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April 29, 2014

Mr. Scott Ferguson, P.G.
Pennsylvania Department of Environmental Protection
Environmental Cleanup Program
208 West Third Street, Suite 101
Williamsport, PA 17701-6448

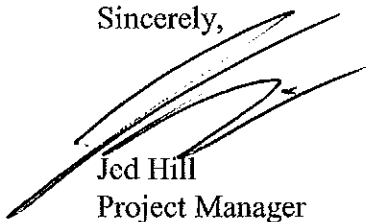
**Re: 1st Quarter 2014 Remedial Action Progress Report
United Refining Company of Pennsylvania
Kwik Fill M-90
1322 South 2nd Street
Lawrence Township, Clearfield County, Clearfield, Pennsylvania
PADEP Facility ID #17-14821/PAUSTIF Claim #2008-0034(M)**

Dear Mr. Ferguson:

Letterle & Associates, LLC (Letterle) is pleased to submit this Remedial Action Progress Report (RAPR) for the above referenced facility. This RAPR presents the groundwater monitoring data from the first quarter of 2014 and also includes a description of remedial activities completed from January 1, 2014 through March 31, 2014 (first quarter of 2014).

If you have any questions or comments regarding this report, please feel free to contact me at (814) 355-2241 or jhill@letterleassociates.com.

Sincerely,



Jed Hill
Project Manager

Enclosure

cc: Mr. Scott C. Wonsettler, P.G., United Refining Company of Pennsylvania (with CD)
Mr. Gerald Hawk, ICF International (via email)
Mr. Robert McDonald, Arch Street Management
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1st Qtr 2014 RAPR.doc

REMEDIAL ACTION PROGRESS REPORT
1st Quarter 2014

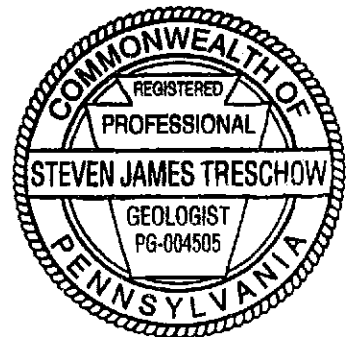
PADEP Facility ID #17-14821
PAUSTIF Claim #2008-0034(M)
Kwik Fill M-90
1322 South 2nd Street
Lawrence Township, Clearfield County
Clearfield, Pennsylvania 16830

Prepared for:

United Refining Company of Pennsylvania
15 Bradley Street
P.O. Box 688
Warren, Pennsylvania 16365

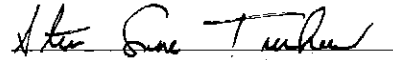
Prepared by:

Letterle & Associates, LLC
629 East Rolling Ridge Drive
Bellefonte, Pennsylvania 16823




Ted Hill

Project Manager


Steven James Treschow, P.G.
Professional Geologist

April 2014

"By affixing my seal to this document, I am certifying that the information is true and correct to the best of my knowledge. 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."

Steven James Treschow, P.G. (signed and sealed this day (April 29, 2014))

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GENERAL INFORMATION

Client Contact:	Scott Wonsettlcr, P.G.
Letterle Project Manager:	Jed Hill
Regulatory Contact:	Scott Ferguson, P.G.
PADEP Facility ID #:	17-14821
PAUSTIF Claim #:	2008-0034 (M)
Number of Wells:	14 monitoring wells (on-site wells MW-2A, MW-32, and MW-33 and off-site monitoring wells MW-3, MW-4, MW-7, MW-9, MW-10, MW-14, MW-15, MW-17, MW-21, MW-29, and MW-30). 8 remediation system extraction wells (MW-1, MW-1A, MW-2, MW-28, MW-31, MW-34, MW-35, and MW-36).

Wells Containing LNAPL: 0

Letterle & Associates, LLC (Letterle) has been contracted by United Refining Company (United) of Pennsylvania (PA) to perform remedial activities at the Kwik Fill M-90 facility located at 1322 South 2nd Street in Lawrence Township, Clearfield County, Clearfield, PA (the site).

The site location is depicted on the 7.5-minute United States Geological Survey (USGS) Topographic Quadrangles of Clearfield and Glen Richey, PA presented as **Figure 1**. The site exists at an approximate elevation of 1,045 feet above mean sea level (ft-amsl). A more detailed site layout map, which fully depicts the site area, is presented as **Figure 2**.

This Remedial Action Progress Report (RAPR) includes a description of the on-going remedial action activities and presents the groundwater monitoring data obtained at the site during the first quarter of 2014.

SITE HISTORY/PROJECT SUMMARY

The site is currently an active retail fueling (gasoline and diesel) station, which has two 10,000-gallon and one 8,000-gallon steel underground storage tanks (USTs). The two 10,000-gallon USTs were installed in 1969 and the 8,000-gallon UST was installed in 1974. One 10,000-gallon UST and one 8,000-gallon contain unleaded gasoline and the remaining 10,000-gallon UST (in the middle) contains diesel fuel.

On June 15, 1995, the 10,000-gallon unleaded gasoline UST (#002) failed a tightness test. The PA Department of Environmental Protection (PADEP) was notified of the failure and subsequently, Mountain Research, Inc. (MRI) was retained by United in May 1996 to perform site characterization activities.

From June 1996 through October 1997, four soil boring/monitoring wells, MW-1, MW-1A, MW-2, and MW-2A, were installed on the site and five monitoring wells, MW-3 through MW-7, were installed off-site, on the Beckwith Machinery Company (BMC) property. Quarterly groundwater sampling began in February 1996. Groundwater analytical results for the monitoring wells indicated unleaded gasoline constituents at concentrations above their respective Medium Specific

Concentration (MSC) values. In June 1997, soil/groundwater samples were collected on-site and in the right-of-way of South 2nd Street. The results of the investigation indicated several soil/groundwater samples contained unleaded gasoline constituents at concentrations above their respective MSC values.

MRI prepared a Remedial Action Plan (RAP) in July 1999 proposing a Matrix Trailer Mounted Oxygen Injection System. The PADEP approved the RAP in January 2000. In February 2000, system installation was initiated. The system consisted of eight oxygen injection points and a small trailer to house any ancillary equipment. On April 12, 2000, the system was activated. The system was operational from April 12, 2000 until the first quarter of 2005. From February 1996 through first quarter of 2005, MRI performed quarterly groundwater sampling from the monitoring well network.

From early 2005 through mid-2006, additional site investigations were initiated at the site to re-evaluate the remedial approach. In October 2006, a Supplemental Site Characterization Report (SCR) and RAP Addendum was submitted to the PADEP. The Supplemental SCR/RAP Addendum identified two separate source areas, one on-site and one off-site at the BMC property. The on-site source area (Source Area #1) was found to have impacted groundwater beneath the site and downgradient on the former BMC property. Impacted groundwater from Source Area #2 was found to be related to an off-site release and not associated with the Kwik Fill M-90 facility. The Supplemental SCR/RAP Addendum strategy included remediating groundwater via an air sparge/soil vapor extraction (AS/SVE) system. An additional RAP Addendum was submitted in December 2006. The PADEP approved the Supplemental SCR/RAP Addendum and additional RAP Addendum in January 2007, with modifications. An AS/SVE system was installed at the site and operated from November 2007 through the fourth quarter of 2008.

A second release of unleaded gasoline occurred at the site, and was reported in February 2008. Additional site characterization activities were initiated and an Additional SCR and RAP Addendum was submitted in June 2011. The June 2011 Additional SCR/RAP Addendum included the selection of a dual phase extraction (DPE)/SVE system to address on-site soil and groundwater and enhanced in-situ bioremediation (EB) to address off-site groundwater. The June RAP Addendum was approved by the PADEP in July 2011.

