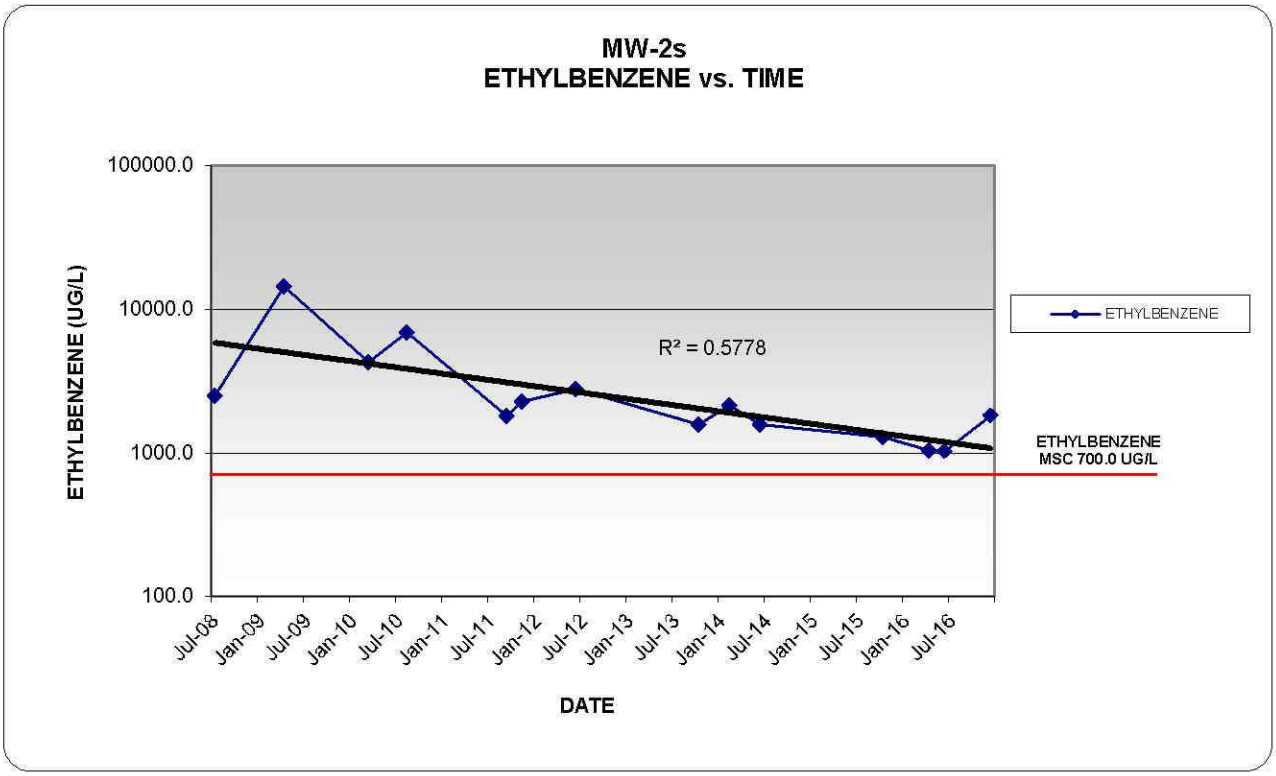
ATTACHMENT I

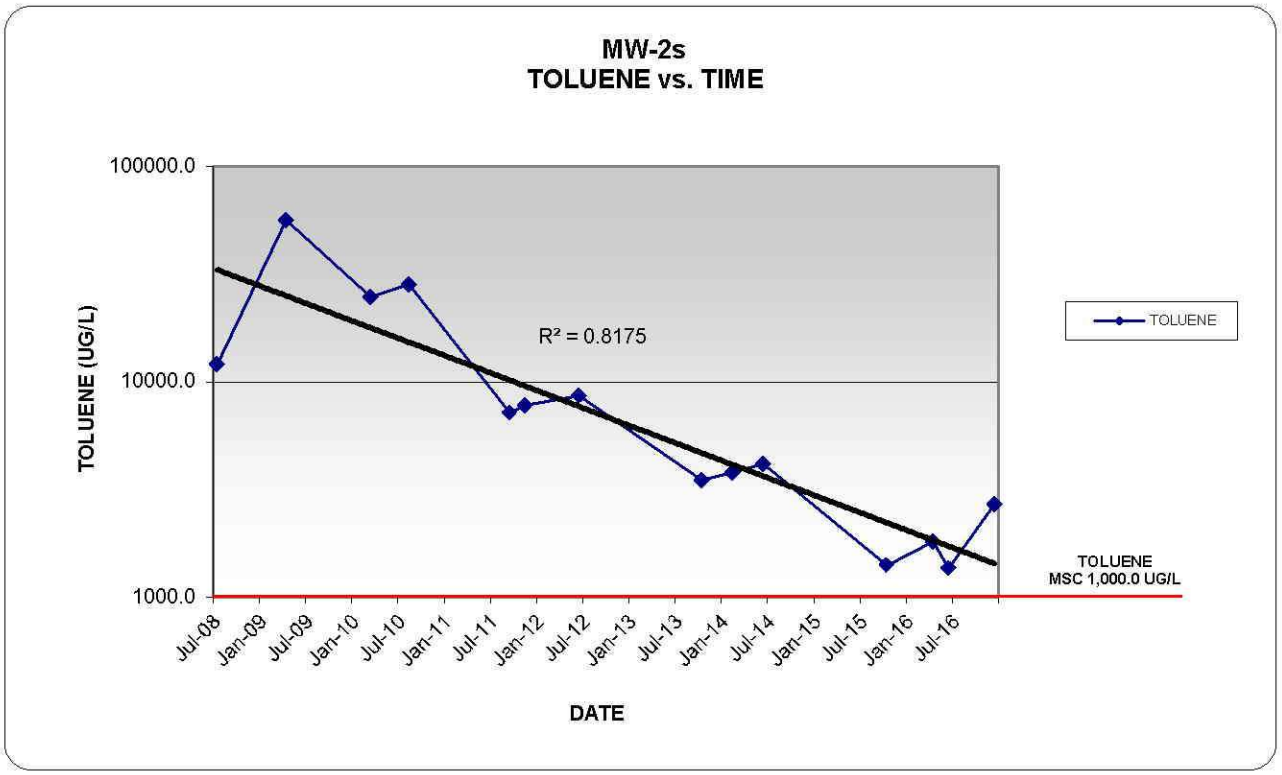
Temporal Trend Analyses

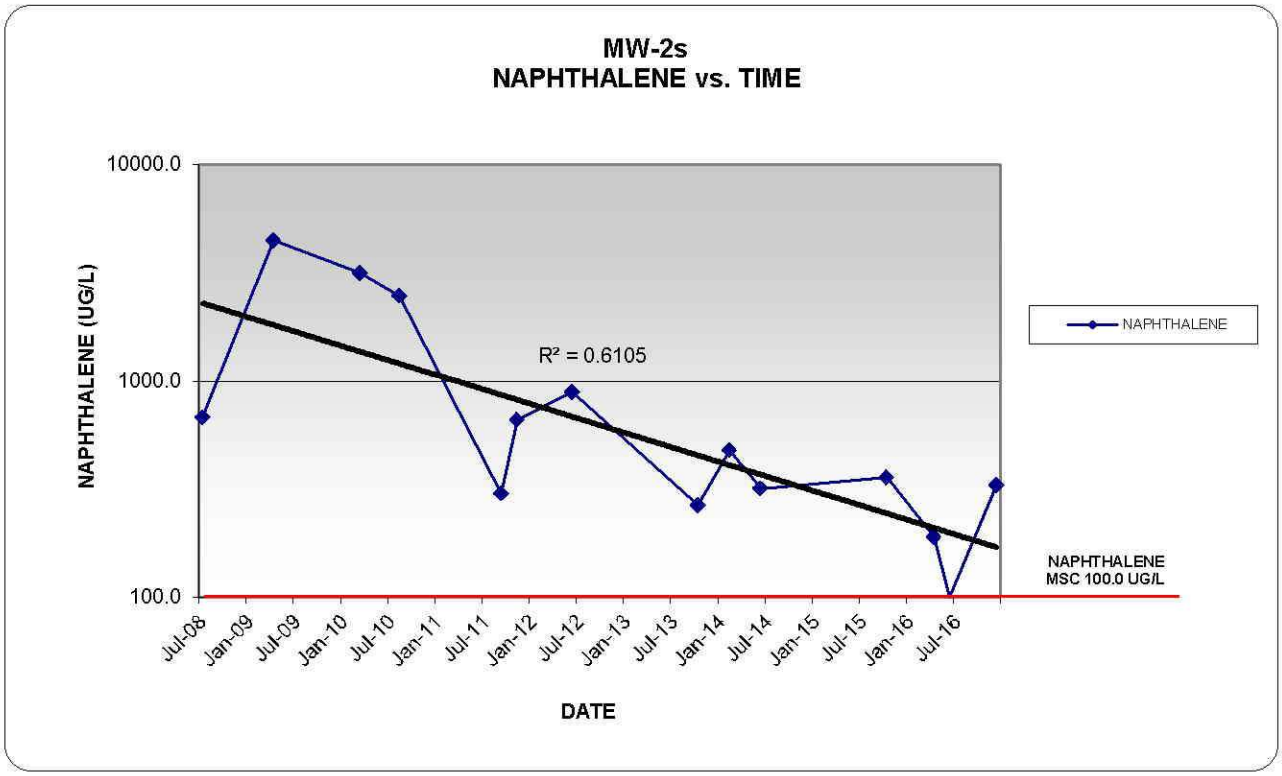

MW-1s
MTBE vs. TIME
100.0
10.0
1.0
0.1
MTBE (UG/L)
MTBE MSC
20.0 UG/L
MTBE
R² = 0.5016
MW-1s was covered over
and was not sampled
between 11/21/2014 & 6/24/16.
Apr-08
Oct-08
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Apr-15
Oct-15
Apr-16
Oct-16
DATE

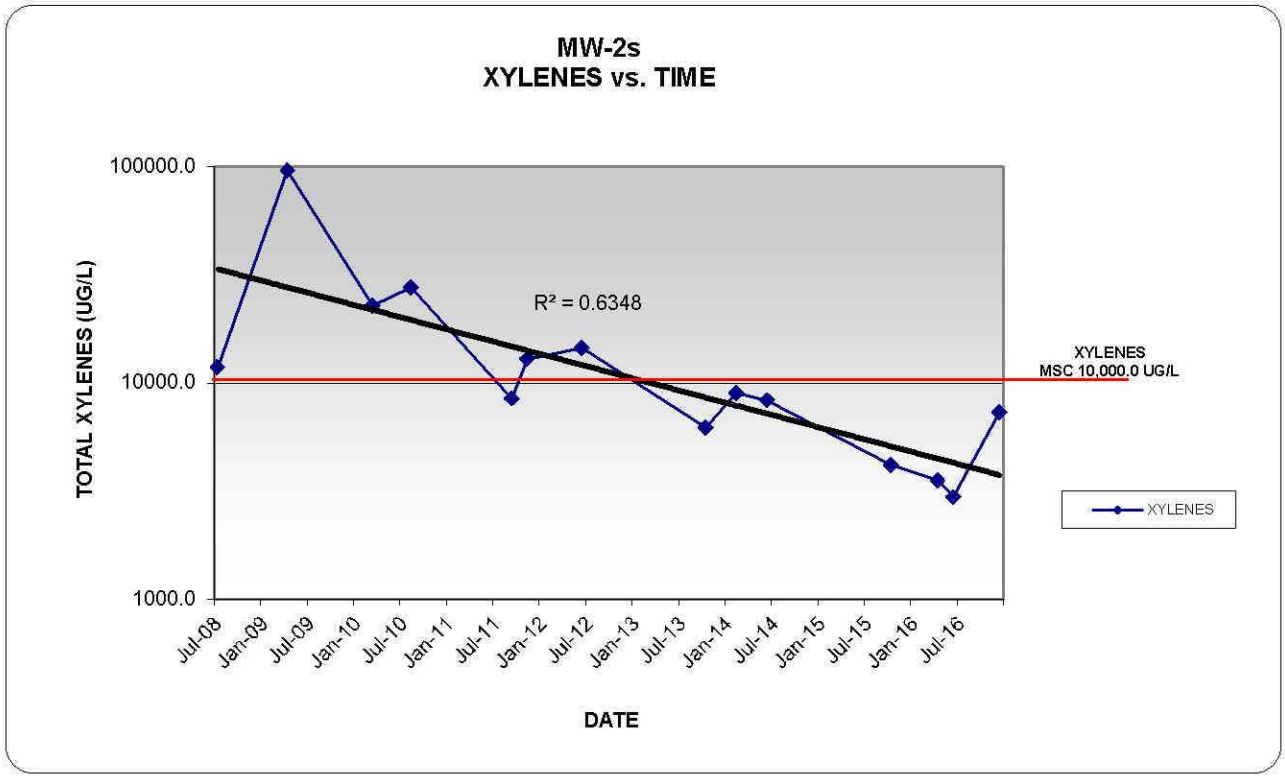

MW-2s
MTBE vs. TIME
10000.0
1000.0
100.0
MTBE (UG/L)
Series1
R² = 0.9139
MTBE MSC
20.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

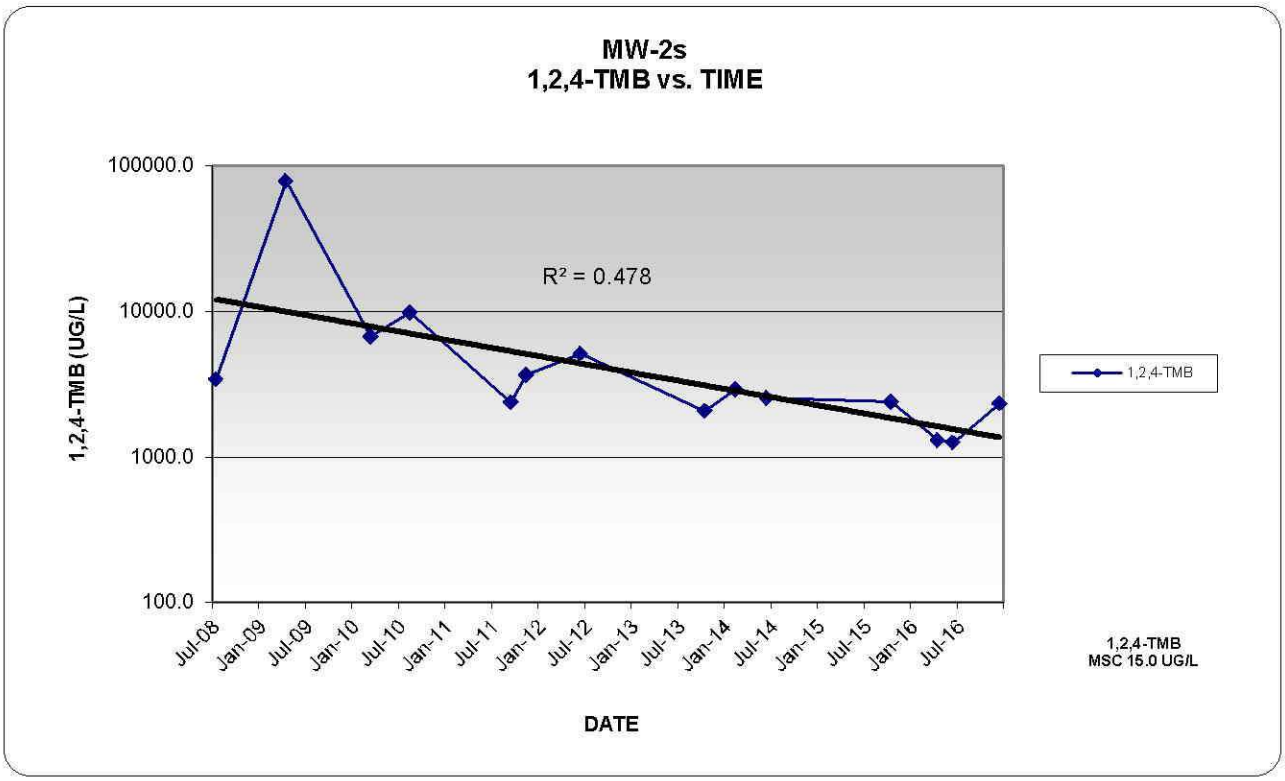

MW-2s
BENZENE vs. TIME
100000.0
10000.0
1000.0
100.0
BENZENE (UG/L)
R² = 0.8737
BENZENE
BENZENE MSC
5.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

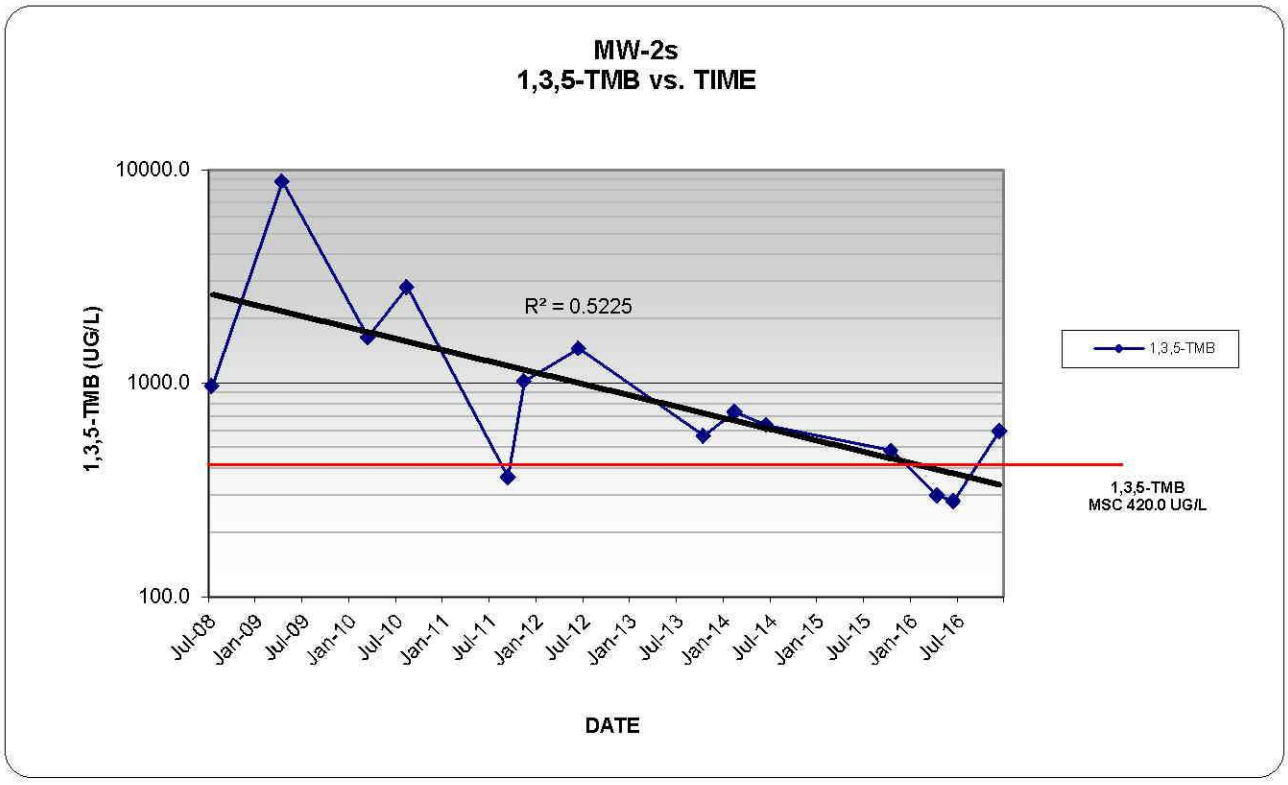

MW-2s
ETHYLBENZENE vs. TIME
100000.0
10000.0
1000.0
100.0
ETHYLBENZENE (UG/L)
R² = 0.5778
ETHYLBENZENE
ETHYLBENZENE
MSC 700.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

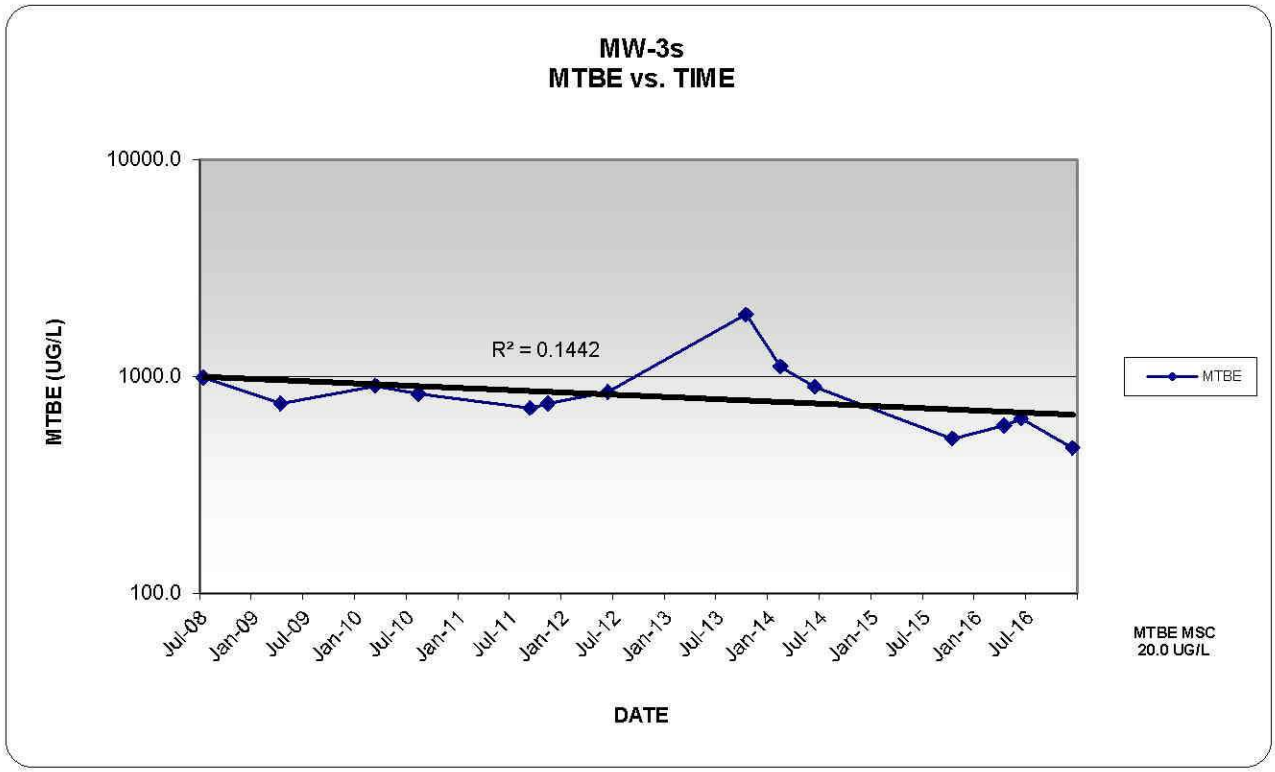

MW-2s
TOLUENE vs. TIME
100000.0
10000.0
1000.0
TOLUENE (UG/L)
R² = 0.8175
TOLUENE
TOLUENE
MSC 1,000.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

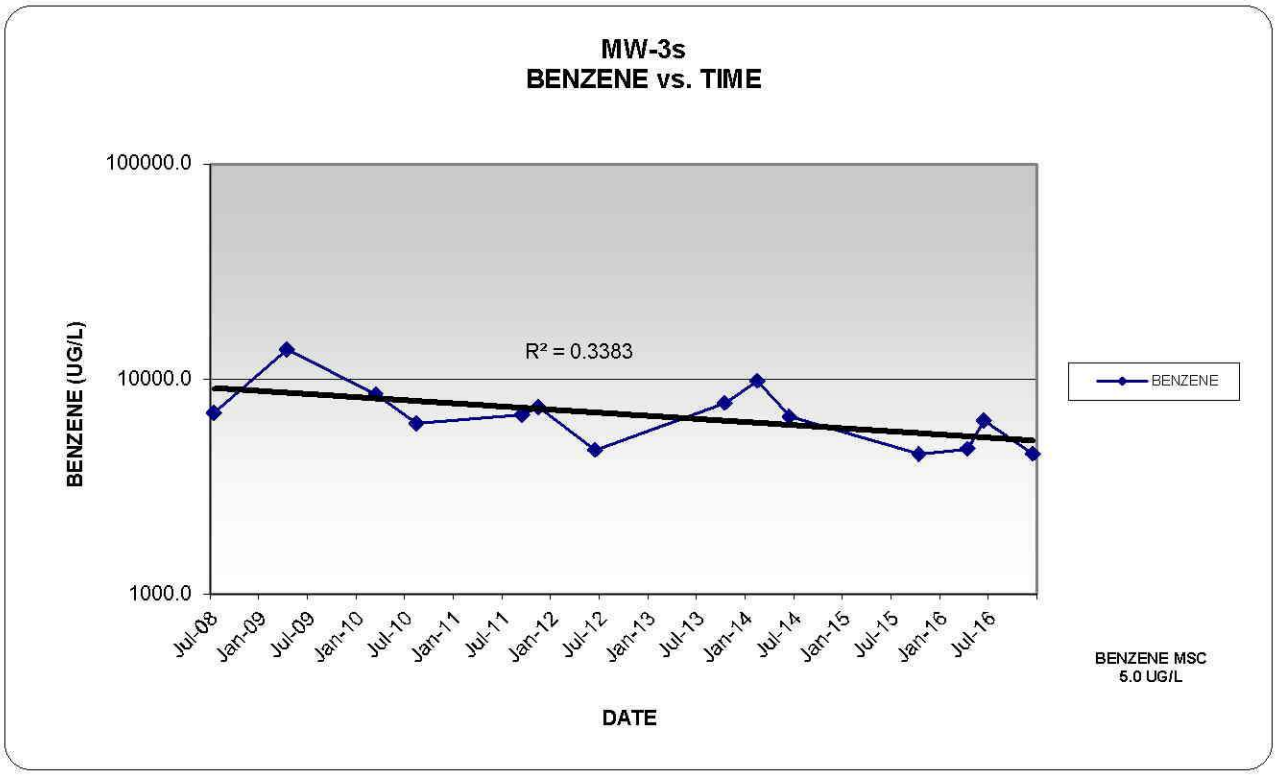

MW-2s
NAPHTHALENE vs. TIME
10000.0
1000.0
100.0
NAPHTHALENE (UG/L)
R² = 0.6105
NAPHTHALENE
NAPHTHALENE
MSC 100.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

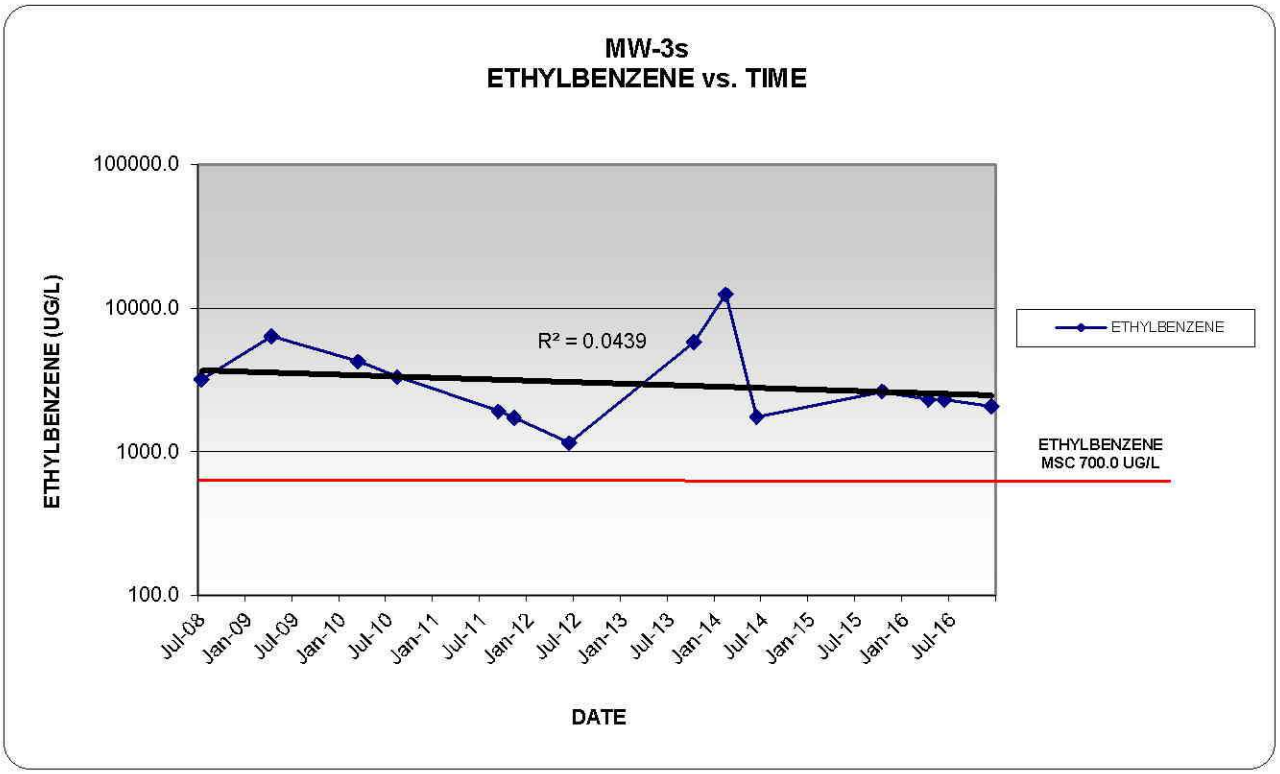

MW-2s
XYLENES vs. TIME
100000.0
10000.0
1000.0
TOTAL XYLENES (UG/L)
R² = 0.6348
XYLENES
MSC 10,000.0 UG/L
XYLENES
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

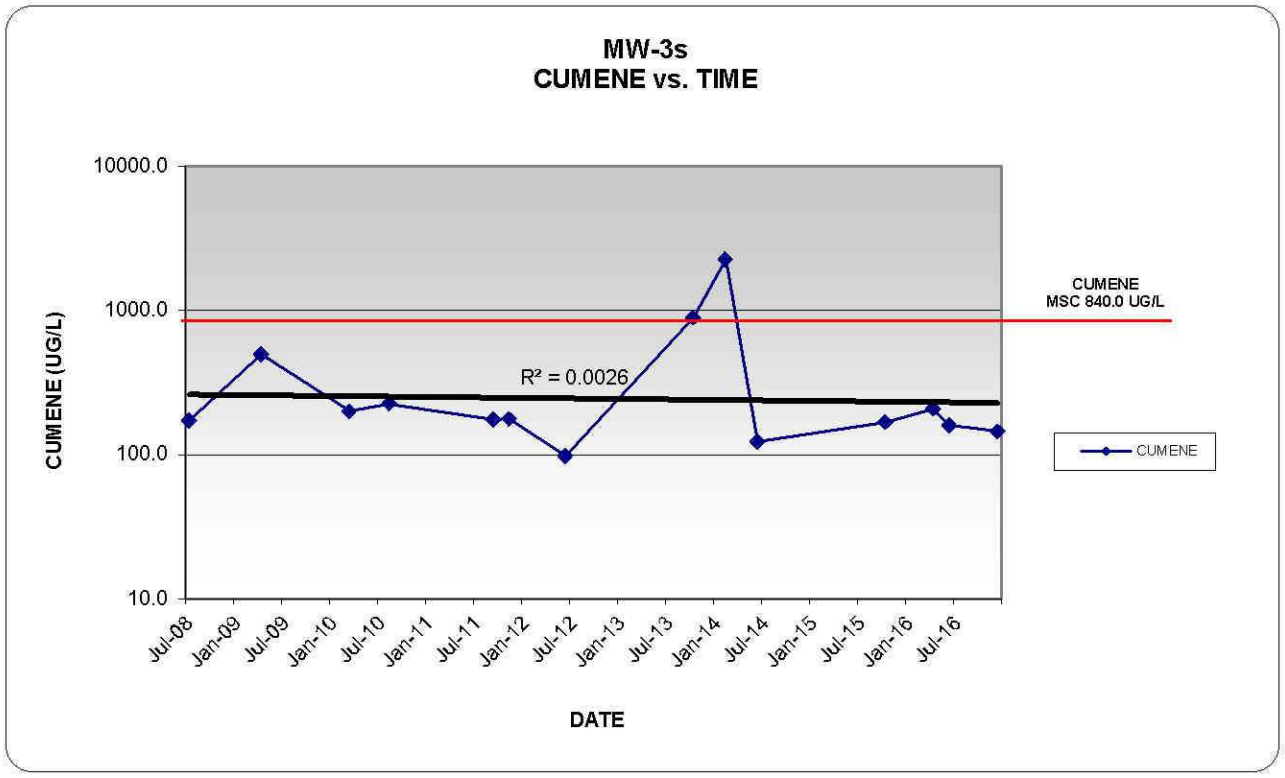

MW-2s
1,2,4-TMB vs. TIME
100000.0
10000.0
1000.0
100.0
1,2,4-TMB (UG/L)
R² = 0.478
1,2,4-TMB
1,2,4-TMB
MSC 15.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

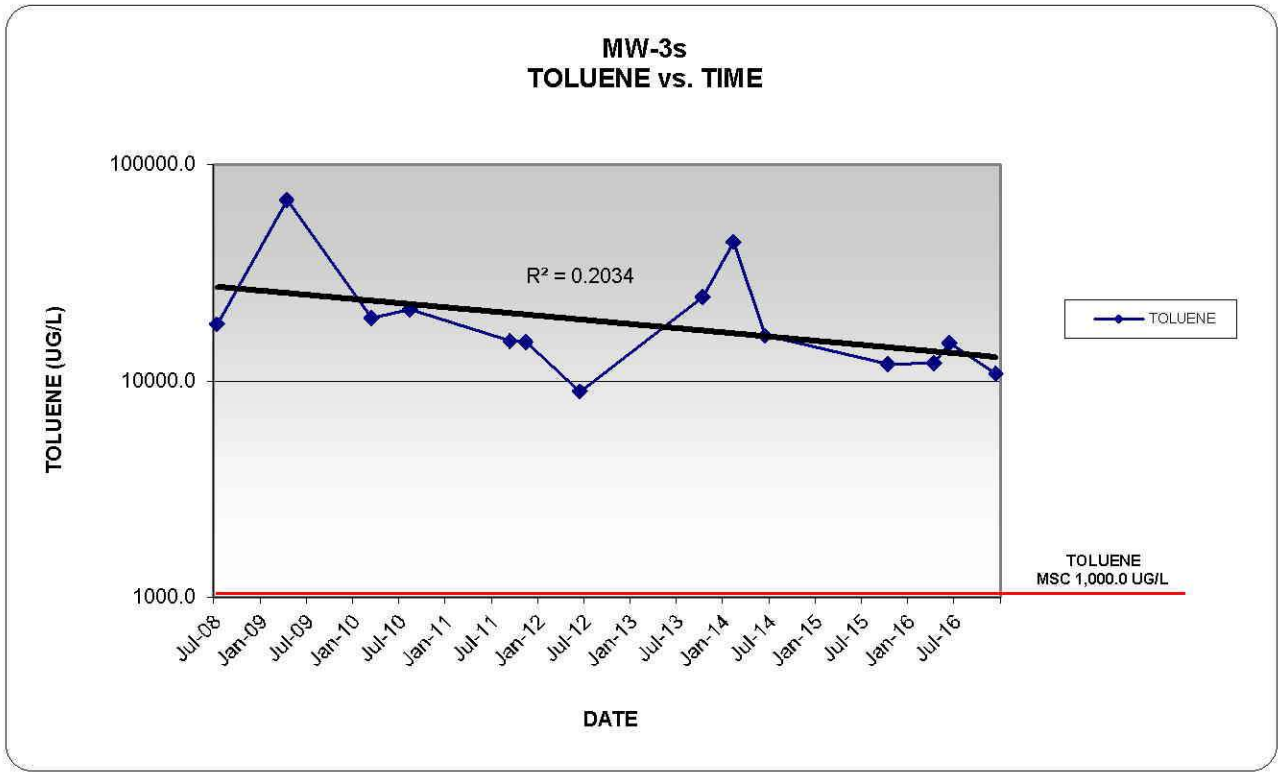

MW-2s
1,3,5-TMB vs. TIME
10000.0
1000.0
100.0
1,3,5-TMB (UG/L)
R² = 0.5225
1,3,5-TMB
1,3,5-TMB
MSC 420.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