REMEDIAL ACTION PLAN IMPLEMENTATION

The PA Underground Storage Tank Indemnification Fund (PAUSTIF) and their administrator, ICF International (ICFI), put the site remedial work out for competitive bid. The proposed scope of work was based upon the July 2011 approved RAP. Letterle was awarded the bid in March of 2012 and began implementation of the approved RAP.

Remedial actions completed in previous quarters include off-site well abandonment, DPE well installation, remedial system trenching and piping, remedial system installation, and the application of a chemical oxidant as part of an enhanced bioremediation feasibility study.

Remediation System

The remedial system trailer was constructed and mobbed to the site during the third quarter of 2012 and began operation on October 30, 2012. The principal DPE system components housed within the trailer include:

- Two claw pumps;
- One air compressor;
- One air/water separator (AWS) tank;
- One equalization tank;
- Two transfer pumps and level controls;
- Six pneumatic groundwater pumps;
- Four 400-pound liquid-phase granular activated carbon (GAC) vessels (high pressure units);
- Two 600-pound vapor-phase GAC vessels; and,
- Control panel for the claw pumps, air compressor, and the transfer pumps (including all system interlocks).

The recovered groundwater is treated and discharged to the sanitary sewer under an issued permit from the Clearfield Municipal Authority (CMA). Under the terms of the permit, analytical reports and totalizer readings are reported in Discharge Monitoring Reports (DMR) on a monthly basis to the CMA. Petroleum impacted soil and groundwater remediation systems have been listed as exempt from the Plan Approval/Operating permit requirements by PADEP, Division of Air Quality. The remediation system is operated under the exemption requirements.

QUARTERLY SITE ACTIVITIES COMPLETED – 1ST QUARTER 2014

Remediation System Operating Summary

Start Date:	October 30, 2012
1 st Quarter 2014 System Uptime:	98%
1 st Quarter 2014 Total Gallons Treated:	205,533 gallons
Total Gallons Treated To Date:	1,084,968 gallons

System Sampling Dates

Groundwater Influent, Midfluent, Effluent:	January 8, 2014
	February 6, 2014
	March 3, 2014

Groundwater Effluent:	January 8, 2014
	January 20, 2014
	February 6, 2014
	February 17, 2014
	March 3, 2014
	March 24, 2014
Vapor:	February 6, 2014

Groundwater Gauging/Sampling

The monitoring well network is gauged and sampled on a quarterly basis to analyze the effectiveness of the remediation system and to monitor groundwater impacts/movement at the site. Approximately one week prior to groundwater gauging/sampling, the remediation system was deactivated to allow for static groundwater conditions.

Groundwater Gauging

Letterle completed a quarterly groundwater gauging event on March 25, 2014. A total of 15 wells were gauged:

- *15 wells in the shallow overburden groundwater monitoring well network:* MW-2A, MW-3, MW-4, MW-5, MW-7, MW-10, MW-14, MW-15, MW-21, MW-22, MW-23, MW-29, MW-30, MW-32, and MW-33.

Gauging Methodology

Depth-to-groundwater was measured in each well to determine groundwater elevations and interpret the predominant direction of groundwater movement. Depth-to-groundwater measurements were recorded using an electronic water level indicator capable of measuring to within 0.01 feet of accuracy. The electronic water level indicator was decontaminated between wells.

Gauging Results

Groundwater elevation data collected during the first quarter of 2014 groundwater gauging event indicates the following:

- Groundwater elevations in shallow overburden groundwater ranged from 1,135.75 feet in MW-7 to 1,145.53 feet in MW-33;
- The predominant direction of movement in shallow overburden groundwater is interpreted to be to the northwest (towards the West Branch Susquehanna River); and,
- Using the March 25, 2014 groundwater elevation data, a groundwater hydraulic gradient of 0.022 feet per foot (ft/ft) between groundwater monitoring wells MW-33 and MW-7 was calculated.

Table 1 summarizes the historical groundwater gauging data and also presents the resultant groundwater gauging results from the first quarter of 2014 groundwater gauging event. A groundwater potentiometric surface contour map for the March 25, 2014 groundwater gauging event is presented as **Figure 3**.

Groundwater Sampling

Letterle completed a quarterly groundwater sampling event on March 25, 2014. A total of 14 wells were sampled:

- *14 wells in the shallow overburden groundwater monitoring well network:* MW-2A, MW-3, MW-4, MW-7, MW-9, MW-10, MW-14, MW-15, MW-17, MW-21, MW-29, MW-30, MW-32, and MW-33.

Sampling Methodology

Subsequent to gauging the groundwater level in each well, low-flow sampling was initiated. For wells shallower than 20 feet, a combination of polyethylene and silicon tubing are utilized in conjunction with a peristaltic pump. The peristaltic pump is then utilized to purge the well at a low flow rate of <0.5 liters (500 milliliters) per minute. For wells deeper than 20 feet, polyethylene tubing is utilized in conjunction with a two-inch Mini-Monsoon submersible pump to purge the well at a low flow rate of <0.5 liters (500 milliliters) per minute. The intake of each respective pump was placed approximately three feet below the measured water level. In general, each well is purged at a rate of 100-400 milliliters per minute to avoid creating drawdown. If a well was dewatered, a bailer was utilized to collect the sample after the well recovered.

The purged groundwater is then passed through a flow-through cell that measures dissolved oxygen (DO), pH, total dissolved solids (TDS), temperature, specific conductivity, and oxidation-reduction potential (ORP). Measurements of these parameters were recorded every 5 minutes. These measurements were recorded until three consecutive readings stabilized to within 10% of one another. Purging was considered to be complete upon parameter stabilization for three consecutive readings. Once stabilization was documented, the flow-through cell was disconnected and the sample was immediately collected from the discharge line.

The pump was decontaminated between each sampled well. The purged groundwater was filtered through a mobile GAC vessel and then discharged to the ground surface.

The samples were sealed in pre-preserved laboratory supplied glassware, labeled, custody sealed, placed in an ice-filled cooler, and returned to Letterle's office. The samples were stored in a refrigerator (at 4 °C) until they were collected by the laboratory. The samples were submitted to Fairway Laboratories of Altoona, PA, for analysis of the pre-March 15, 2008 PADEP Land Recycling Program Technical Guidance Manual, Table IV-9 - Short List of Petroleum Products, specifically unleaded gasoline constituents (PADEP unleaded gasoline short list constituents) via United States Environmental Protection Agency (USEPA) Method 8260B and were accompanied by Chain-of-Custody documentation.

Sampling Results

The groundwater analytical results from the groundwater sampling event conducted on March 25, 2014 indicated no exceedances of the applicable PADEP Used-Aquifer TDS $\leq 2,500$ milligrams per liter (mg/L) Residential Statewide Health Standard (UARSHS) MSCs.

Table 1 summarizes the historical groundwater analytical data and also presents the resultant groundwater analytical results from the first quarter of 2014 groundwater sampling event. Groundwater analytical laboratory reports are included in **Appendix A**.

Groundwater samples were not collected from MW-9 and MW-17 due to the inability to locate the respective monitoring wells.

PLANNED ACTIVITY

The following activities are currently planned for the 2nd Quarter of 2014:

- Remedial system operation and maintenance (including permit-required sampling);
- Quarterly groundwater gauging and sampling; and,
- Quarterly reporting.