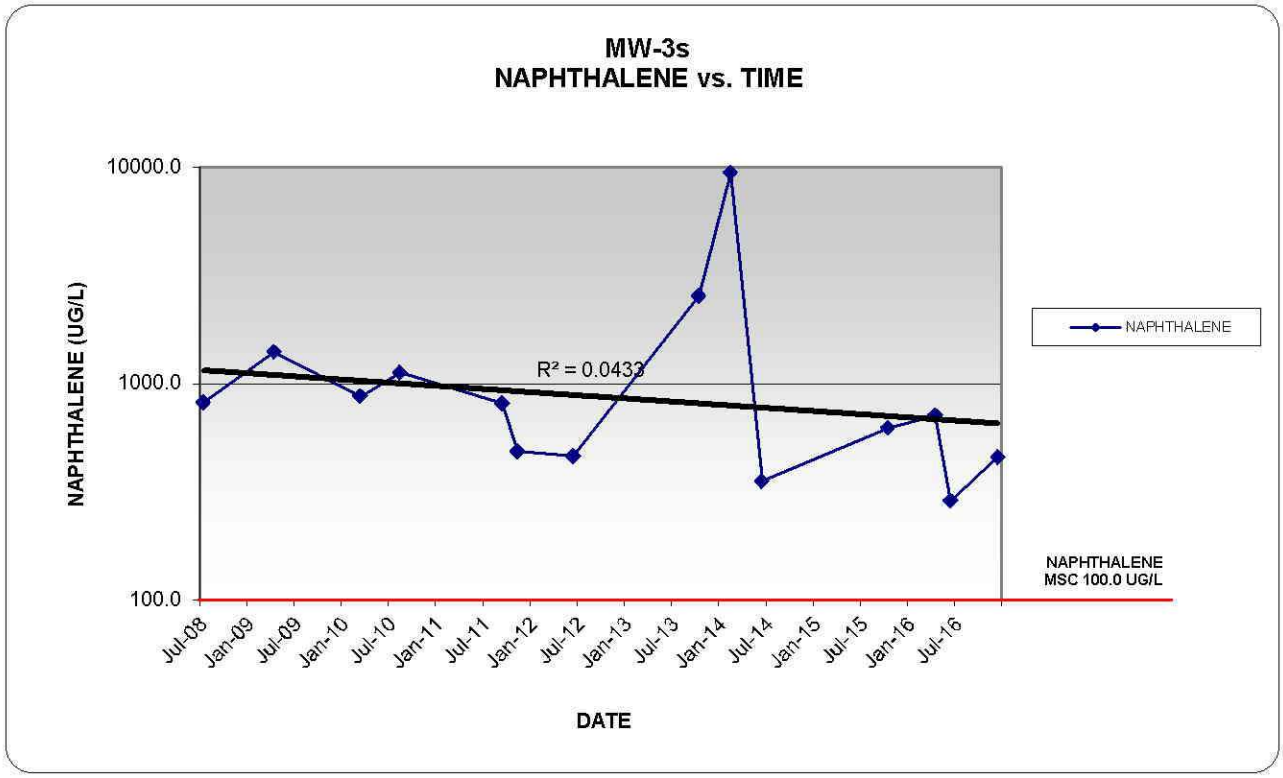

MW-3s
MTBE vs. TIME
10000.0
1000.0
100.0
MTBE (UG/L)
R² = 0.1442
MTBE
MTBE MSC
20.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

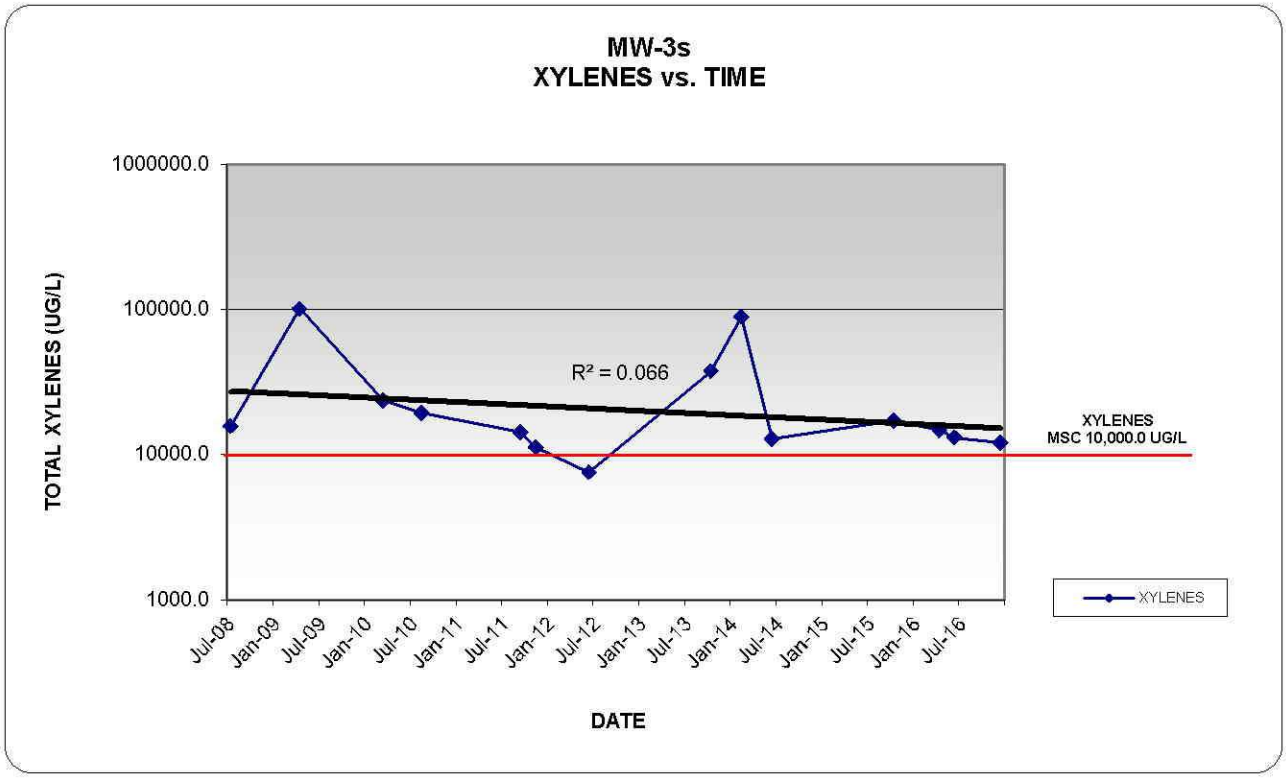

MW-3s
BENZENE vs. TIME
100000.0
10000.0
1000.0
BENZENE (UG/L)
R² = 0.3383
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE
BENZENE
BENZENE MSC
5.0 UG/L

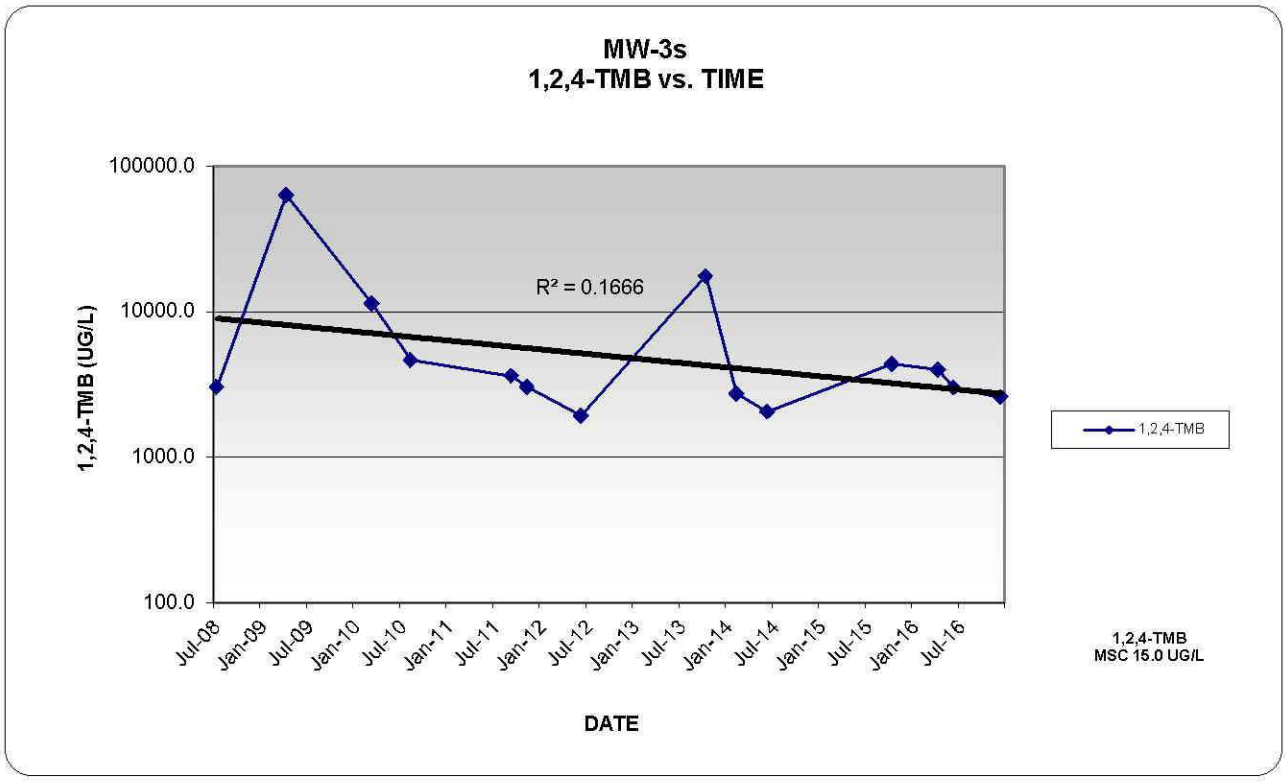

MW-3s
ETHYLBENZENE vs. TIME
100000.0
10000.0
1000.0
100.0
ETHYLBENZENE (UG/L)
R² = 0.0439
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE
ETHYLBENZENE
ETHYLBENZENE
MSC 700.0 UG/L

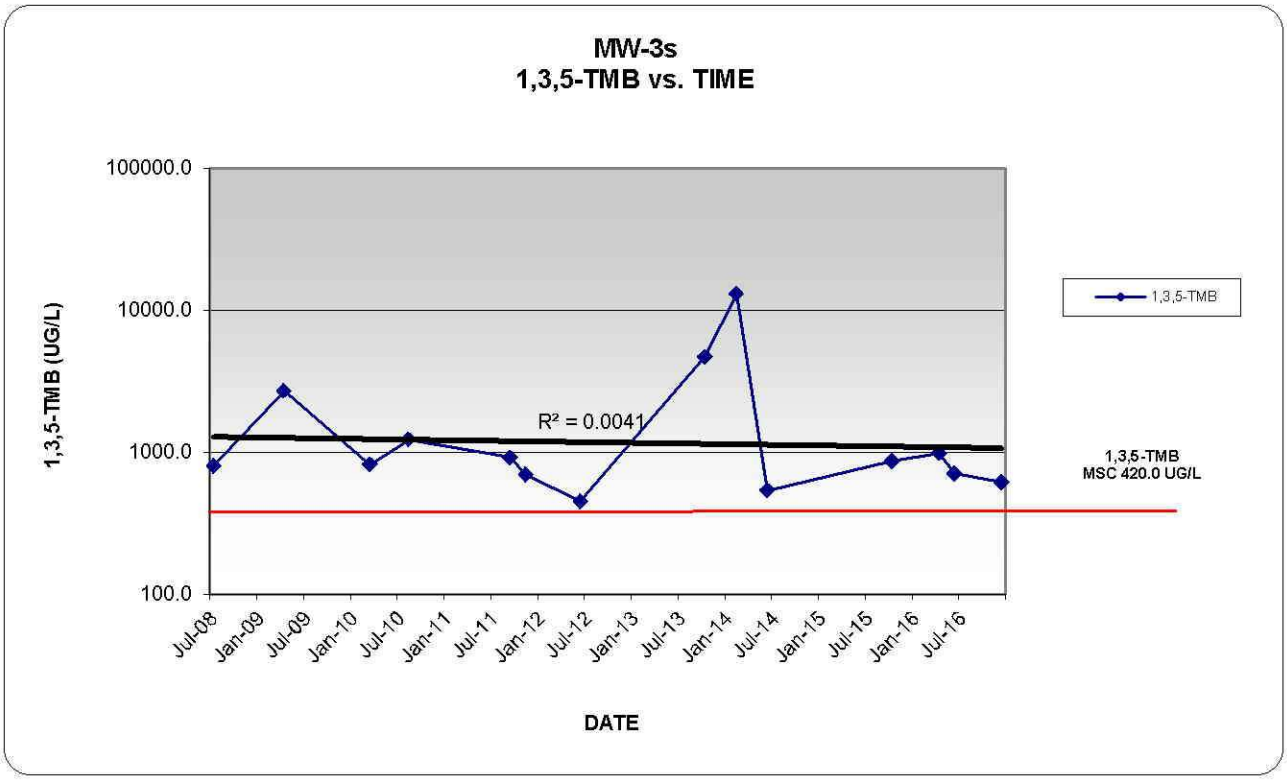

MW-3s
CUMENE vs. TIME
10000.0
1000.0
100.0
10.0
CUMENE (UG/L)
R² = 0.0026
CUMENE
MSC 840.0 UG/L
CUMENE
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

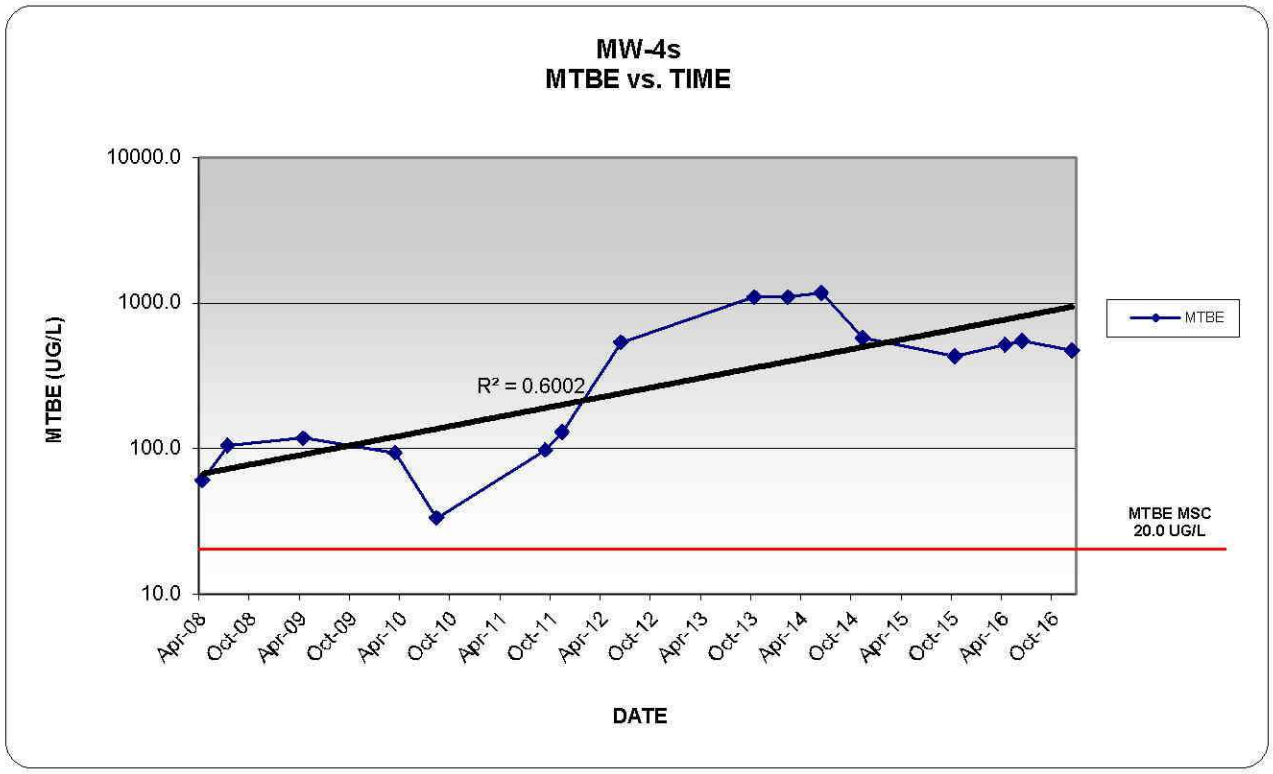

MW-3s
TOLUENE vs. TIME
100000.0
10000.0
1000.0
TOLUENE (UG/L)
R² = 0.2034
TOLUENE
TOLUENE
MSC 1,000.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