TABLE

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP IARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-1	3/17/2010	10.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.26	1147.28
	6/8/2010	11.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.57	1146.97
	8/30/2010	18.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.78	1144.76
	11/17/2010	13.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.40	1146.14
	3/1/2011	6.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.78	1147.76
	5/31/2011	13.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.75	1145.79
	8/24/2011	12.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.12	1145.42
	3/28/2012	14.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.12	1147.42
Monitoring well converted to remedial extraction well.										
MW-1A	3/17/2010	7.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.57	1147.20
	6/8/2010	6.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.86	1146.91
	8/30/2010	16.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.32	1144.45
	11/17/2010	10.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.88	1145.89
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.04	1147.73
	5/31/2011	4.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.29	1145.48
	8/24/2011	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.65	1145.12
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.55	1147.22
Monitoring well converted to remedial extraction well.										
MW-2	3/17/2010	20.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.07	1146.91
	6/8/2010	20.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.36	1146.62
	8/30/2010	20.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.61	1144.37
	11/17/2010	20.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.36	1145.62
	3/1/2011	11.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.73	1147.25
	5/31/2011	10.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.68	1145.30
	8/24/2011	14.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.90	1145.08
	3/28/2012	11.5	1.1	<1.00	<1.00	<3.00	<1.00	<2.00	2.85	1147.13
Monitoring well converted to remedial extraction well.										
MW-2A	3/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.21	1147.66
	6/8/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.27	1147.60
	8/30/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.23	1145.64
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.25	1146.62
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.91	1147.96
	5/31/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.16	1146.71
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.52	1146.35
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.45	1148.42
	6/25/2012	5.22	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1144.36
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.21	1145.66
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.12	1144.75
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1144.57
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.00	1145.87
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.06	1144.81
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.48	1145.39
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.67	1145.20
MW-3	3/18/2010	43.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.43	1143.80
	6/7/2010	44.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.40	1143.83
	8/31/2010	41.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.92	1142.31
	11/17/2010	40.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.48	1142.75
	3/2/2011	33.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.81	1144.42
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	32.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.38	1142.85
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.40	1144.83
	6/25/2012	21.9	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.17	1143.06
	9/6/2012	27.5	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.17	1142.06
	12/14/2012	18.4	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.63	1140.60
	3/5/2013	11.8	13.3	<1.00	<1.00	<2.00	<1.00	<1.00	5.36	1140.87
	5/28/2013	12.6	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.40	1141.83
	9/9/2013	20.1	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.42	1140.81
	12/2/2013	17.2	<1.00	<1.00	1.55	<2.00	1.65	<1.00	5.45	1140.78
	3/25/2014	13.5	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.30	1140.93

Table 1
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United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-4	3/18/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.97	1144.15
	6/7/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.17	1142.95
	8/31/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.44	1140.68
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.26	1141.86
	3/2/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.92	1144.20
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.24	1141.88
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.20	1143.92
	6/25/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.74	1142.38
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.11	1141.01
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.40	1141.72
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.58	1142.54
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.61	1141.51
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.00	1140.12
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.40	1140.72
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.90	1142.22
MW-5	3/17/2010	5.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.16	1143.51
	6/7/2010	4.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.53	1143.14
	8/31/2010	3.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.18	1141.49
	11/17/2010	2.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.80	1141.87
	3/1/2011	1.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.43	1144.24
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	5.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.64	1142.03
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.04	1143.63
	6/25/2012	Well not part of quarterly sampling program.							2.25	1142.42
	9/6/2012								NG	NG
	12/14/2012								NG	NG
	3/5/2013								NG	NG
	5/28/2013								3.00	1141.67
	9/9/2013								4.17	1140.50
	12/2/2013								4.01	1140.66
	3/25/2014								4.03	1140.64
MW-6	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/7/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/31/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/1/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located. Well not part of quarterly sampling program.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	12/2/2013									
	3/25/2014									
MW-7	3/18/2010	3.6	59.5	11.5	44.4	54.7	25.6	44.5	2.60	1139.41
	6/7/2010	3.1	57.7	12.9	55.2	60.3	35.4	61.3	5.77	1136.24
	8/31/2010	6.8	104	14.4	47.9	49.2	29.3	38.7	7.92	1134.09
	11/17/2010	7.2	97.9	12.5	46.5	47.4	27.3	57.7	6.85	1135.16
	3/2/2011	4.1	51.9	8.8	39.3	27.7	22.4	20.9	3.93	1138.08
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	7.7	73.8	10.2	25.8	28.5	31.3	40.7	7.21	1134.80
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	7.15	1134.86
	6/25/2012	3.84	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.49	1134.52
	9/6/2012	10.6	NA	<2.00	<2.00	<4.00	<2.00	<2.00	7.76	1134.25
	12/14/2012	<2.00	NA	14.8	89.5	43.6	29.0	65.4	5.80	1136.21
	3/5/2013	<1.00	NA	2.29	5.67	5.16	2.25	3.28	6.55	1135.46
	5/28/2013	<1.00	NA	<1.00	1.07	<2.00	1.89	<1.00	6.30	1135.71
	9/9/2013	5.10	NA	<1.00	<1.00	<2.00	2.75	<1.00	7.80	1134.21
	12/2/2013	2.97	NA	9.81	29.3	17.1	17.0	38.6	7.08	1134.93
	3/25/2014	2.42	NA	<2.00	<2.00	<4.00	<2.00	<2.00	6.26	1135.75

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth to Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-9	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/8/2010	32.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.00	1141.97
	8/30/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/1/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	12/2/2013									
	3/25/2014									
MW-10	3/17/2010	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.64	1140.76
	6/7/2010	8.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.78	1141.62
	8/31/2010	8.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.08	1140.32
	11/17/2010	7.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.50	1139.90
	3/2/2011	7.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.14	1142.26
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	7.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.42	1140.98
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.42	1140.98
	6/25/2012	5.01	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.23	1141.17
	9/6/2012	6.16	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.10	1140.30
	12/14/2012	5.56	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.08	1140.32
	3/5/2013	5.80	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.81	1140.59
	5/28/2013	4.92	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.90	1140.50
	9/9/2013	6.87	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.70	1139.70
	12/2/2013	5.58	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.34	1140.06
	3/25/2014	<2.00	4.02	<2.00	<2.00	<4.00	<2.00	<2.00	1.70	1140.70
MW-12	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/7/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/31/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	30.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.28	1142.28
	3/2/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well not part of quarterly sampling program.							2.83	1142.73
	9/6/2012								NG	NG
	12/14/2012								NG	NG
	3/5/2013								NG	NG
	5/28/2013								NG	NG
	9/9/2013								NG	NG
	12/2/2013								NG	NG
	3/25/2014								NG	NG
MW-14	3/17/2010	23.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.97	1146.75
	6/7/2010	18.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.22	1146.50
	8/31/2010	35.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.43	1144.29
	11/17/2010	21.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.40	1145.32
	3/2/2011	2.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.62	1147.10
	5/31/2011	21.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1145.28
	8/24/2011	17.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.80	1143.92
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.71	1146.01
	6/25/2012	8.80	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.59	1145.13
	9/6/2012	19.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.63	1144.09
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.89	1141.83
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.14	1141.58
	5/28/2013	1.38	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.80	1143.92
	9/9/2013	3.30	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.30	1142.42
	12/2/2013	1.52	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.00	1142.72
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1142.32

Table 1
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United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-15	3/18/2010	6.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.73	1145.56
	6/7/2010	6.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.08	1145.21
	8/31/2010	7.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.88	1143.41
	11/17/2010	6.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1143.85
	3/2/2011	4.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.51	1145.78
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	6.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.27	1144.02
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.20	1145.09
	6/25/2012	6.98	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.11	1144.18
	9/6/2012	5.64	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.18	1143.11
	12/14/2012	2.23	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.45	1141.84
	3/5/2013	1.70	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.97	1142.32
	5/28/2013	1.09	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1142.99
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.51	1141.78
	12/2/2013	1.76	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.52	1141.77
	3/25/2014	1.30	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.16	1142.13
MW-17	3/18/2010	9.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.73	1142.53
	6/7/2010	1.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.09	1143.17
	8/31/2010	13.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.78	1141.48
	11/17/2010	11.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.70	1141.56
	3/1/2011	7.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.11	1143.15
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	12/2/2013									
	3/25/2014									
MW-21	3/17/2010	41.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.86	1144.60
	6/7/2010	42.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.12	1144.34
	8/30/2010	40.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.43	1143.03
	11/17/2010	35.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.22	1143.24
	3/2/2011	33.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.50	1144.96
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	37.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.05	1143.41
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.10	1144.36
	6/25/2012	21.7	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.94	1143.52
	9/6/2012	42.1	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	3.79	1142.67
	12/14/2012	10.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.09	1141.37
	3/5/2013	12.7	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.61	1141.85
	5/28/2013	9.92	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.97	1142.49
	9/9/2013	31.2	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.90	1141.56
	12/2/2013	2.24	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.80	1141.66
	3/25/2014	4.71	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.50	1141.96

Table 1
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United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

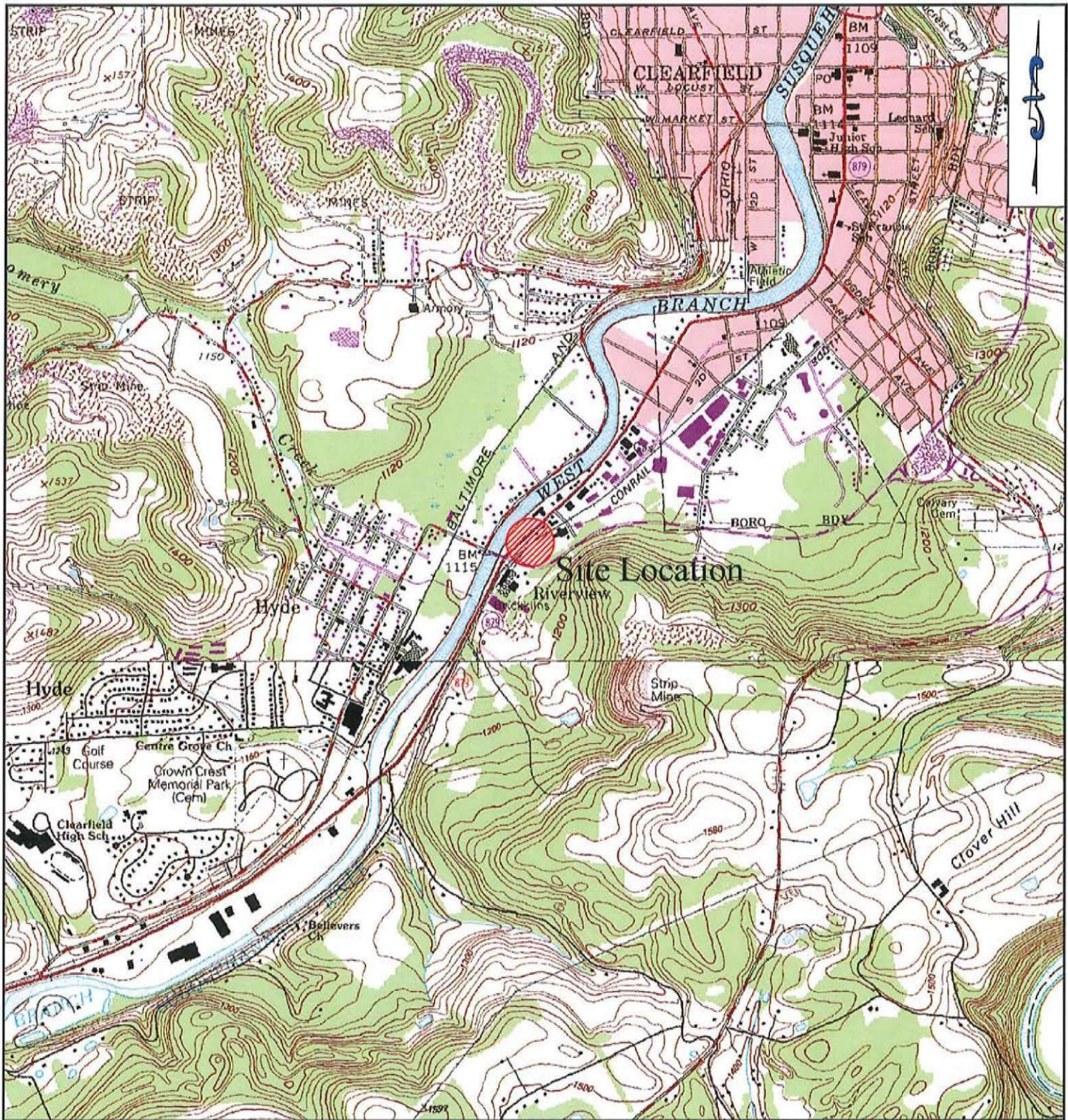
Piezometer/Well	Date	Compound							Depth to Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-22	3/17/2010	5.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.79	1143.08
	6/7/2010	8.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.18	1142.69
	8/30/2010	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.60	1141.27
	11/17/2010	6.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.38	1141.49
	3/2/2011	6.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.42	1143.45
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	10.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.04	1141.83
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.11	1142.76
	6/25/2012	Well not part of quarterly sampling program.							2.81	1142.06
	9/6/2012								3.43	1141.44
	12/14/2012								4.06	1140.81
	3/5/2013								3.60	1141.27
	5/28/2013								3.50	1141.37
	9/9/2013								4.52	1140.35
	12/2/2013								4.31	1140.56
	3/25/2014								4.41	1140.46
MW-23	3/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.51	1144.65
	6/7/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.03	1145.13
	8/31/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.63	1142.53
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.90	1143.26
	3/2/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.02	1145.14
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.93	1143.23
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.80	1144.36
	6/25/2012	Well not part of quarterly sampling program.							4.57	1142.59
	9/6/2012								5.37	1141.79
	12/14/2012								5.99	1141.17
	3/5/2013								5.05	1142.11
	5/28/2013								5.12	1142.04
	9/9/2013								6.00	1141.16
	12/2/2013								5.68	1141.48
	3/25/2014								5.90	1141.26
MW-28	3/17/2010	4.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.13	1146.94
	6/8/2010	3.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1146.63
	8/30/2010	6.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.64	1144.43
	11/17/2010	4.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.46	1145.61
	3/1/2011	7.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.01	1147.06
	5/31/2011	3.4	NA	NA	NA	NA	NA	NA	4.82	1145.25
	8/24/2011	4.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.97	1145.10
	3/28/2012	14.6	NA	NA	NA	NA	NA	NA	2.88	1147.19
MW-29	6/25/2012	Monitoring well converted to remedial extraction well.								
	3/17/2010	35.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.61	1144.65
	6/7/2010	39.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.83	1144.43
	8/30/2010	39.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.95	1142.31
	11/17/2010	37.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.95	1143.31
	3/2/2011	9.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.23	1145.03
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	37.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.81	1143.45
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.71	1144.55
	6/25/2012	22.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.58	1143.68
	9/6/2012	25.0	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.58	1142.68
	12/14/2012	3.13	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.77	1141.49
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.36	1141.90
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.70	1142.56
	9/9/2013	1.39	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.61
	12/2/2013	11.0	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.47	1141.79
	3/25/2014	4.06	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.25	1142.01