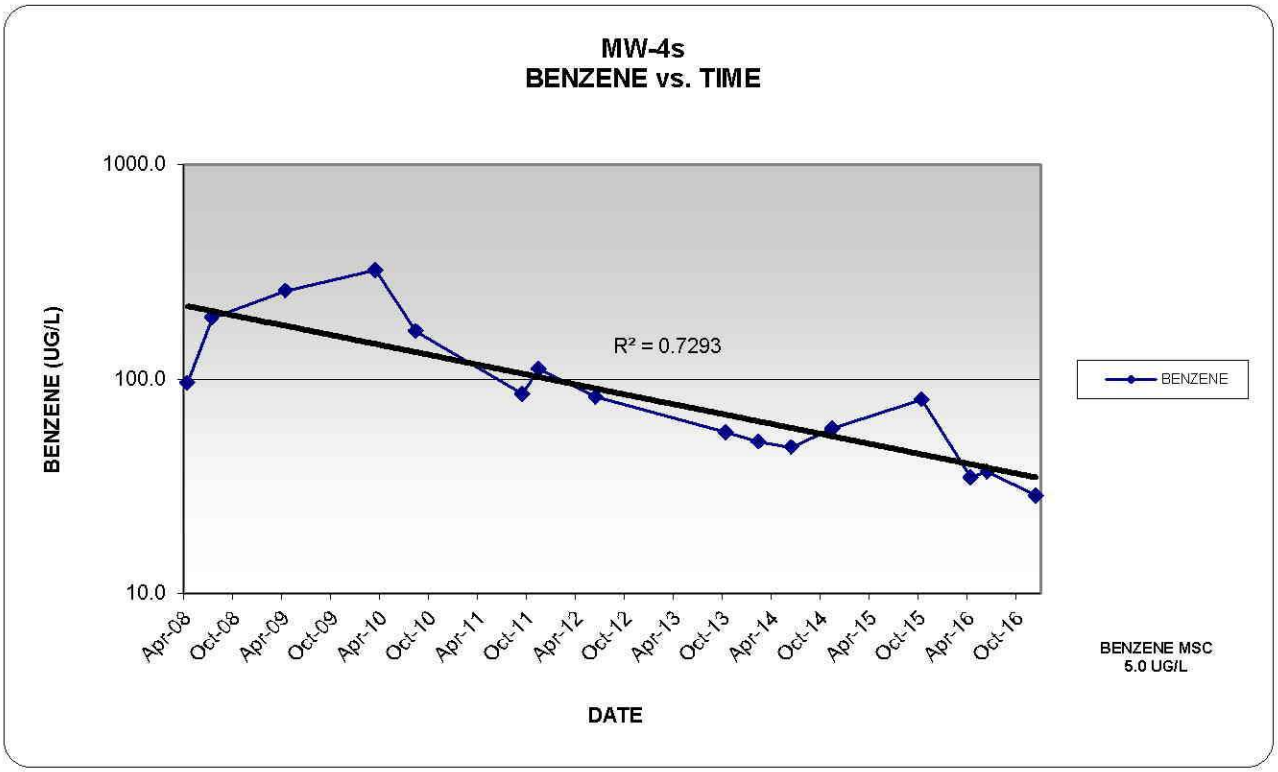

MW-3s
NAPHTHALENE vs. TIME
10000.0
1000.0
100.0
NAPHTHALENE (UG/L)
R² = 0.0433
NAPHTHALENE
NAPHTHALENE
MSC 100.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

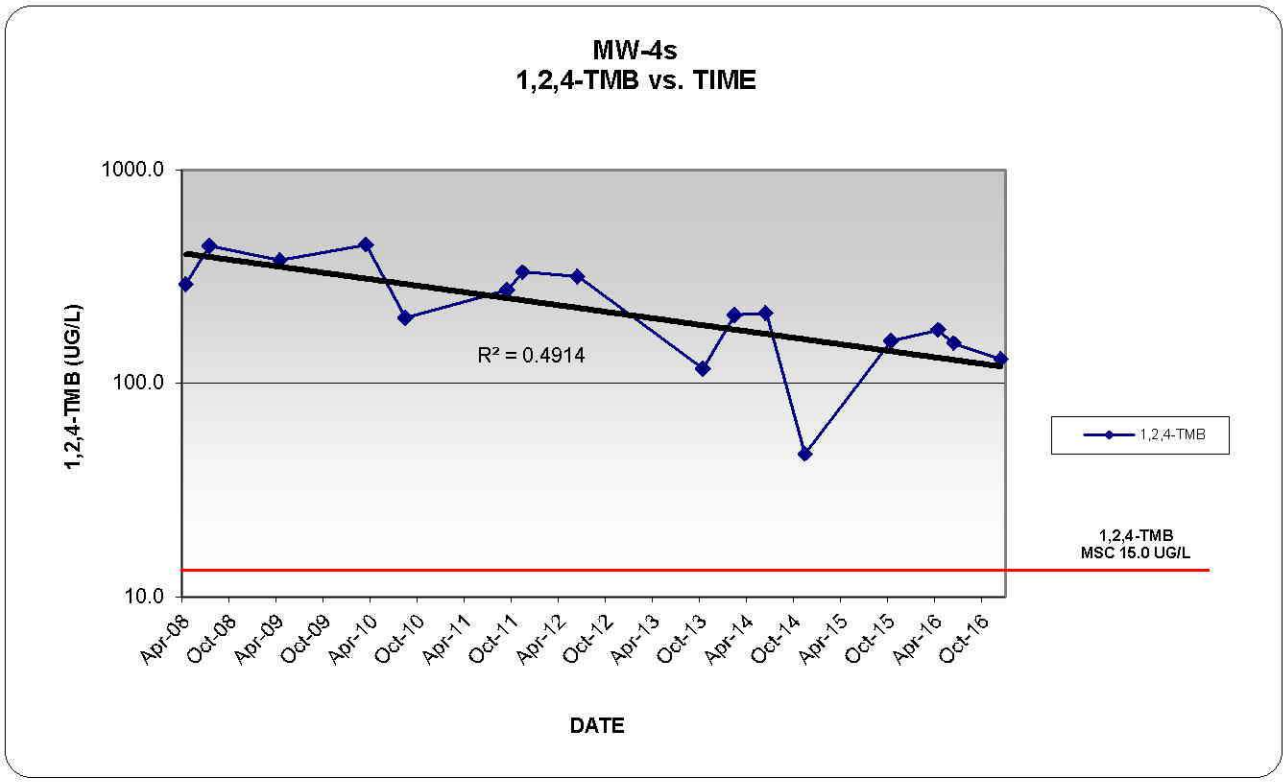

MW-3s
XYLENES vs. TIME
1000000.0
100000.0
10000.0
1000.0
TOTAL XYLENES (UG/L)
R² = 0.066
XYLENES
XYLENES
MSC 10,000.0 UG/L
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE

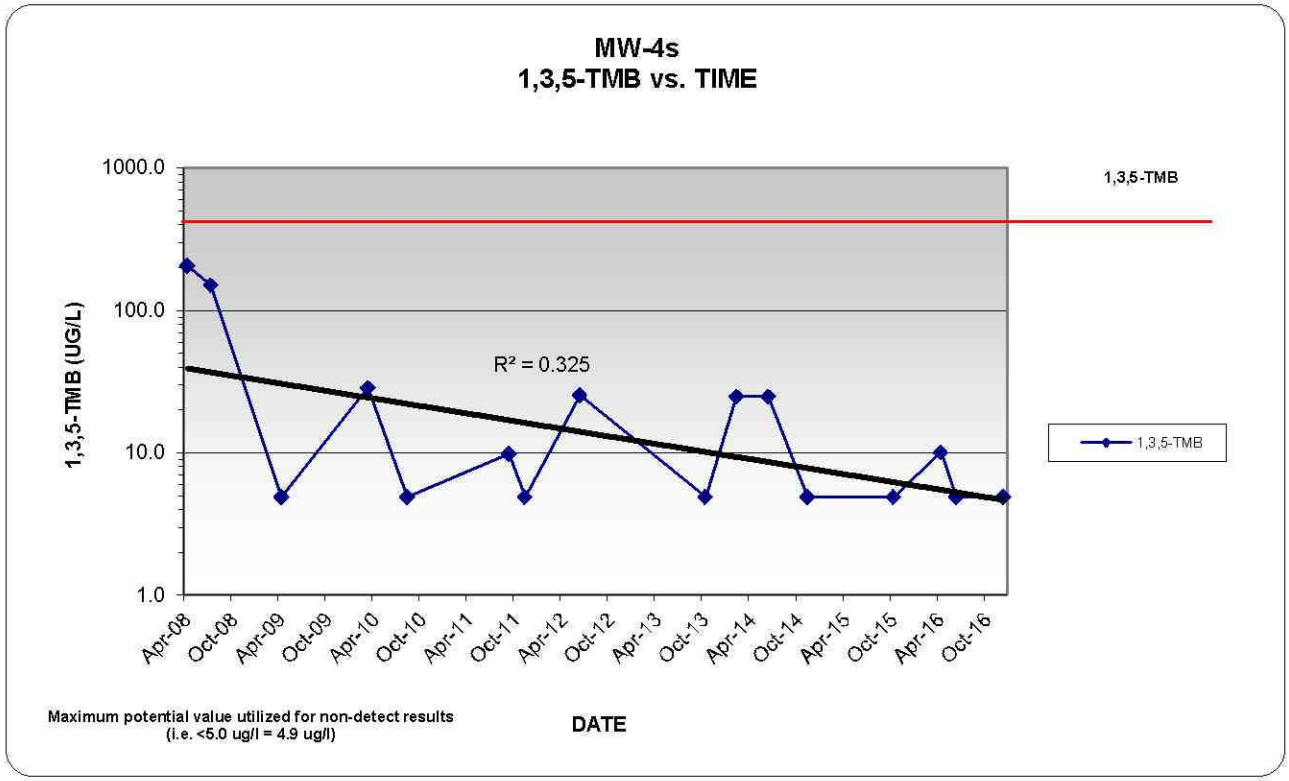

MW-3s
1,2,4-TMB vs. TIME
100000.0
10000.0
1000.0
100.0
R² = 0.1666
1,2,4-TMB (UG/L)
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE
1,2,4-TMB
1,2,4-TMB
MSC 15.0 UG/L


MW-3s
1,3,5-TMB vs. TIME
100000.0
10000.0
1000.0
100.0
R² = 0.0041
1,3,5-TMB (UG/L)
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE
1,3,5-TMB
1,3,5-TMB
MSC 420.0 UG/L

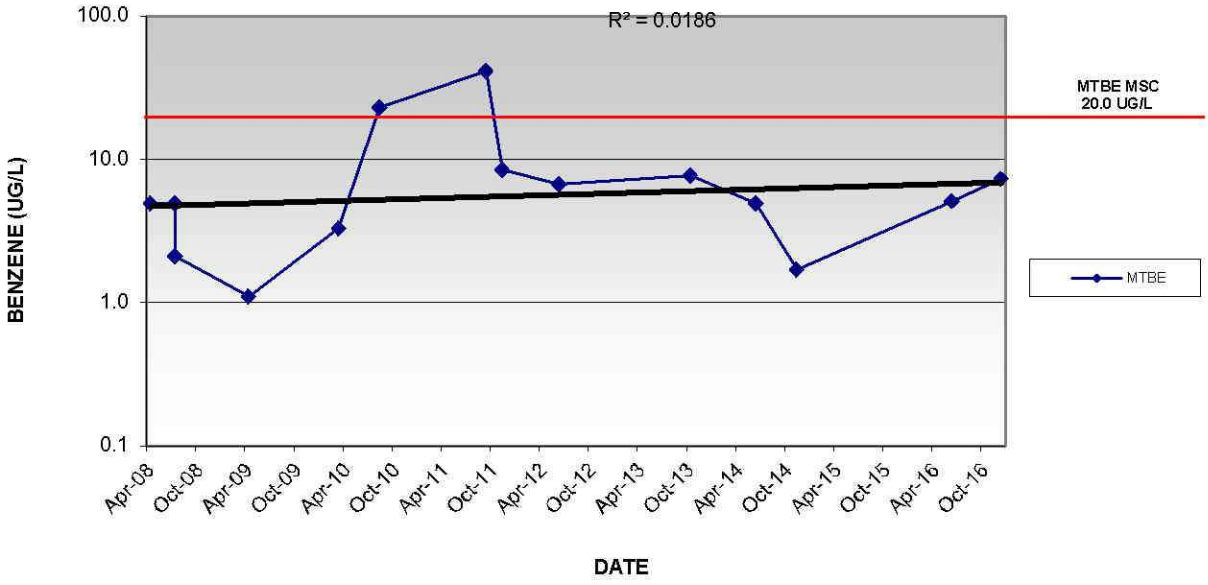

MW-4s
MTBE vs. TIME
10000.0
1000.0
100.0
10.0
MTBE (UG/L)
R² = 0.6002
MTBE
MTBE MSC
20.0 UG/L
Apr-08
Oct-08
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Apr-15
Oct-15
Apr-16
Oct-16
DATE


MW-4s
BENZENE vs. TIME
1000.0
100.0
10.0
BENZENE (UG/L)
R² = 0.7293
BENZENE
BENZENE MSC
5.0 UG/L
Apr-08
Oct-08
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Apr-15
Oct-15
Apr-16
Oct-16
DATE

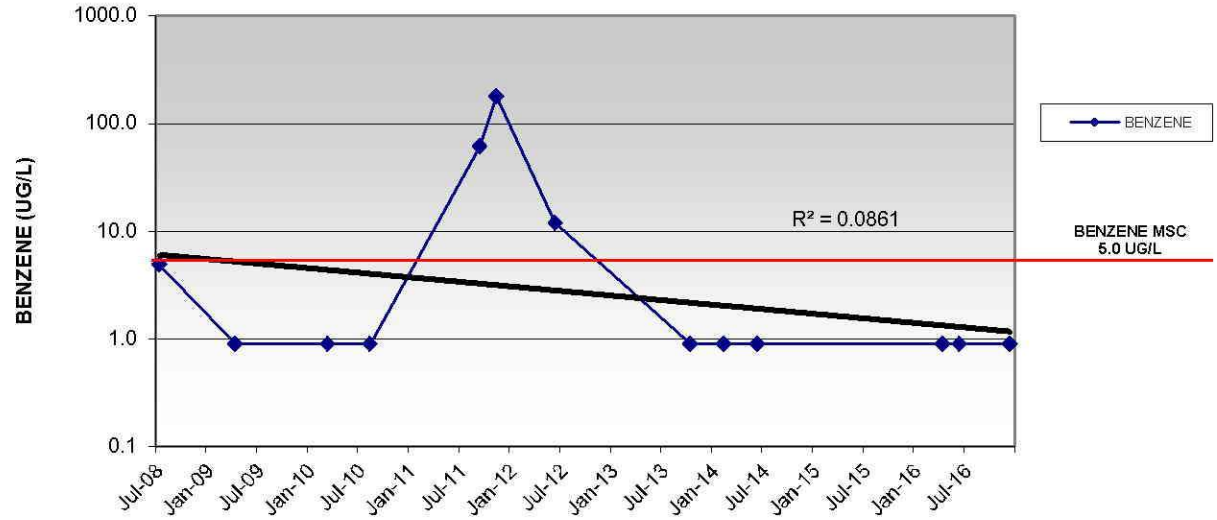

MW-4s
1,2,4-TMB vs. TIME
1000.0
100.0
10.0
1,2,4-TMB (UG/L)
R² = 0.4914
1,2,4-TMB
1,2,4-TMB
MSC 15.0 UG/L
Apr-08
Oct-08
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Apr-15
Oct-15
Apr-16
Oct-16
DATE


MW-4s
1,3,5-TMB vs. TIME
1000.0
100.0
10.0
1.0
1,3,5-TMB (UG/L)
R² = 0.325
1,3,5-TMB
1,3,5-TMB
Apr-08
Oct-08
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Apr-15
Oct-15
Apr-16
Oct-16
DATE
Maximum potential value utilized for non-detect results
(i.e. <5.0 ug/l = 4.9 ug/l)