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-30	3/18/2010	17.0	23.9	<1.00	14.5	12.2	1.9	2.5	2.23	1145.03
	6/1/2010	20.1	17.9	<1.00	12.4	10.5	1.9	<2.00	2.41	1144.85
	8/31/2010	22.7	<1.00	<1.00	3.1	<3.00	<1.00	<2.00	4.07	1143.19
	11/17/2010	25.9	<1.00	<1.00	1.8	<3.00	<1.00	<2.00	3.61	1143.65
	3/2/2011	22.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.35	1144.91
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	8.41	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.31	1143.95
	9/6/2012	10.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1142.96
	12/14/2012	4.08	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.91	1141.35
	3/5/2013	6.13	1.80	<1.00	<1.00	<2.00	<1.00	<1.00	5.50	1141.76
	5/28/2013	6.56	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1142.75
	9/9/2013	6.28	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.68	1141.58
	12/2/2013	13.5	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.74	1141.52
	3/25/2014	7.18	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.39	1141.87
MW-31	3/17/2010	7.8	668	783	265	2,700	26.4	119	3.16	1147.07
	6/8/2010	6.3	336	118	119	754	10.2	61.8	3.61	1146.62
	8/30/2010	8.0	18.8	1.1	10.5	34.1	1.3	3.3	5.73	1144.50
	11/17/2010	6.7	60.5	<1.00	20.6	20.4	1.8	4.3	4.73	1145.50
	3/1/2011	4.8	9.2	1.4	3.6	4.1	<1.00	<2.00	3.48	1146.75
	5/31/2011	6.3	66.1	<1.00	20.0	22.1	2.3	2.1	4.74	1145.49
	8/24/2011	14.3	439	7.2	135	272	12	35.7	5.03	1145.20
	3/28/2012	16.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.18	1147.05
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-32	5/28/2010	4.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.22	1145.58
	6/8/2010	2.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.21	1146.59
	8/30/2010	1.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.16	1144.64
	11/17/2010	2.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.64	1145.16
	3/1/2011	2.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.94	1146.86
	5/31/2011	2.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.15	1145.65
	8/24/2011	2.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.58	1145.22
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.49	1147.31
	6/25/2012	4.51	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1145.29
	9/6/2012	4.07	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.51	1144.29
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1144.15
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.50	1144.30
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.22	1144.58
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.50	1143.30
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.80	1144.00
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.45	1144.35
MW-33	5/28/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.41	1145.72
	6/8/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.36	1146.77
	8/30/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.25	1144.88
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.96	1145.17
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.42	1146.71
	5/31/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.38	1145.75
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.72	1145.41
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.70	1147.43
	6/25/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.66	1145.47
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.70	1144.43
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.72	1145.41
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.46	1145.67
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.15	1145.98
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1143.73
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.56	1144.57
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.60	1145.53

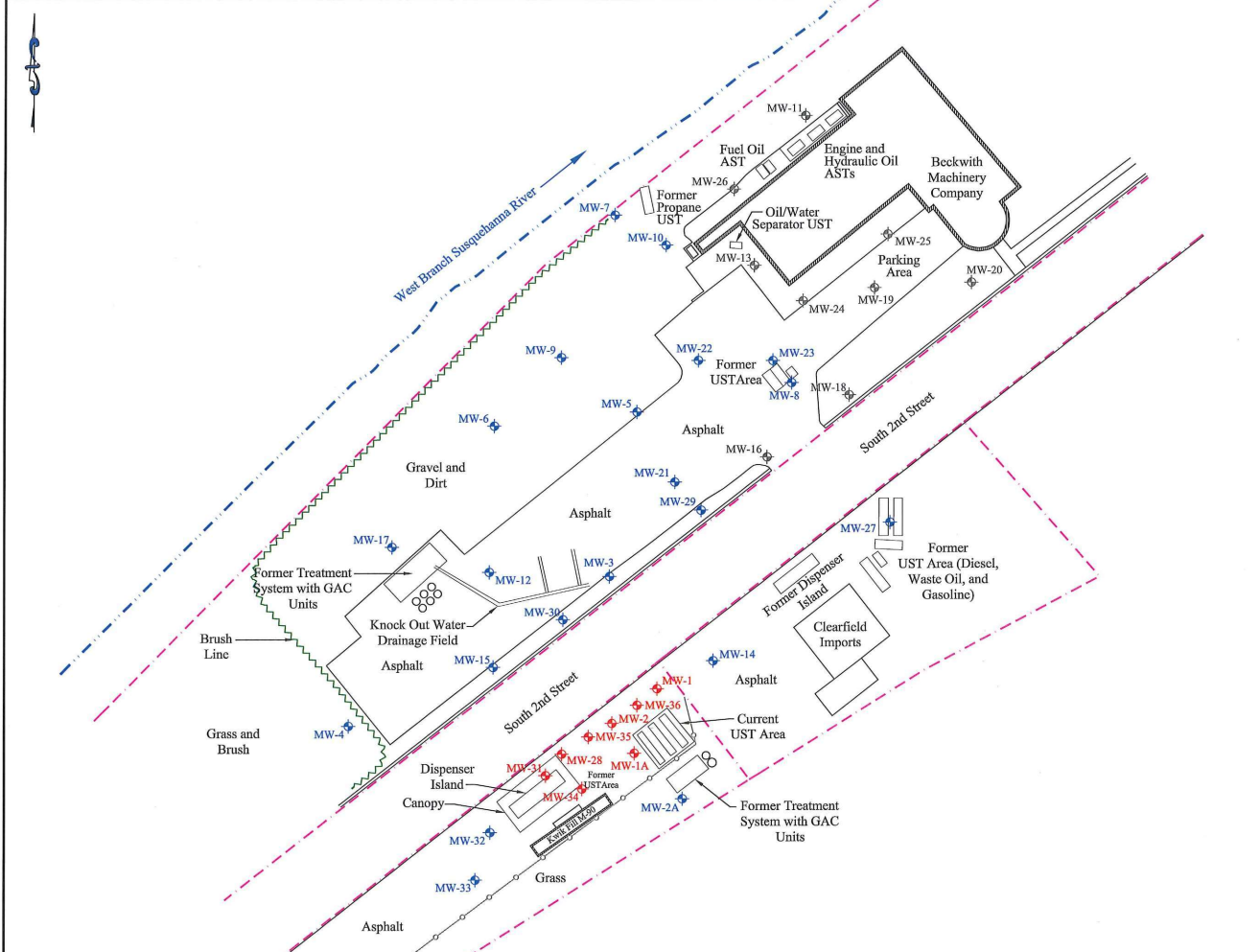
Notes: Groundwater elevation data reported in feet (ft).
Depth-to-groundwater results are reported in feet below top-of-casing (ft-btoc).
All results reported in ug/l.
Bold values indicate levels above LRL.
Bold and shaded values indicate exceedance of PADEP UARSHS MSCs.
NG - Not Gauged, NA - Not Analyzed, NS - Not Sampled.

FIGURES



Reference: 7.5-minute United States Geological Survey Topographic Quadrangles of Clearfield and Glen Richey, Pennsylvania, DeLorme 3-D Topographic Quads Program.

Prepared For:	Project Information:	Prepared By:
United Refining Company Kwik Fill M-90 1322 South 2nd Street Clearfield, Pennsylvania	Project Manager: Jed Hill Project Geologist: Steven Treschow, P.G.	 Letterle & Associates, LLC 629 East Rolling Ridge Drive Bellefonte, PA 16823 P: 814-355-2241 F: 814-355-2410 www.letterleassociates.com
Title:	Scale (feet):	
Figure 1 Site Location Map	Scale: 1" = 2000' 	



Prepared By:

Letterle & Associates, LLC

629 East Rolling Ridge Drive
 Bellefonte, PA 16823
 P: 814-355-2241
 F: 814-355-2410
 www.letterleassociates.com

Project Manager: Jed Hill
 Project Geologist: Steven Treschow, P.G.

Prepared For:

United Refining Company
 Kwik Fill M-90
 1322 South 2nd Street
 Clearfield, Pennsylvania

Title:

Figure 2
 Site Layout Map

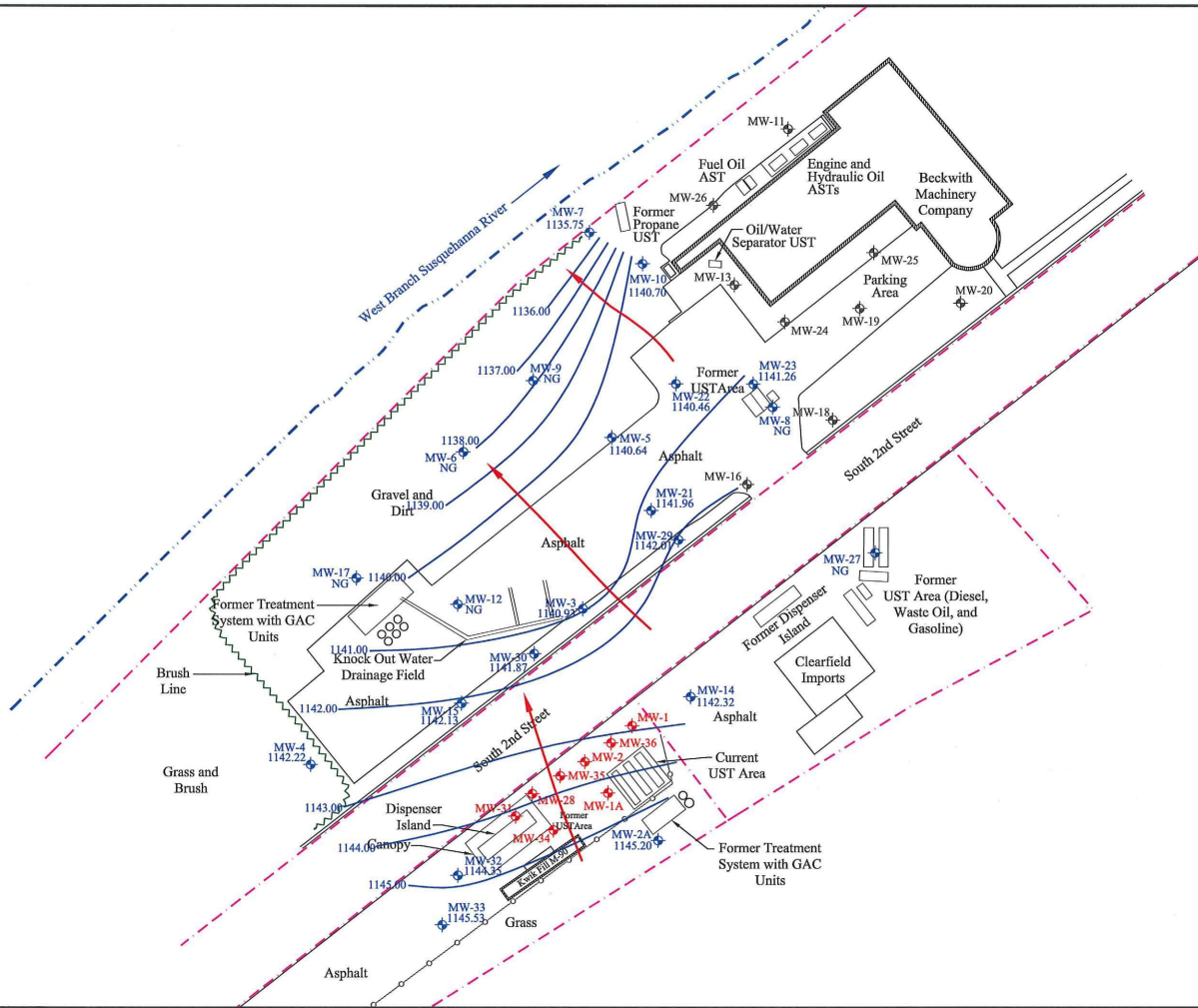
Legend:

- Groundwater Monitoring Well Location
- Abandoned Groundwater Monitoring Well
- Vapor/Groundwater Extraction Well
- Property Boundary
- Guard Rail

Scale (ft.):

1" = 60'
 One Inch Equals Sixty Feet

0 60 120



Prepared By:



629 East Rolling Ridge Drive
Bellefonte, PA 16823
P: 814-355-2241
F: 814-355-2410
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Project Manager: Jed Hill
Project Geologist: Steven Treschow, P.G.

Prepared For:

United Refining Company
Kwik Fill M-90
1322 South 2nd Street
Clearfield, Pennsylvania

Title:

Figure 3
Groundwater Potentiometric
Surface Contour Map
March 25, 2014

Legend:

- Groundwater Monitoring Well Location
- Abandoned Groundwater Monitoring Well
- Vapor/Groundwater Extraction Well
- Property Boundary
- Guard Rail
- 1144.0 Groundwater Elevation (ft)
- Groundwater Elevation Contour (dashed where inferred)
- Groundwater Flow Direction

Scale (ft):

1" = 60'
One Inch Equals Sixty Feet
0 60 120

APPENDIX

APPENDIX A

Groundwater Analytical Laboratory Reports



2019 Ninth Avenue
PO Box 1925
Altoona, PA 16603
(814) 946-4306
NELAP: PA 07-062, VA 460212

89 Kristi Road
Pennsdale, PA 17756
(570) 494-6380
PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
MW-2A	4C26038-01	Water	Grab	03/25/14 09:48	03/26/14 13:10
MW-3	4C26038-02	Water	Grab	03/25/14 12:42	03/26/14 13:10
MW-4	4C26038-03	Water	Grab	03/25/14 10:37	03/26/14 13:10
MW-7	4C26038-04	Water	Grab	03/25/14 13:03	03/26/14 13:10
MW-10	4C26038-05	Water	Grab	03/25/14 11:17	03/26/14 13:10
MW-14	4C26038-06	Water	Grab	03/25/14 09:35	03/26/14 13:10
MW-15	4C26038-07	Water	Grab	03/25/14 10:56	03/26/14 13:10
MW-21	4C26038-08	Water	Grab	03/25/14 11:32	03/26/14 13:10
MW-29	4C26038-09	Water	Grab	03/25/14 12:22	03/26/14 13:10
MW-30	4C26038-10	Water	Grab	03/25/14 11:34	03/26/14 13:10
MW-32	4C26038-11	Water	Grab	03/25/14 10:18	03/26/14 13:10
MW-33	4C26038-12	Water	Grab	03/25/14 10:04	03/26/14 13:10

Fairway Laboratories, Inc.

Reviewed and Submitted by:

Michael P. Tyler
Laboratory Director

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State Certifications: MD 275, WV 364

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Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-2A

Date/Time Sampled: 03/25/14 09:48

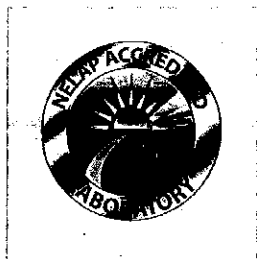
Laboratory Sample ID: 4C26038-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	03/29/14 01:28	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	03/29/14 01:28	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	03/29/14 01:28	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	03/29/14 01:28	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	03/29/14 01:28	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	03/29/14 01:28	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	03/29/14 01:28	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	101 %		70-130		03/29/14 01:28	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	114 %		70-130		03/29/14 01:28	EPA 8260B	wlm	
Surrogate: Fluorobenzene	110 %		70-130		03/29/14 01:28	EPA 8260B	wlm	

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Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-3

Date/Time Sampled: 03/25/14 12:42

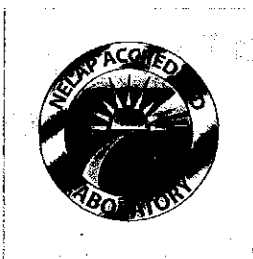
Laboratory Sample ID: 4C26038-02 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<2.00		2.00	ug/l	04/01/14 23:01	EPA 8260B	mtc	
Toluene	<2.00		2.00	ug/l	04/01/14 23:01	EPA 8260B	mtc	
Ethylbenzene	<2.00		2.00	ug/l	04/01/14 23:01	EPA 8260B	mtc	
Xylenes (total)	<4.00		4.00	ug/l	04/01/14 23:01	EPA 8260B	mtc	
Isopropylbenzene	<2.00		2.00	ug/l	04/01/14 23:01	EPA 8260B	mtc	
Methyl tert-butyl ether	13.5		2.00	ug/l	04/01/14 23:01	EPA 8260B	mtc	
Naphthalene	<2.00		2.00	ug/l	04/01/14 23:01	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	94.3 %		70-130		04/01/14 23:01	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	90.3 %		70-130		04/01/14 23:01	EPA 8260B	mtc	
Surrogate: Fluorobenzene	104 %		70-130		04/01/14 23:01	EPA 8260B	mtc	

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Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-4

Date/Time Sampled: 03/25/14 10:37

Laboratory Sample ID: 4C26038-03 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	03/29/14 01:56	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	03/29/14 01:56	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	03/29/14 01:56	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	03/29/14 01:56	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	03/29/14 01:56	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	03/29/14 01:56	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	03/29/14 01:56	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	99.8 %		70-130		03/29/14 01:56	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	118 %		70-130		03/29/14 01:56	EPA 8260B	wlm	
Surrogate: Fluorobenzene	109 %		70-130		03/29/14 01:56	EPA 8260B	wlm	

Fairway Laboratories, Inc.