MW-5s
MTBE vs. TIME

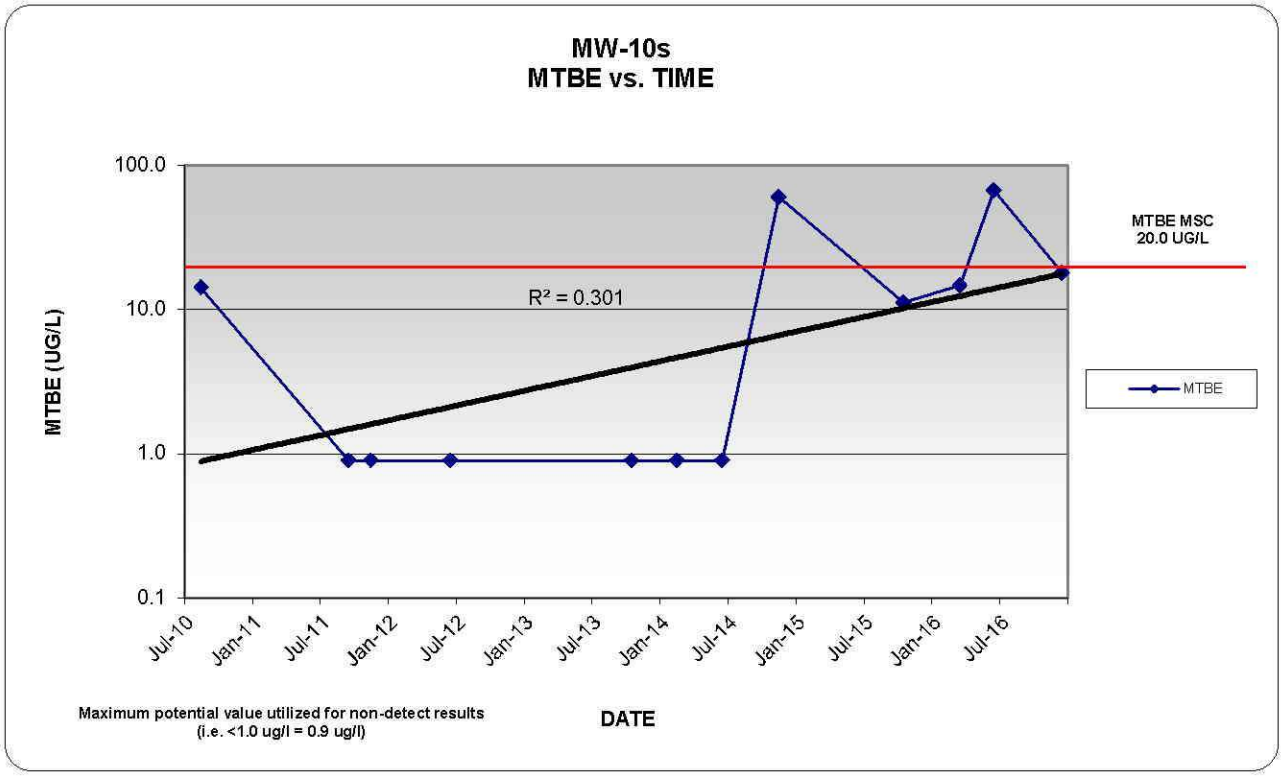


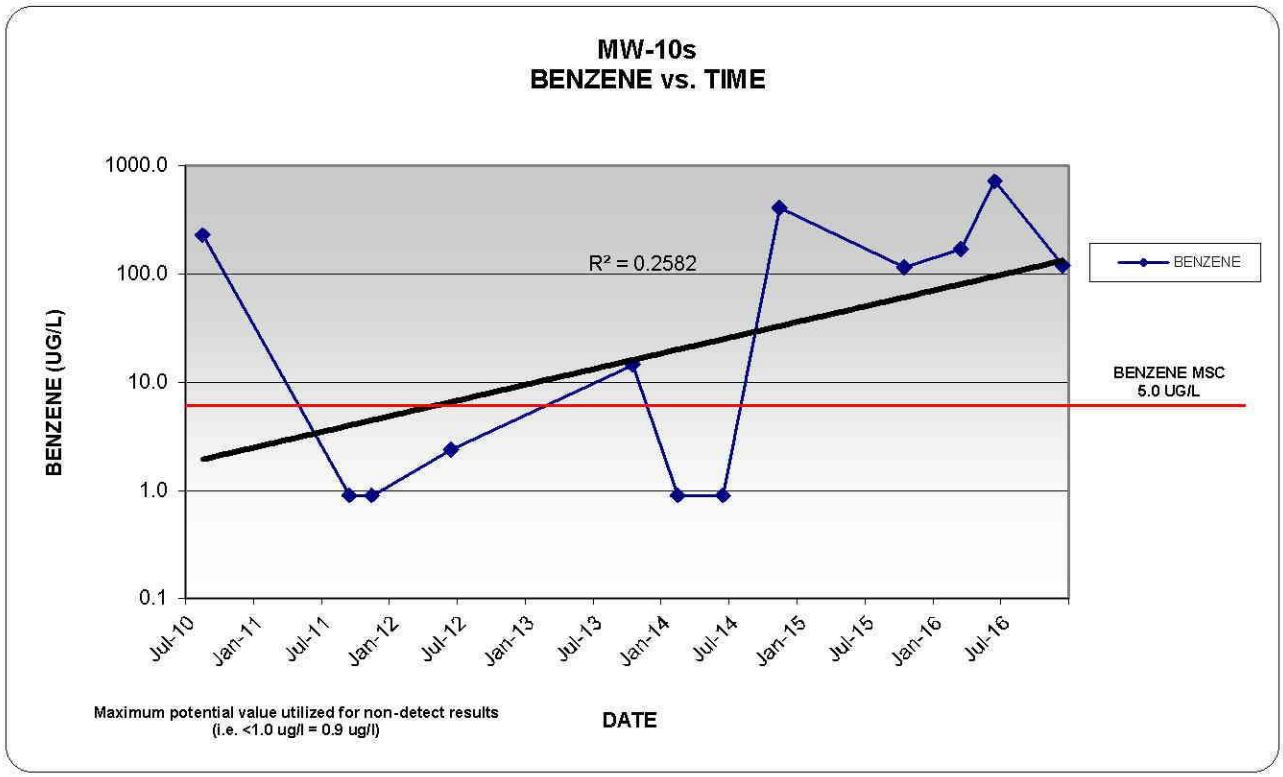
MW-6s
BENZENE vs. TIME

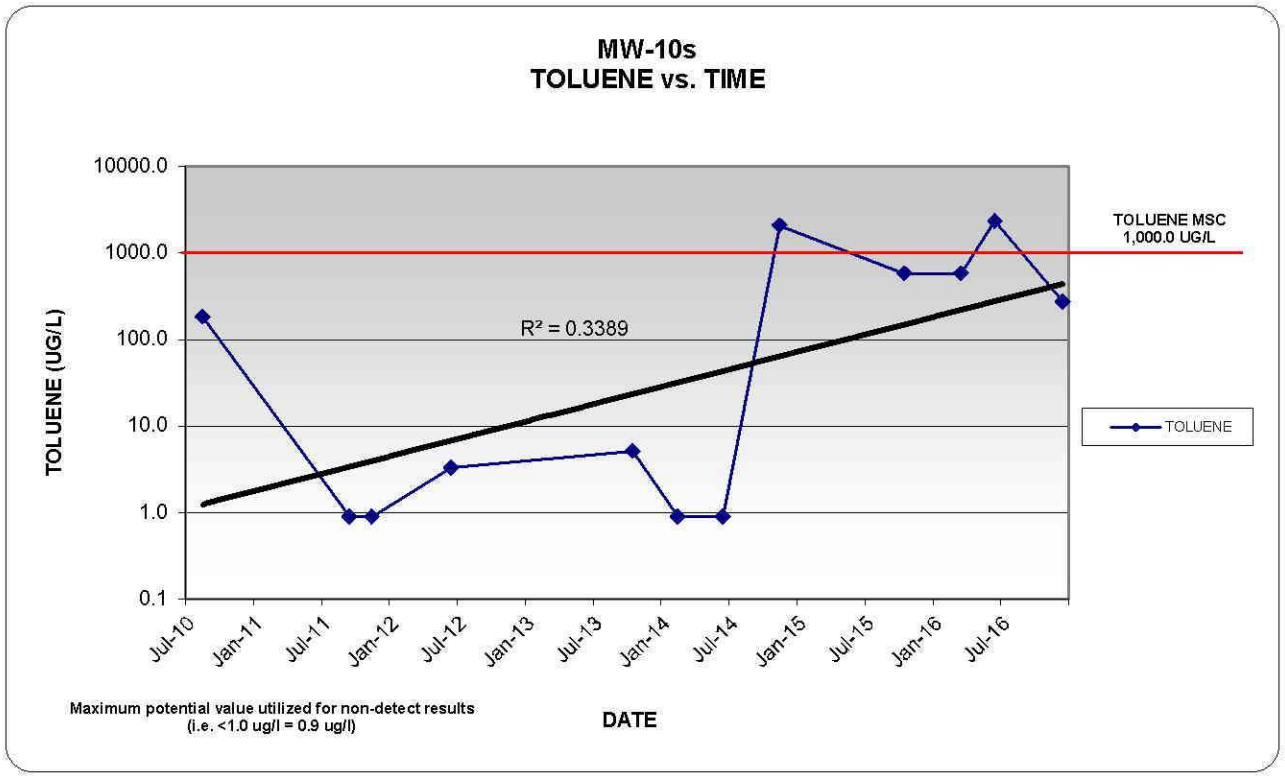


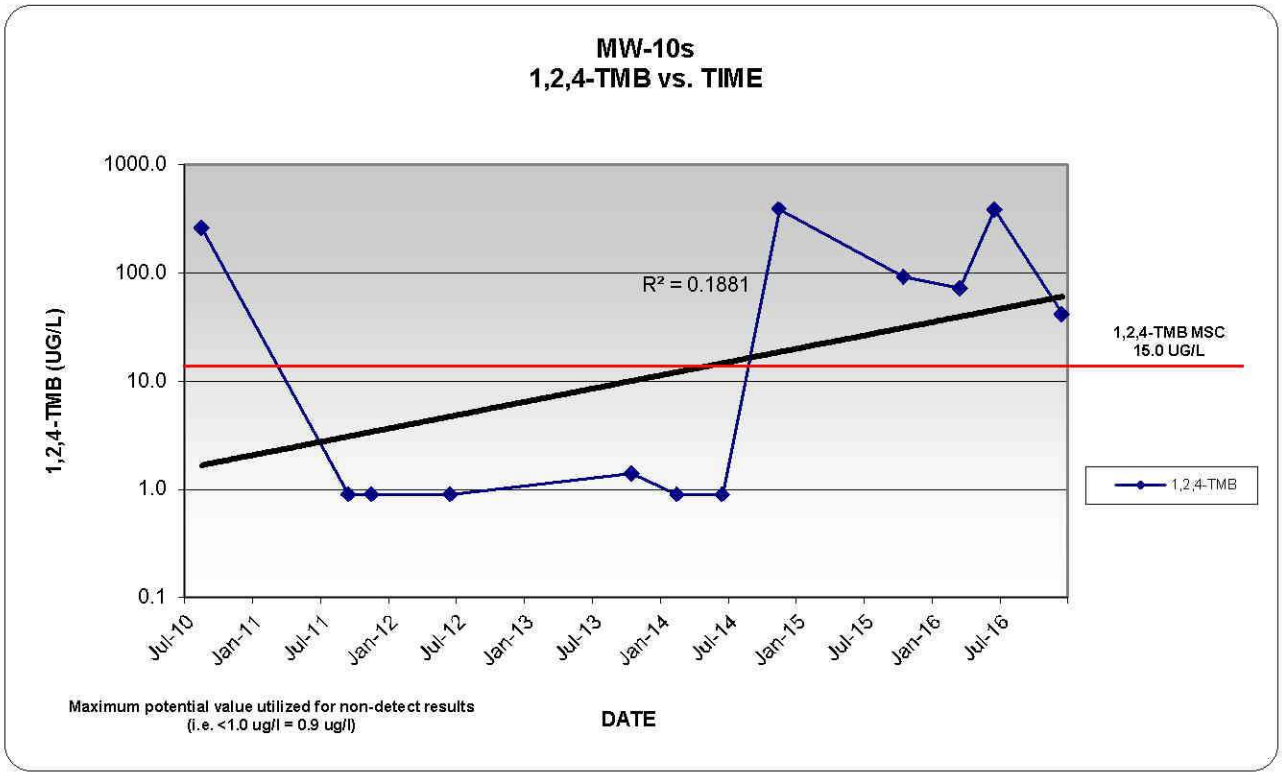
MW-6s was not sampled during the October 2015 Sampling Event due to insuficient volume

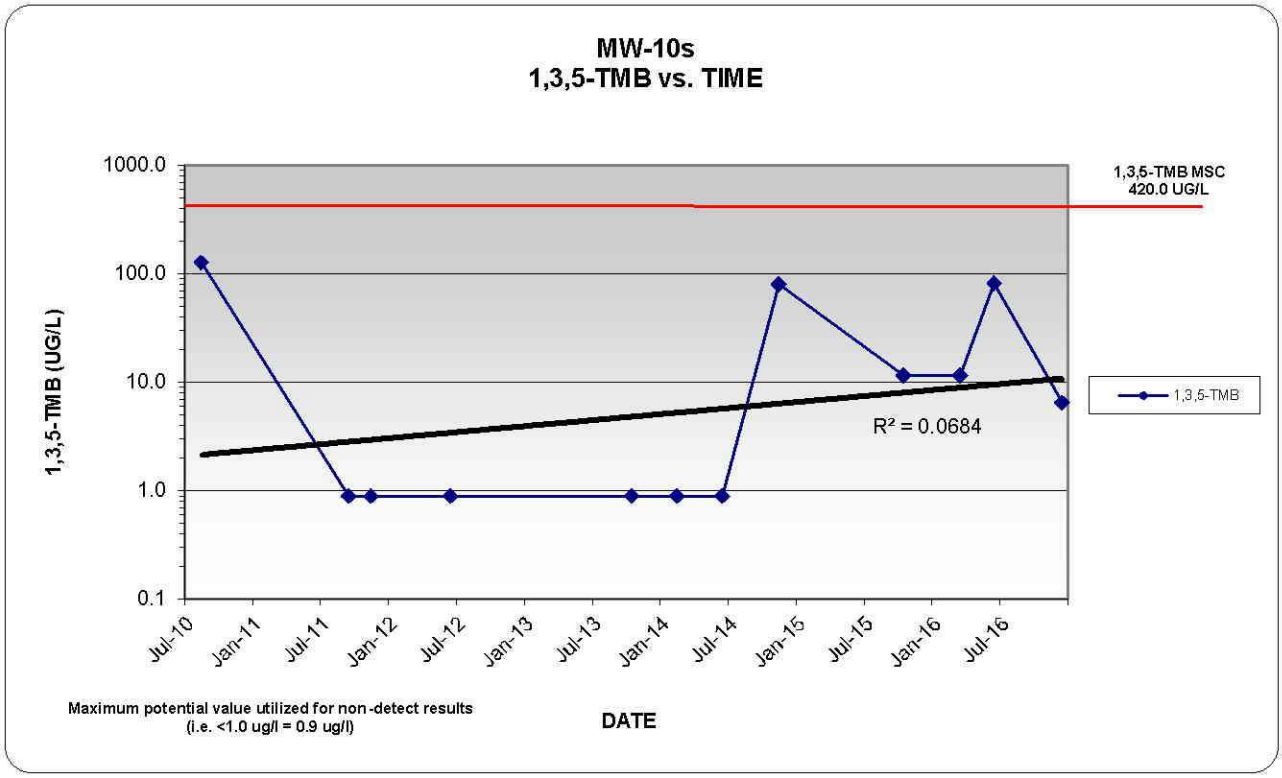
Maximum potential value utilized for non-detect results (i.e. <1.0 ug/l = 0.9 ug/l)

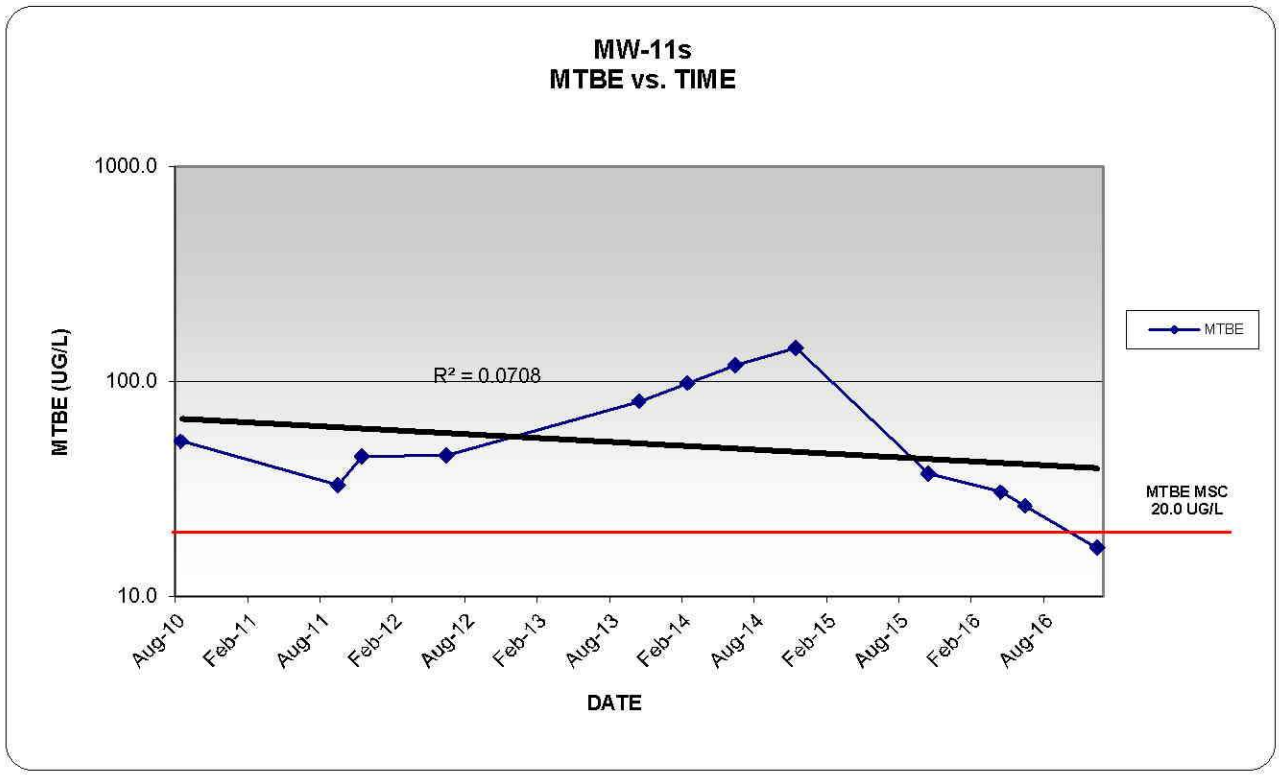

MW-10s
MTBE vs. TIME
100.0
10.0
1.0
0.1
MTBE (UG/L)
R² = 0.301
MTBE MSC
20.0 UG/L
MTBE
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)
DATE

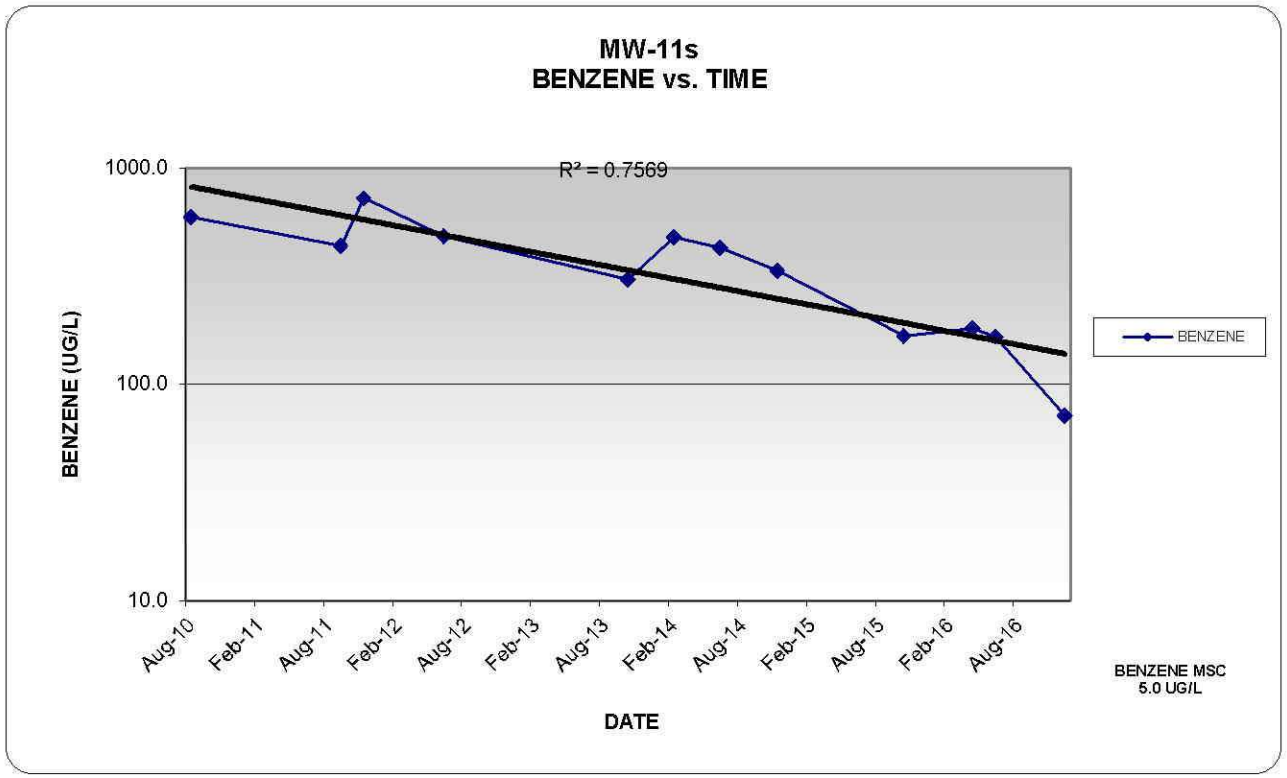

MW-10s
BENZENE vs. TIME
1000.0
100.0
10.0
1.0
0.1
BENZENE (UG/L)
R² = 0.2582
BENZENE
BENZENE MSC
5.0 UG/L
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)
DATE