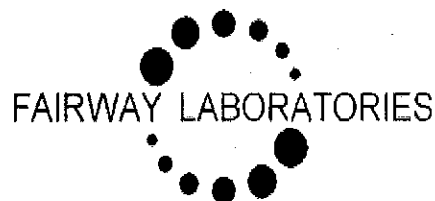
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Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-7

Date/Time Sampled: 03/25/14 13:03

Laboratory Sample ID: 4C26038-04 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Toluene	<2.00		2.00	ug/l	03/29/14 12:09	EPA 8260B	mtc	
Ethylbenzene	<2.00		2.00	ug/l	03/29/14 12:09	EPA 8260B	mtc	
Xylenes (total)	<4.00		4.00	ug/l	03/29/14 12:09	EPA 8260B	mtc	
Isopropylbenzene	<2.00		2.00	ug/l	03/29/14 12:09	EPA 8260B	mtc	
Methyl tert-butyl ether	2.42		2.00	ug/l	03/29/14 12:09	EPA 8260B	mtc	
Naphthalene	<2.00		2.00	ug/l	03/29/14 12:09	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	94.8 %		70-130		03/29/14 12:09	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	80.5 %		70-130		03/29/14 12:09	EPA 8260B	mtc	
Surrogate: Fluorobenzene	97.8 %		70-130		03/29/14 12:09	EPA 8260B	mtc	

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(570) 494-6380
PaDEP: PA 41-04684



State Certifications: MD 275, WV 364

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Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none] Reported:
Collector: CLIENT 04/07/14 10:46
Number of Containers: 24

Client Sample ID: MW-10

Date/Time Sampled: 03/25/14 11:17

Laboratory Sample ID: 4C26038-05 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	4.02		2.00	ug/l	03/29/14 12:47	EPA 8260B	mtc	
Toluene	<2.00		2.00	ug/l	03/29/14 12:47	EPA 8260B	mtc	
Ethylbenzene	<2.00		2.00	ug/l	03/29/14 12:47	EPA 8260B	mtc	
Xylenes (total)	<4.00		4.00	ug/l	03/29/14 12:47	EPA 8260B	mtc	
Isopropylbenzene	<2.00		2.00	ug/l	03/29/14 12:47	EPA 8260B	mtc	
Methyl tert-butyl ether	<2.00		2.00	ug/l	03/29/14 12:47	EPA 8260B	mtc	
Naphthalene	<2.00		2.00	ug/l	03/29/14 12:47	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	95.5 %		70-130		03/29/14 12:47	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	80.4 %		70-130		03/29/14 12:47	EPA 8260B	mtc	
Surrogate: Fluorobenzene	98.0 %		70-130		03/29/14 12:47	EPA 8260B	mtc	

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Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-14

Date/Time Sampled: 03/25/14 09:35

Laboratory Sample ID: 4C26038-06 (Water/Grab)

Analyte	Result	MDL	RI	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	03/29/14 02:25	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	03/29/14 02:25	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	03/29/14 02:25	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	03/29/14 02:25	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	03/29/14 02:25	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	03/29/14 02:25	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	03/29/14 02:25	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	101 %		70-130		03/29/14 02:25	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	115 %		70-130		03/29/14 02:25	EPA 8260B	wlm	
Surrogate: Fluorobenzene	109 %		70-130		03/29/14 02:25	EPA 8260B	wlm	

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629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-15

Date/Time Sampled: 03/25/14 10:56

Laboratory Sample ID: 4C26038-07 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	03/29/14 03:22	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	03/29/14 03:22	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	03/29/14 03:22	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	03/29/14 03:22	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	03/29/14 03:22	EPA 8260B	wlm	
Methyl tert-butyl ether	1.30		1.00	ug/l	03/29/14 03:22	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	03/29/14 03:22	EPA 8260B	wlm	2b, 2c
Surrogate: 4-Bromofluorobenzene	102 %		70-130		03/29/14 03:22	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	117 %		70-130		03/29/14 03:22	EPA 8260B	wlm	
Surrogate: Fluorobenzene	110 %		70-130		03/29/14 03:22	EPA 8260B	wlm	

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Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-21

Date/Time Sampled: 03/25/14 11:32

Laboratory Sample ID: 4C26038-08 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	03/28/14 20:48	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	03/28/14 20:48	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	03/28/14 20:48	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	03/28/14 20:48	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	03/28/14 20:48	EPA 8260B	wlm	
Methyl tert-butyl ether	4.71		1.00	ug/l	03/28/14 20:48	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	03/28/14 20:48	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	101 %		70-130		03/28/14 20:48	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	117 %		70-130		03/28/14 20:48	EPA 8260B	wlm	
Surrogate: Fluorobenzene	109 %		70-130		03/28/14 20:48	EPA 8260B	wlm	

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Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-29

Date/Time Sampled: 03/25/14 12:22

Laboratory Sample ID: 4C26038-09 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	03/29/14 07:34	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	03/29/14 07:34	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	03/29/14 07:34	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	03/29/14 07:34	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	03/29/14 07:34	EPA 8260B	wlm	
Methyl tert-butyl ether	4.06		1.00	ug/l	03/29/14 07:34	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	03/29/14 07:34	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	101 %		70-130		03/29/14 07:34	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	113 %		70-130		03/29/14 07:34	EPA 8260B	wlm	
Surrogate: Fluorobenzene	108 %		70-130		03/29/14 07:34	EPA 8260B	wlm	

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Belleville PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-30

Date/Time Sampled: 03/25/14 11:34

Laboratory Sample ID: 4C26038-10 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<2.00		2.00	ug/l	03/29/14 13:25	EPA 8260B	mtc	
Toluene	<2.00		2.00	ug/l	03/29/14 13:25	EPA 8260B	mtc	
Ethylbenzene	<2.00		2.00	ug/l	03/29/14 13:25	EPA 8260B	mtc	
Xylenes (total)	<4.00		4.00	ug/l	03/29/14 13:25	EPA 8260B	mtc	
Isopropylbenzene	<2.00		2.00	ug/l	03/29/14 13:25	EPA 8260B	mtc	
Methyl tert-butyl ether	7.18		2.00	ug/l	03/29/14 13:25	EPA 8260B	mtc	
Naphthalene	<2.00		2.00	ug/l	03/29/14 13:25	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	94.3 %		70-130		03/29/14 13:25	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	81.3 %		70-130		03/29/14 13:25	EPA 8260B	mtc	
Surrogate: Fluorobenzene	98.0 %		70-130		03/29/14 13:25	EPA 8260B	mtc	

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629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-32

Date/Time Sampled: 03/25/14 10:18

Laboratory Sample ID: 4C26038-11 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	03/29/14 08:03	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	03/29/14 08:03	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	03/29/14 08:03	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	03/29/14 08:03	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	03/29/14 08:03	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	03/29/14 08:03	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	03/29/14 08:03	EPA 8260B	wlm	2c
Surrogate: 4-Bromofluorobenzene	101 %		70-130		03/29/14 08:03	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	113 %		70-130		03/29/14 08:03	EPA 8260B	wlm	
Surrogate: Fluorobenzene	108 %		70-130		03/29/14 08:03	EPA 8260B	wlm	

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Project Manager: Jed Hill

Project: UNITED CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 04/07/14 10:46

Client Sample ID: MW-33

Date/Time Sampled: 03/25/14 10:04

Laboratory Sample ID: 4C26038-12 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	03/29/14 08:31	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	03/29/14 08:31	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	03/29/14 08:31	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	03/29/14 08:31	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	03/29/14 08:31	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	03/29/14 08:31	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	03/29/14 08:31	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	101 %		70-130		03/29/14 08:31	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	112 %		70-130		03/29/14 08:31	EPA 8260B	wlm	
Surrogate: Fluorobenzene	108 %		70-130		03/29/14 08:31	EPA 8260B	wlm	

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629 East Rolling Ridge Drive

Bellefonte PA, 16823

Project Manager: Jed Hill

Project: UNITED CLEARFIELD

Project Number: [none]

Collector: CLIENT

Number of Containers: 24

Reported:

04/07/14 10:46

Notes

- 2b The spike recovery was outside acceptance limits for the MS and/or MSD. Data accepted based on acceptable LCS recovery.
- 2c CCV was outside the QC range. Data accepted based on additional batch QC.