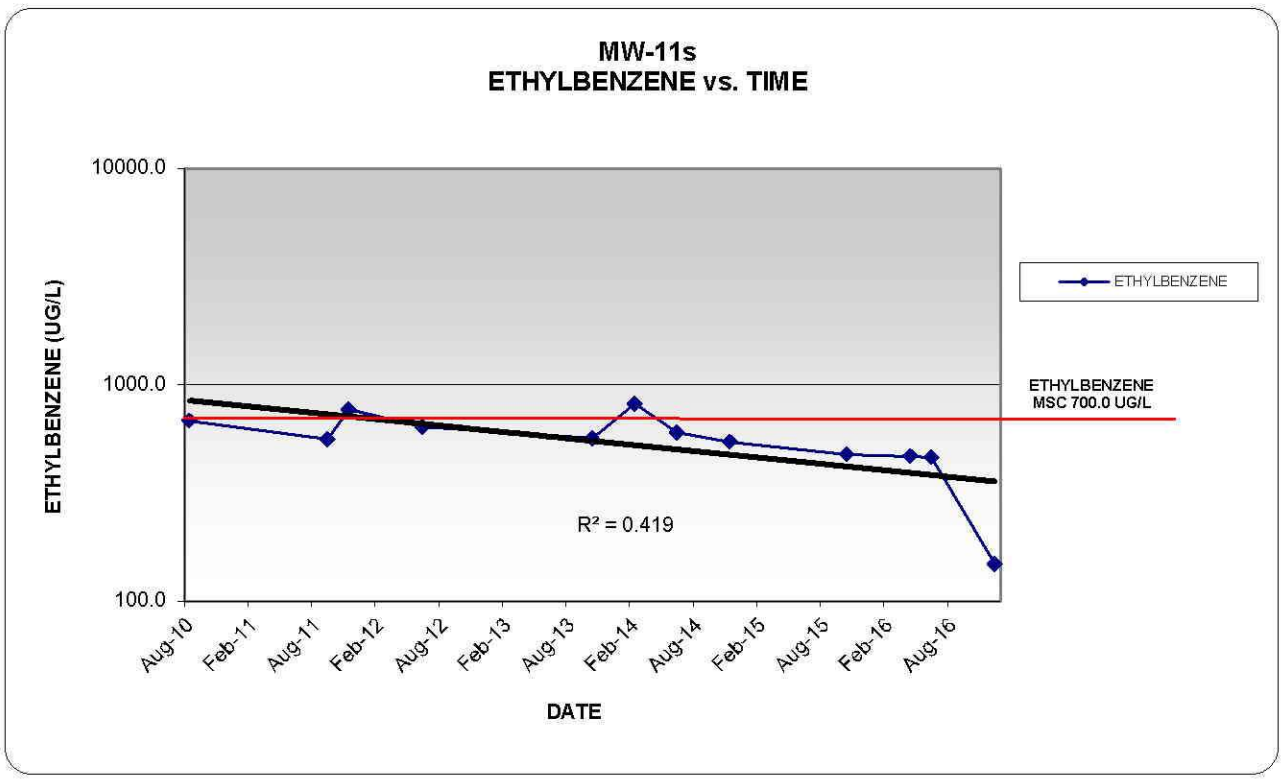

MW-10s
TOLUENE vs. TIME
10000.0
1000.0
100.0
10.0
1.0
0.1
TOLUENE (UG/L)
R² = 0.3389
TOLUENE MSC
1,000.0 UG/L
TOLUENE
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)
DATE

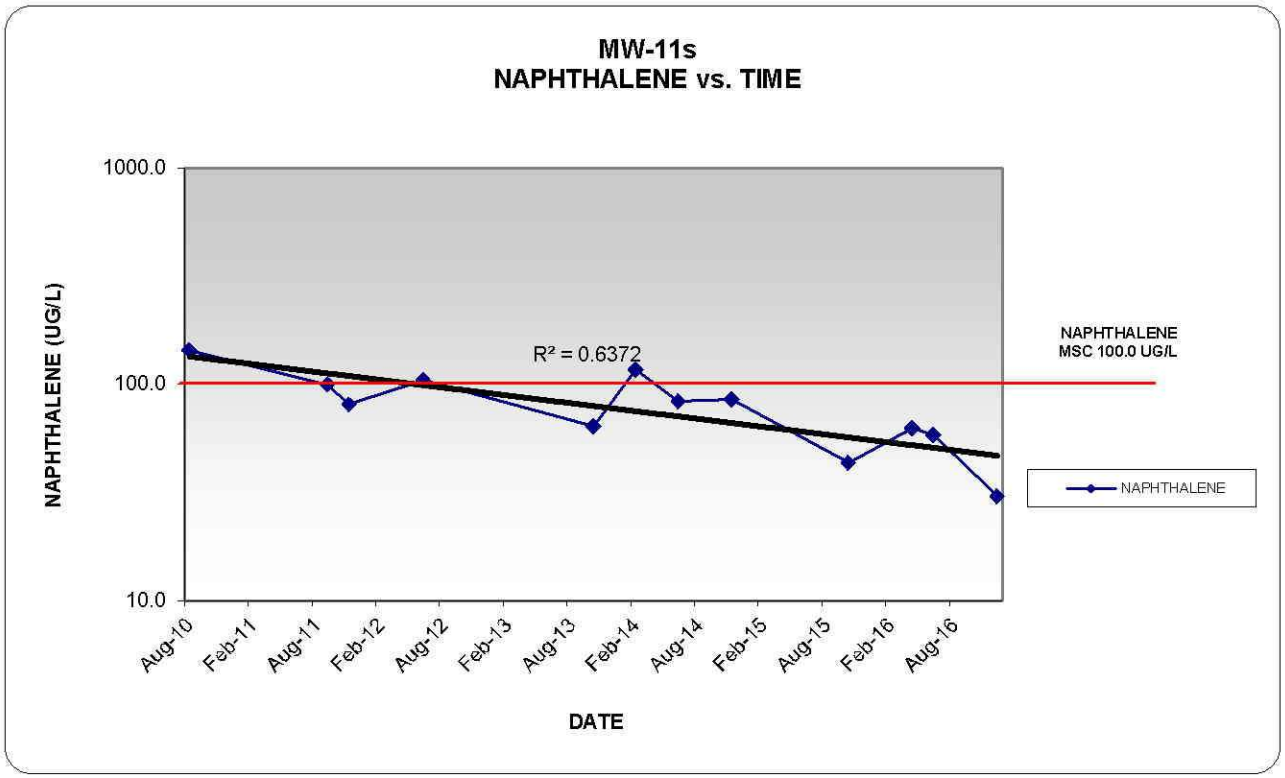

MW-10s
1,2,4-TMB vs. TIME
1000.0
100.0
10.0
1.0
0.1
1,2,4-TMB (UG/L)
R² = 0.1881
1,2,4-TMB MSC
15.0 UG/L
1,2,4-TMB
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)
DATE

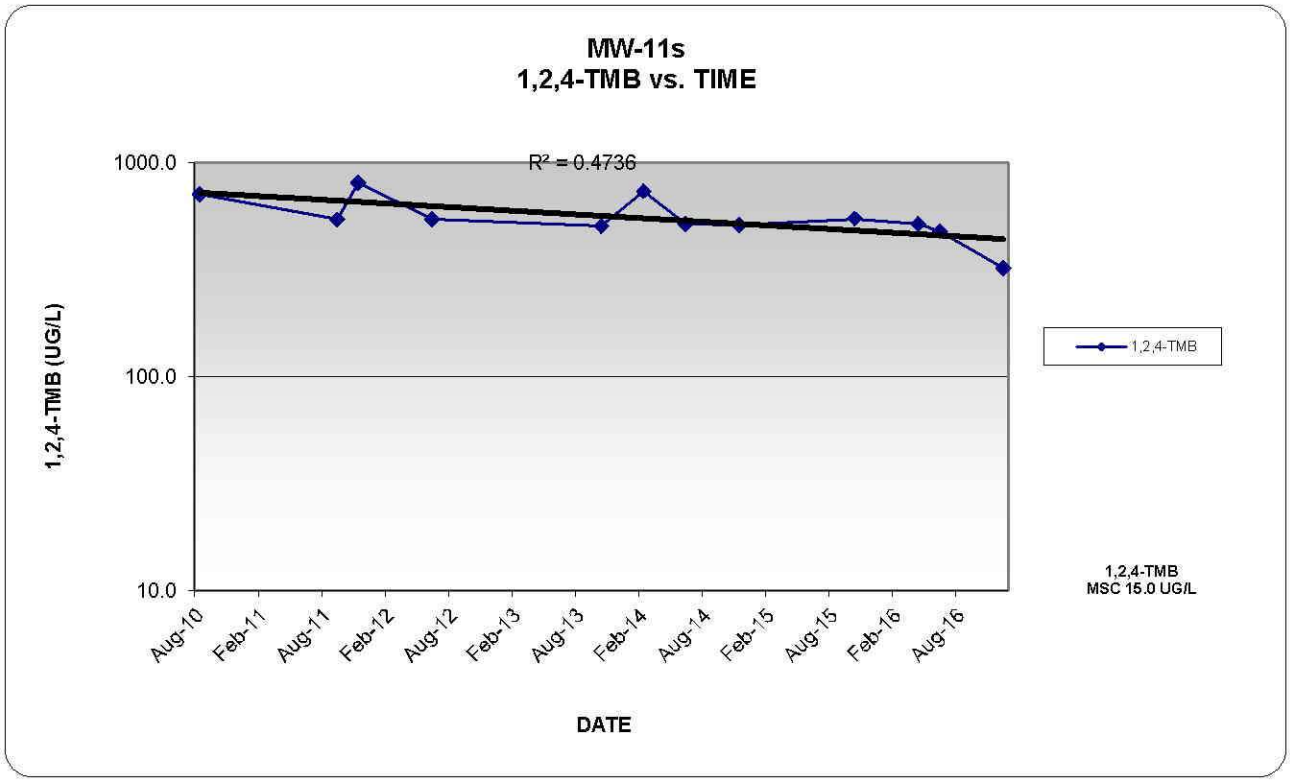

MW-10s
1,3,5-TMB vs. TIME
1000.0
100.0
10.0
1.0
0.1
1,3,5-TMB (UG/L)
1,3,5-TMB MSC
420.0 UG/L
1,3,5-TMB
R² = 0.0684
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)
DATE

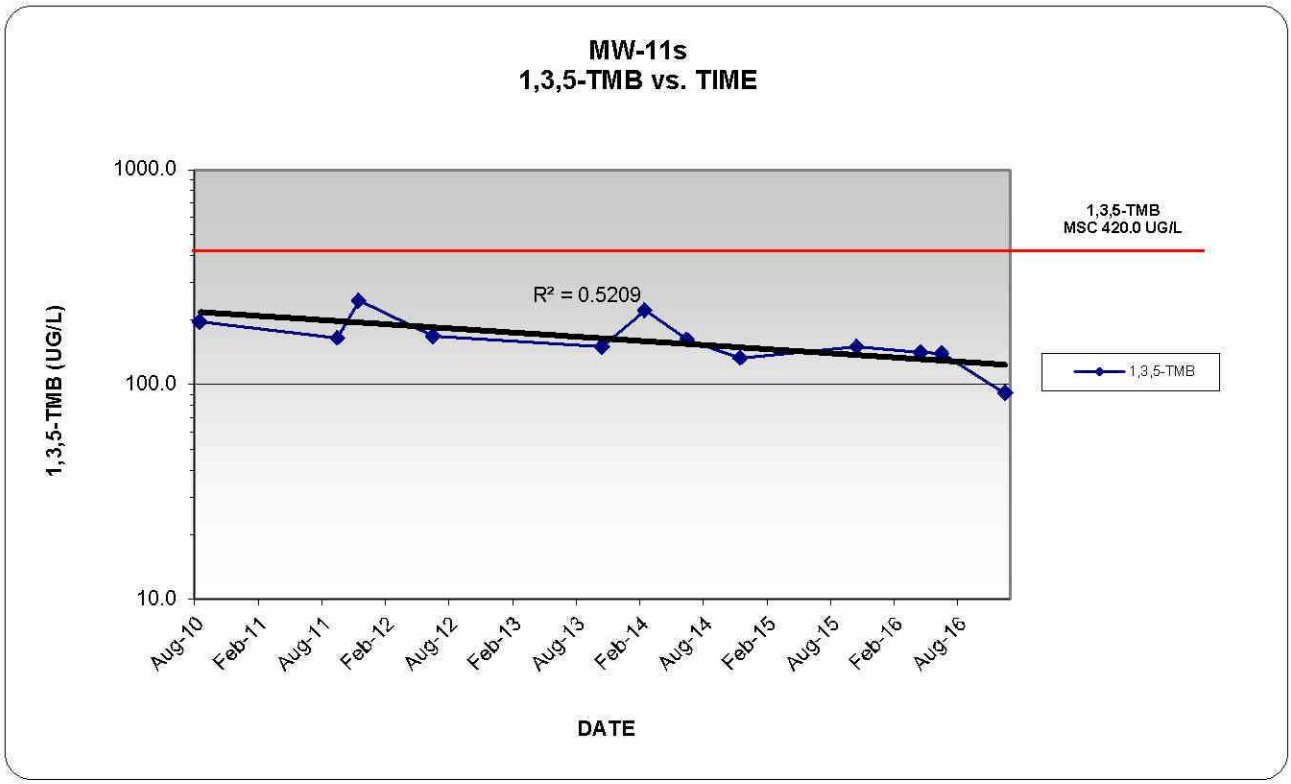

MW-11s
MTBE vs. TIME
1000.0
100.0
10.0
MTBE (UG/L)
MTBE
R² = 0.0708
MTBE MSC
20.0 UG/L
Aug-10
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
DATE

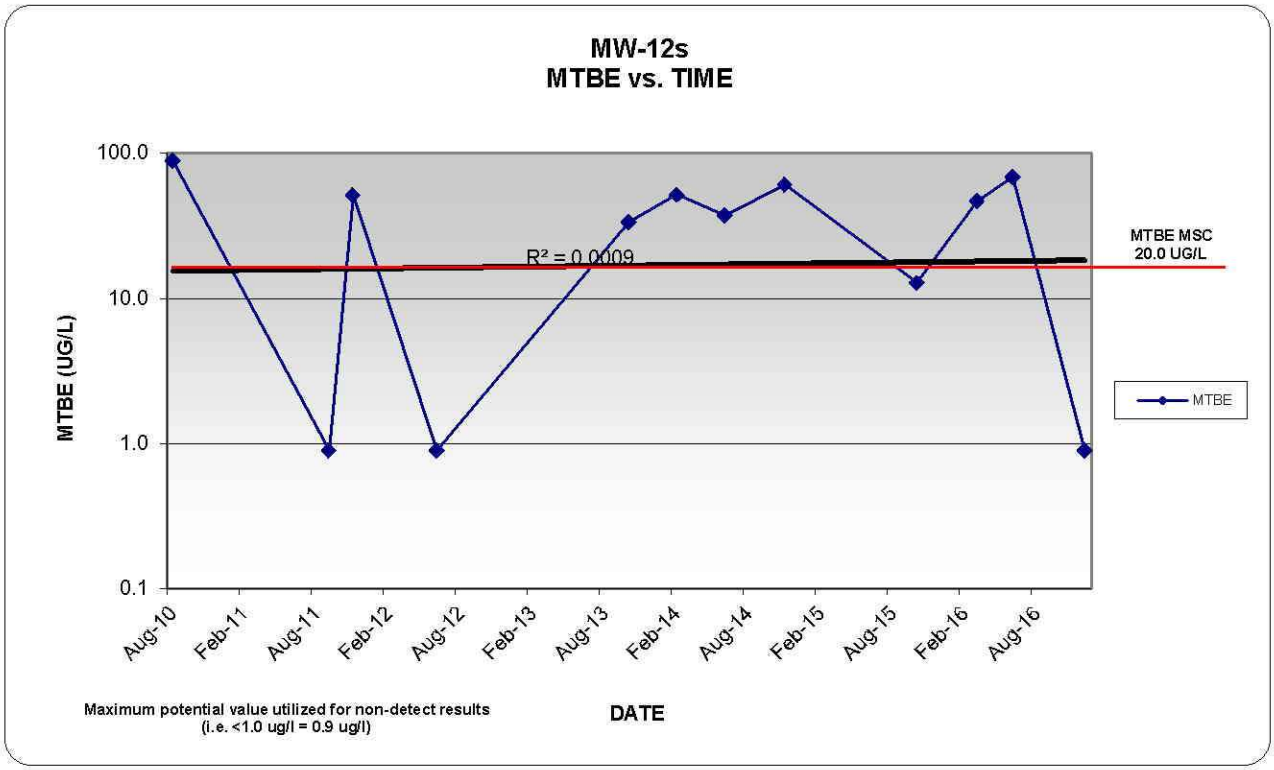

MW-11s
BENZENE vs. TIME
R² = 0.7569
1000.0
100.0
10.0
BENZENE (UG/L)
Aug-10
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
DATE
BENZENE
BENZENE MSC
5.0 UG/L

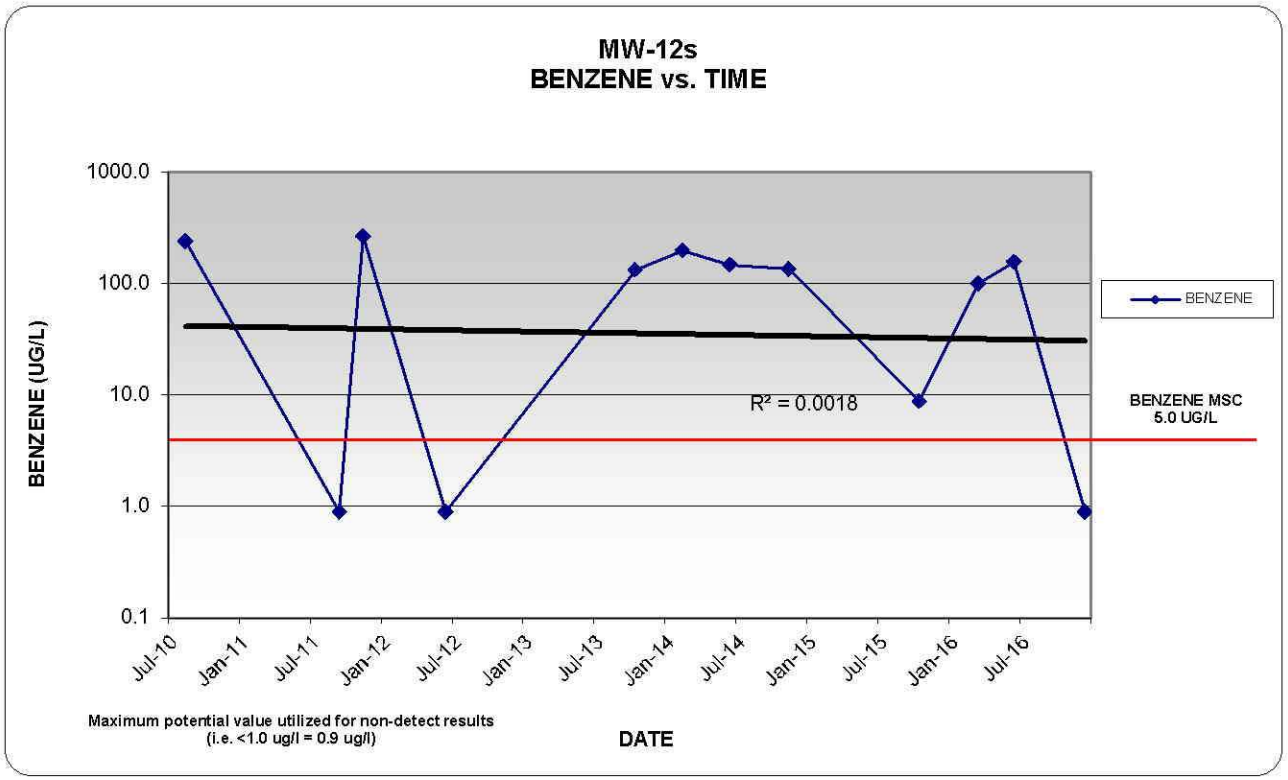

MW-11s
ETHYLBENZENE vs. TIME
10000.0
1000.0
100.0
ETHYLBENZENE (UG/L)
R² = 0.419
Aug-10
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
DATE
ETHYLBENZENE
ETHYLBENZENE
MSC 700.0 UG/L

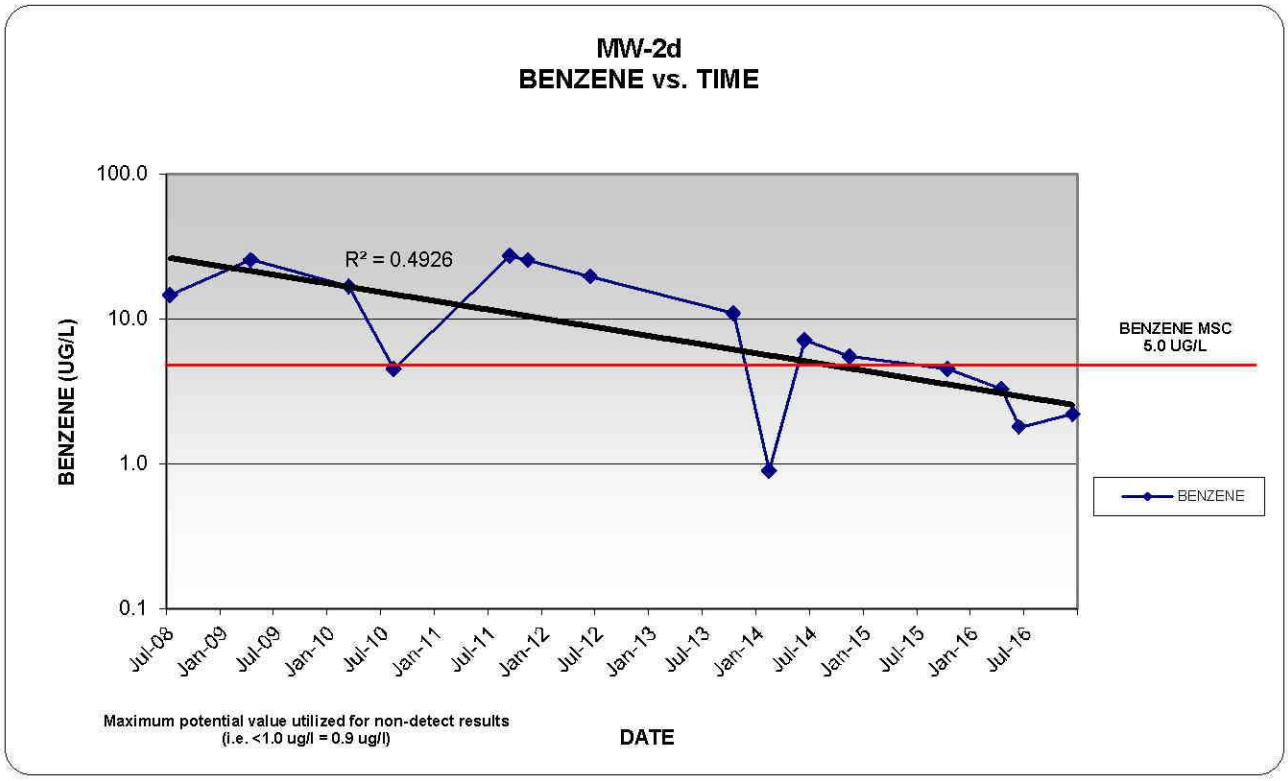

MW-11s
NAPHTHALENE vs. TIME
1000.0
100.0
10.0
NAPHTHALENE (UG/L)
R² = 0.6372
NAPHTHALENE
MSC 100.0 UG/L
NAPHTHALENE
Aug-10
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
DATE

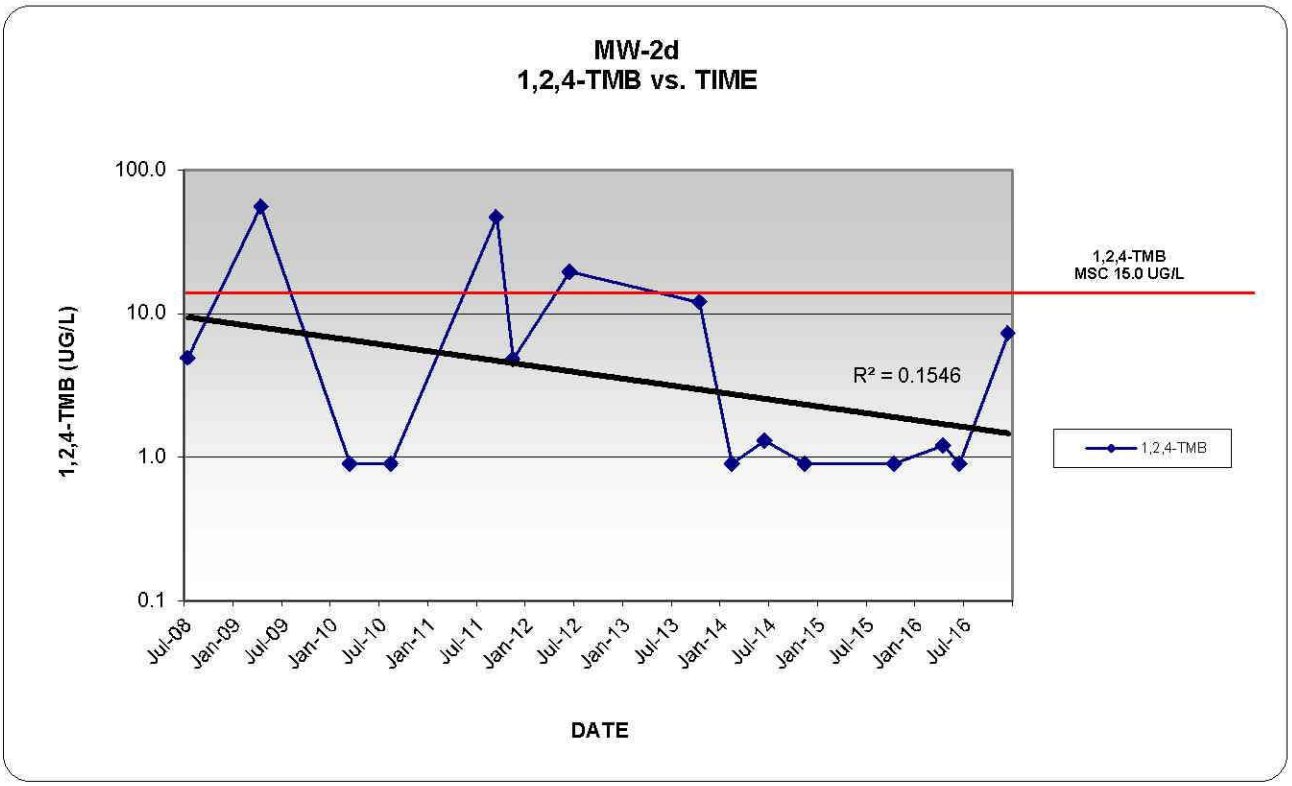

MW-11s
1,2,4-TMB vs. TIME
1000.0
100.0
10.0
1,2,4-TMB (UG/L)
R² = 0.4736
1,2,4-TMB
1,2,4-TMB
MSC 15.0 UG/L
Aug-10
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
DATE

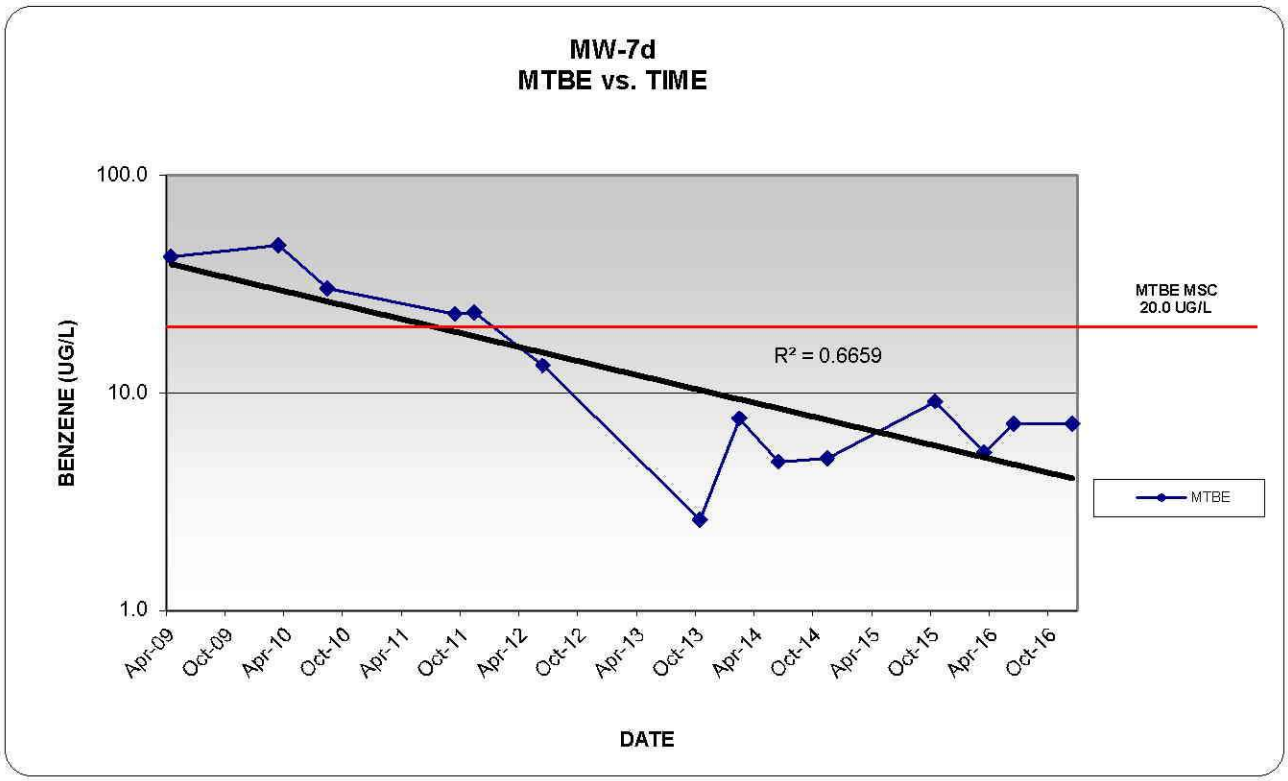

MW-11s
1,3,5-TMB vs. TIME
1000.0
100.0
10.0
1,3,5-TMB (UG/L)
R² = 0.5209
1,3,5-TMB
MSC 420.0 UG/L
1,3,5-TMB
Aug-10
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
DATE

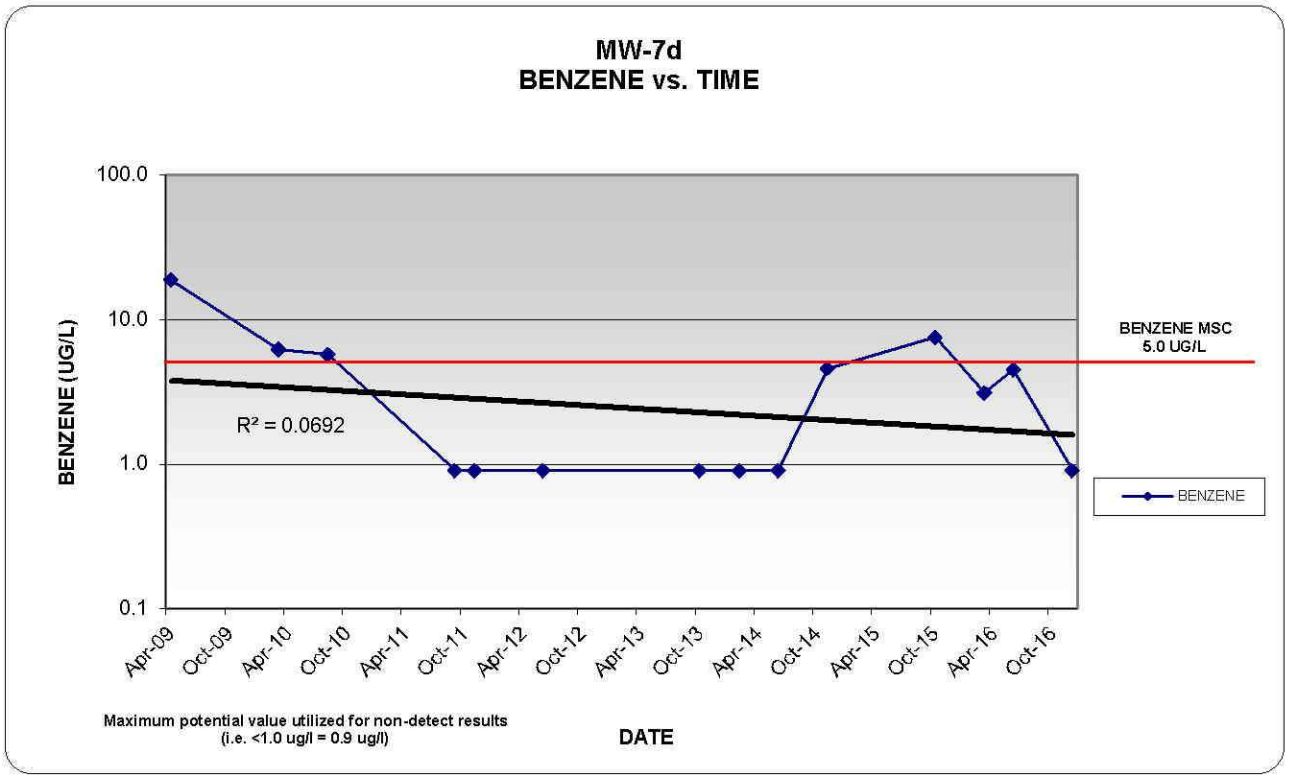

MW-12s
MTBE vs. TIME
100.0
10.0
1.0
0.1
MTBE (UG/L)
R² = 0.0009
MTBE MSC
20.0 UG/L
MTBE
Aug-10
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
DATE
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)

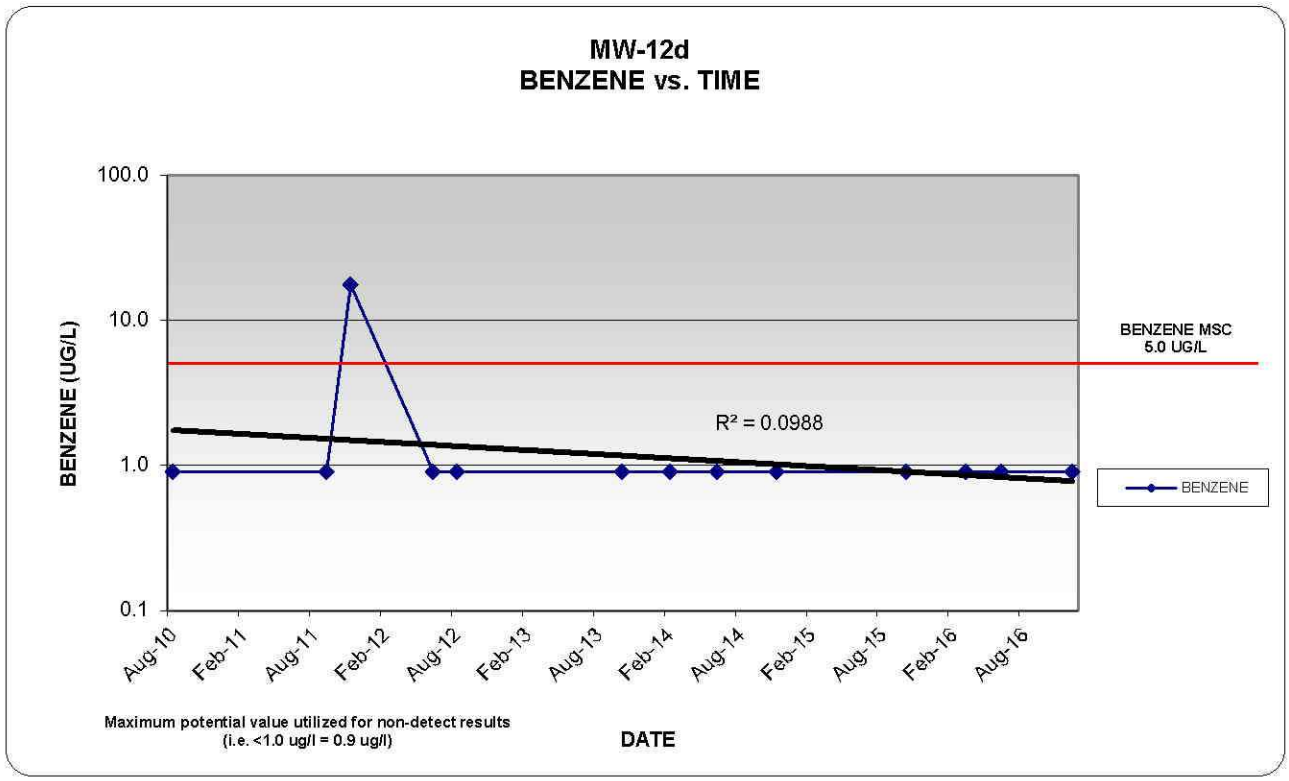

MW-12s
BENZENE vs. TIME
1000.0
100.0
10.0
1.0
0.1
BENZENE (UG/L)
R² = 0.0018
BENZENE
BENZENE MSC
5.0 UG/L
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)
DATE

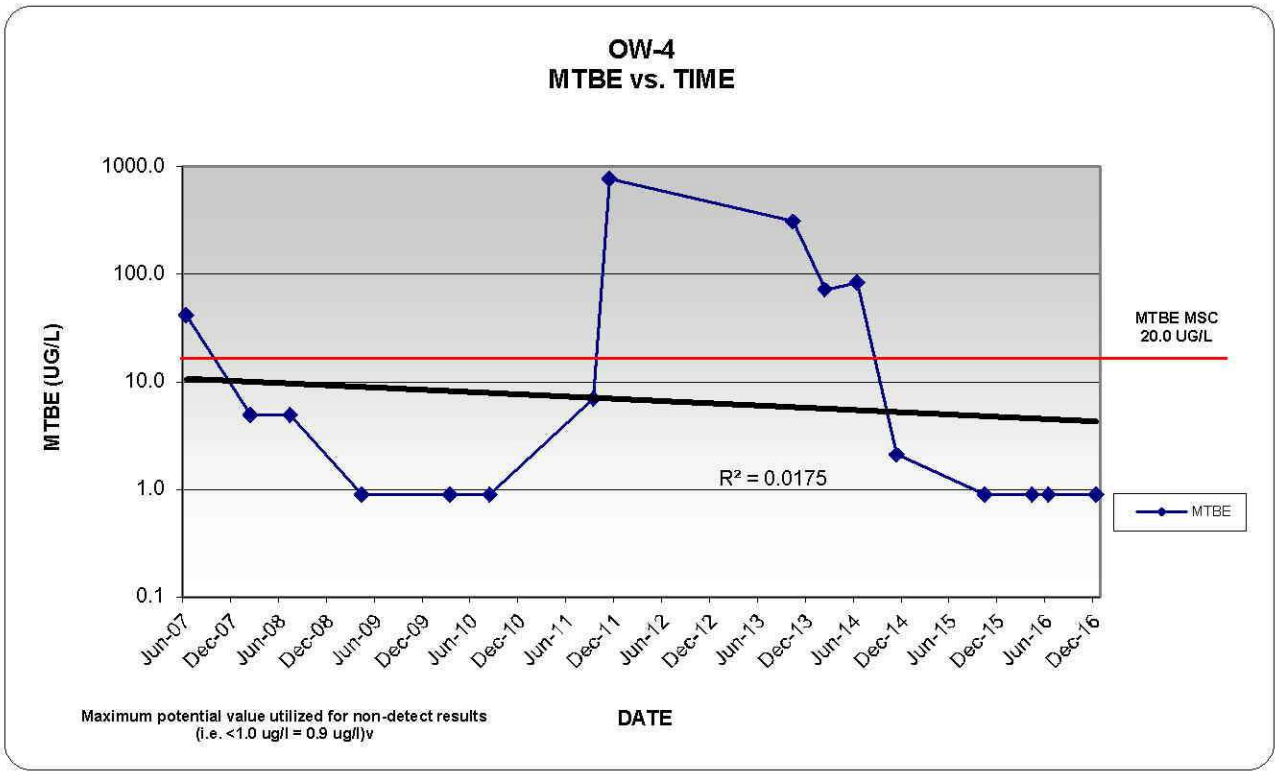

MW-2d
BENZENE vs. TIME
100.0
10.0
1.0
0.1
BENZENE (UG/L)
R² = 0.4926
BENZENE MSC
5.0 UG/L
BENZENE
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)
DATE


MW-2d
1,2,4-TMB vs. TIME
100.0
10.0
1.0
0.1
1,2,4-TMB (UG/L)
R² = 0.1546
1,2,4-TMB
MSC 15.0 UG/L
1,2,4-TMB
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
DATE


MW-7d
MTBE vs. TIME
100.0
10.0
1.0
BENZENE (UG/L)
R² = 0.6659
MTBE MSC
20.0 UG/L
MTBE
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Apr-15
Oct-15
Apr-16
Oct-16
DATE


MW-7d
BENZENE vs. TIME
100.0
10.0
1.0
0.1
BENZENE (UG/L)
R² = 0.0692
BENZENE MSC
5.0 UG/L
BENZENE
Apr-09
Oct-09
Apr-10
Oct-10
Apr-11
Oct-11
Apr-12
Oct-12
Apr-13
Oct-13
Apr-14
Oct-14
Apr-15
Oct-15
Apr-16
Oct-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)
DATE


MW-12d
BENZENE vs. TIME
100.0
10.0
1.0
0.1
BENZENE (UG/L)
R² = 0.0988
BENZENE MSC
5.0 UG/L
BENZENE
Aug-10
Feb-11
Aug-11
Feb-12
Aug-12
Feb-13
Aug-13
Feb-14
Aug-14
Feb-15
Aug-15
Feb-16
Aug-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)
DATE


OW-4
MTBE vs. TIME
1000.0
100.0
10.0
1.0
0.1
MTBE (UG/L)
MTBE MSC
20.0 UG/L
R² = 0.0175
MTBE
Jun-07
Dec-07
Jun-08
Dec-08
Jun-09
Dec-09
Jun-10
Dec-10
Jun-11
Dec-11
Jun-12
Dec-12
Jun-13
Dec-13
Jun-14
Dec-14
Jun-15
Dec-15
Jun-16
Dec-16
Maximum potential value utilized for non-detect results
(i.e. <1.0 ug/l = 0.9 ug/l)v
DATE

ATTACHMENT J

PADEP FSCR Approval Letter Dated December 22, 2016

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

December 22, 2016

CERTIFIED MAIL NO.: 7016 0910 0000 4016 7433

Lewis Brothers Garage
c/o Mr. Sean T. Phillips, Executor
121 Aspen Lane
Nicholson, PA 18846

Re: ECB-Storage Tanks Program
SCR Approval with Modifications Letter
Lewis Brothers Facility
Facility ID #: 35-10233
Incident#(s): 8473, 37784
RR 347
Scott Township, Lackawanna County

Dear Mr. Phillips:

The Department of Environmental Protection (Department) has reviewed the September 26, 2016 document titled Site Characterization Report for the release incident(s) referenced above. This document was prepared by Pennsylvania Tectonics, Inc. and submitted as a Site Characterization Report (SCR) as required by 25 Pa. Code § 245.310(a). You selected a combination of the Statewide Health standard and the Site Specific standard as the remediation standard for soil and groundwater.

The Department approves the SCR in accordance with Section 245.310(c)(2) with the following modification(s)/stipulation(s):

1. Dissolved lead has not been detected above laboratory method detection limits in groundwater since sampling was initiated in 2008. Analysis for dissolved lead may be discontinued.

2. The Department concurs that under current conditions, no additional assessment of surface water is necessary at this time.

3. The Johnson and Ettinger model performed for the Jarrow residence used a depth to groundwater value of ten feet below the floor of the basement. Groundwater elevations in nearby monitoring wells are often at depths of six to seven feet below grade. It does not appear that there is a buffer of five feet of soil between impacted groundwater and the basement floor. Indoor air sampling should be conducted.

4. In Table BB-1 for the Strong residence, results are listed for an August 1, 2015 sampling event. Laboratory data sheets could not be located within the report for this date.

5. The Department has reviewed the analytical results of Point of Entry Treatment (POET) systems and has determined that influent results for Tier 2 wells have non-detect results for five to six quarterly events over seven to eight years. Tier 3 wells have non-detect results for seven to eight events over seven to 8 years. Based on current conditions the POET systems may be removed from Tier 2 and Tier 3 wells.

6. In accordance with Section 250.305(c)(1) of the Department's Land Recycling regulations, the use of Direct Contact Values for soil is not relevant for screening the constituents of concern at the site. In sections 5.6, 6.1 and other locations of the report the Direct Contact Values are used. The Soil-to-Groundwater MSCs are the correct screening values for the site.

7. Based on refusal of access to potentially relevant properties to the west and southwest, the Department will not require additional delineation in this direction at this time. The report indicates that impacted smear zone soils to the southeast are not delineated based on results collected from soil boring TB-38A; which contained an exceedance of the benzene MSC at the nine to ten foot interval. Based on nine of twelve previous gauging events of groundwater in nearby monitoring well MW-10s, this interval is saturated. No further smear zone delineation in necessary in this direction.

8. In section 9.2 of the report, it is suggested that the Site Specific standard (SSS) may be selected for soils at the site. There is no discussion of how that may be attained. Such a remedy would require activity and use restrictions be applied to impacted off-site properties memorialized in an Environmental Covenant. This might be very difficult to obtain.

9. Additional remedial alternatives need to be evaluated and/or additional remedial pilot testing should be conducted. In Section 10.9 it is concluded that soil vapor extraction/air sparge technology is not appropriate for the site. There is a lack of detail in the pilot study, including but not limited to justification of the diameter and construction of SVE test wells, and the selection of specifications of the test equipment. Additionally, sparging was not conducted during this test.

A Remedial Action Plan (RAP) conforming to the requirements of Section 245.311(b) of the Department's Corrective Action Regulations, shall be submitted to the Department for review. Section 245.311(a) requires that the RAP be submitted within 45 days of your SCR submittal, or submitted within an alternative time frame as determined by the Department. **Your RAP is due no later than February 28, 2017.** Your RAP submission should address the modifications noted above.

Failure to submit a complete RAP within the alternative timeframe as determined by the Department may result in enforcement action.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717-787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717-787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717-787-3483) FOR MORE INFORMATION.

The technical review of this document was conducted under the responsible charge of a Pennsylvania Licensed Professional Geologist. If you have any questions or desire clarification regarding the above, then please contact Sherry Carlo, P.G. who can be reached either by telephone at 570-826-2498 or through e-mail to shcarlo@pa.gov.

Sincerely,

Eric Supey
Environmental Program Manager
Environmental Cleanup & Brownfields Program

cc: Scott Township
PA Tectonics, Inc.
USTIF

ATTACHMENT K

Strong Property POET Sampling – Revised Data Table & August 11, 2015 Data Sheets

01/19/17

TABLE BB-1
Lewis Brothers Garage Property
Site Characterization Activities
Private Well Sampling & POET System Monitoring Analytical Data (ug/L)

Map ID	Well Number	Well Status	Date Sampled	Sample Type	Benzene (ug/L)	Ethyl-Benzene (ug/l)	Cumene (ug/L)	Toluene (ug/L)	Naphthalene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)	1,3,5-TMB (ug/L)	1,2,4-TMB (ug/L)	Total Coliform (cfu/100mL)	HPC (cfU/100mL)
					5	**700**	**840**	**1,000**	**100**	**10,000**	**20**	**420**	**15**	**Absence**	**500**
63	**Strong, Barbie** 4 Hilltop Drive Scott Township, PA 18447 (570) 586-0796 (Home) (570) 947-2588 (Cell)	Potable	1/30/2008	Initial	**0.64**	<0.5	<0.5	<0.5	<0.5	<1.5	**2.2**	<0.5	<0.5	NS	NS
			5/6/2008	Raw	**0.18**	<0.5	<0.5	<0.5	<0.5	<1.5	**1.1**	<0.5	<0.5	NS	NS
				Middle	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	<0.5	<0.5	<0.5	NS	NS
				Treated	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	<0.5	<0.5	<0.5	Absence	<1
			8/4/2008	Raw	<5.0	<5.0	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	NS	NS
				Middle	<5.0	<5.0	<5.0	<5.0	<5.0	<1.5	<5.0	<5.0	<5.0	NS	NS
				Treated	<0.5	<0.5	<0.5	<0.5	<0.5	<1.5	<0.5	<0.5	<0.5	Absence	<1
			2/24/2009	Raw	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Middle	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Treated	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	NS	NS
			6/29/2010	Raw	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Middle	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Treated	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	NS	NS
			8/3/2011	Raw	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Middle	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Treated	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	NS	NS
			6/12/2012	Raw	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Middle	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Treated	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	NS	NS
			9/30/2013	Raw	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Middle	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Treated	<0.50	<0.50	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	NS	NS
			1/14/2015	Raw	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Middle	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Treated	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS
			8/11/2015	Raw	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS
				Middle	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
				Treated	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			5/13/2015	Raw	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS
				Middle	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
				Treated	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			8/11/2015	Raw	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS
				Middle	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
				Treated	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			11/10/2015	Raw	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS
				Middle	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
				Treated	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
			2/9/2016	Raw	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Middle	<1.0	<1.0	<1.0	<1.0	<2.0	<3.0	<1.0	<1.0	<1.0	NS	NS
				Treated	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS
			2/9/2016	Raw	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	NS
				Middle	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
				Treated	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

August 19, 2015

Mr. Marty Gilgallon
PA Tectonics
723 Main Street
Archbald, PA 18403

Certificate of Analysis

Project Name:	**27058 Lewis Brothers Garage**	Workorder:	**2089056**
Purchase Order:		Workorder ID:	**27058 Lewis Brothers Garage**

Dear Mr. Gilgallon:

Enclosed are the analytical results for samples received by the laboratory on Thursday, August 13, 2015.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

ALS Environmental

34 Dogwood Lane ■ Middletown, PA 17057 ■ Phone: 717-944-5541 ■ Fax: 717-944-1430 ■ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2089056 27058 Lewis Brothers Garage

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2089056001	Strong.B.Aug.15 Raw	Drinking Water	8/11/2015 07:35	8/13/2015 09:08	Collected by Client

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

ALS Environmental

34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: A2LA 0818.01
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2089056 27058 Lewis Brothers Garage

Lab ID: **2089056001** Date Collected: 8/11/2015 07:35 Matrix: Drinking Water

Sample ID: **Strong.B.Aug.15 Raw** Date Received: 8/13/2015 09:08

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	*Cntr*
VOLATILE ORGANICS									
Benzene	ND		ug/L	0.50	EPA 524.2		8/19/15 09:17	CPK	A
Ethylbenzene	ND		ug/L	0.50	EPA 524.2		8/19/15 09:17	CPK	A
Isopropylbenzene	ND		ug/L	0.50	EPA 524.2		8/19/15 09:17	CPK	A
Methyl t-Butyl Ether	ND		ug/L	0.50	EPA 524.2		8/19/15 09:17	CPK	A
Naphthalene	ND		ug/L	0.50	EPA 524.2		8/19/15 09:17	CPK	A
Toluene	ND		ug/L	0.50	EPA 524.2		8/19/15 09:17	CPK	A
Total Xylenes	ND		ug/L	0.50	EPA 524.2		8/19/15 09:17	CPK	A
1,2,4-Trimethylbenzene	ND		ug/L	0.50	EPA 524.2		8/19/15 09:17	CPK	A
1,3,5-Trimethylbenzene	ND		ug/L	0.50	EPA 524.2		8/19/15 09:17	CPK	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared By*	*Analyzed*	*By*	*Cntr*
1,2-Dichlorobenzene-d4 (S)	83.7		%	70 - 130	EPA 524.2		8/19/15 09:17	CPK	A
4-Bromofluorobenzene (S)	85.5		%	70 - 130	EPA 524.2		8/19/15 09:17	CPK	A

Debra J Musser

Ms. Debra J. Musser
Project Coordinator

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC # 1 of 1

ALS Q

* 2 0 8 9 0 5 6 *

Client Name: Pennsylvania Tectonics, Inc.
Address: 723 Main Street
Archbald, PA 18403
Contact: Martin Gilgallon
Phone#: (570) 487-1959
Project Name/#: Lewis Brothers Garage/27058
Bill To:

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required: ______ Approved By: ______

Email? [Y] -Y patectonics@hotmail.com

Fax? [ ] -Y No.:

Container Type	CG
Container Size	40 ml
Preservative	**

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Unleaded Gasoline - New List EPA 524.2
1 Strong.B.Aug.15 Raw	8.11.15	0735	G	DW	3
2					
3					
4					
5					
6					
7					
8					
9					
10					

Enter Number of Containers Per Sample or Field Results Below.

Receipt Information (completed by Receiving Lab)

Cooler Temp: 1°c Therm ID: TH-289

No. of Coolers: ______

	Y	N	Initial
Custody Seals Present?	/		AM
(if present) Seals Intact?	/		
Received on Ice?	/		
COC/Labels Complete/Accurate?	/		
Cont. in Good Cond.?	/		
Correct Containers?	/		
Correct Sample Volumes?	/		
Correct Preservation?	/		
Headspace/Volatiles?		/	

Courier/Tracking #: 9085 0854 4982

Sample/COC Comments

ALS Field Services: __Pickup __Labor __Composite Sampling __Rental Equipment __Other: ______

Project Comments: **=ASC/HCl

LOGGED BY(signature): [signature] DATE 8/13/15 TIME 2047

REVIEWED BY(signature): DATE TIME

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Kevin Cucura [signature]	8.12.15	1300	2 Fed-Ex 8085 0854 4982	8.12.15	1300
3			4 [signature] ALS	8/13/15	0908
5			6		
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] USACE [ ]

Special Processing: USACE [ ] Navy [ ] [ ]

State Samples Collected In: [ ] NY [ ] NJ [X] PA [ ] NC [ ]

Reportable to PADEP? Yes [ ]

PWSID #

Sample Disposal: Lab [ ] Special [ ]

EDDS: Format Type-

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/11