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

- * P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252 certified.

- < Represents "less than" - indicates that the result was less than the reporting limit.

- MDL Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.

- RL Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.

- [CALC] Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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Phone: (814) 946-4306
Fax: (814) 946-8791

FAIRWAY LABORATORIES
Environmental Laboratory
89 Kristi Rd
Pennsdale, PA 17756
Phone: (570) 494-6380

Page 1 of 2

4C2403801
COC #

Client Name: <u>Le Harley + Associates</u> Address: <u>504 Be Allowing Ridge Dr</u> <u>Bellefonte, PA 16823</u> Contact: <u>Scott Hill</u> Phone #: <u>814-355-2291</u> Fax #: <u>-2410</u> Project Name: <u>United Chem Field</u> Quote/PO #:		Received on ice? Y ☒ N ☐ Sample Temp: _____ PWSID # _____		Reportable to PADEP? Yes ☐ No ☒ Matrix		Analyses Requested		LAB USE ONLY FedEx ☐ USPS ☐ UPS ☐ Other ☐ Tracking #	
TAT: Normal ☒ Rush ☐ Rush TAT subject to pre-approval and surcharge Date Required: ____/____/____		GRAB ☐ Composite ☐		GRAB ☐ Composite ☐		Solid ☐ Water ☐ Other _____ # of Containers		1998 Unl. Gas 1998 Unl. Gas minus Benzene	
Sample Description/Location		Start Date		Start Time		End Date		End Time	
MV-24		3-25		0948		3-25		0948	
MV-3		3-25		1242		3-25		1242	
MV-4		3-25		1037		3-25		1037	
MV-7		3-25		1303		3-25		1303	
MV-10		3-25		1117		3-25		1117	
MV-14		3-25		0935		3-25		0935	
MV-15		3-25		1056		3-25		1056	
MV-21		3-25		1132		3-25		1132	
MV-29		3-25		1222		3-25		1222	
MV-30		3-25		1334		3-25		1334	
MV-32		3-25		1018		3-25		1018	
Sampled by: <u>QWA</u>		Date <u>3-25</u>		Time <u>1530</u>		Received by: <u>Scott Hill</u>		Date <u>3-24</u>	
Relinquished by: <u>Scott Hill</u>		Date <u>3-24</u>		Time <u>1215</u>		Received by: <u>Scott Hill</u>		Date <u>3-24</u>	
Relinquished by: <u>Scott Hill</u>		Date <u>3-24</u>		Time <u>1310</u>		Received by: <u>QWA</u>		Date <u>3-26</u>	
Relinquished by:		Date		Time		Received by:		Date	
Remarks									

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White Original - FLJ File Canary - FLJ Copy Pink - Customer Receipt Copy

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July 22, 2014

Mr. Scott Ferguson, P.G.
Pennsylvania Department of Environmental Protection
Environmental Cleanup Program
208 West Third Street, Suite 101
Williamsport, PA 17701-6448

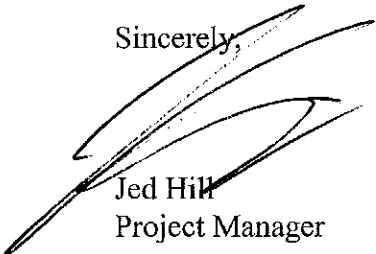
**Re: 2nd Quarter 2014 Remedial Action Progress Report
United Refining Company of Pennsylvania
Kwik Fill M-90
1322 South 2nd Street
Lawrence Township, Clearfield County, Clearfield, Pennsylvania
PADEP Facility ID #17-14821/PAUSTIF Claim #2008-0034(M)**

Dear Mr. Ferguson:

Letterle & Associates, Inc. is pleased to submit this Remedial Action Progress Report (RAPR) for the above referenced facility. This RAPR presents the groundwater monitoring data from the second quarter of 2014 and also includes a description of remedial activities completed from April 1, 2014 through June 30, 2014 (second quarter of 2014).

If you have any questions or comments regarding this report, please feel free to contact me at (814) 355-2241 or jhill@letterleassociates.com.

Sincerely,



Jed Hill
Project Manager

Enclosure

cc: Mr. Scott C. Wonsettler, P.G., United Refining Company of Pennsylvania (with CD)
Mr. Gerald Hawk, ICF International (via email)
Mr. Robert McDonald, Arch Street Management
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2nd Qtr 2014 RAPR.doc

REMEDIAL ACTION PROGRESS REPORT
2nd Quarter 2014

PADEP Facility ID #17-14821
PAUSTIF Claim #2008-0034(M)
Kwik Fill M-90
1322 South 2nd Street
Lawrence Township, Clearfield County
Clearfield, Pennsylvania 16830

Prepared for:

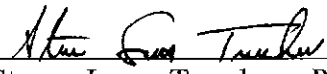
United Refining Company of Pennsylvania
15 Bradley Street
P.O. Box 688
Warren, Pennsylvania 16365

Prepared by:

Letterle & Associates, Inc.
629 East Rolling Ridge Drive
Bellefonte, Pennsylvania 16823




Jed Hill
Project Manager


Steven James Treschow, P.G.
Professional Geologist

July 2014

"By affixing my seal to this document, I am certifying that the information is true and correct to the best of my knowledge. 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."

Steven James Treschow, P.G. (signed and sealed this day (July 22, 2014))

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GENERAL INFORMATION

Client Contact:	Scott Wonsettler, P.G.
Letterle Project Manager:	Jed Hill
Regulatory Contact:	Scott Ferguson, P.G.
PADEP Facility ID #:	17-14821
PAUSTIF Claim #:	2008-0034 (M)
Number of Wells:	14 monitoring wells (on-site wells MW-2A, MW-32, and MW-33 and off-site monitoring wells MW-3, MW-4, MW-7, MW-9, MW-10, MW-14, MW-15, MW-17, MW-21, MW-29, and MW-30). 8 remediation system extraction wells (MW-1, MW-1A, MW-2, MW-28, MW-31, MW-34, MW-35, and MW-36).

Wells Containing LNAPL: 0

Letterle & Associates, Inc. (Letterle) has been contracted by United Refining Company (United) of Pennsylvania (PA) to perform remedial activities at the Kwik Fill M-90 facility located at 1322 South 2nd Street in Lawrence Township, Clearfield County, Clearfield, PA (the site).

The site location is depicted on the 7.5-minute United States Geological Survey (USGS) Topographic Quadrangles of Clearfield and Glen Richey, PA presented as **Figure 1**. The site exists at an approximate elevation of 1,045 feet above mean sea level (ft-amsl). A more detailed site layout map, which fully depicts the site area, is presented as **Figure 2**.

This Remedial Action Progress Report (RAPR) includes a description of the on-going remedial action activities and presents the groundwater monitoring data obtained at the site during the second quarter of 2014.

SITE HISTORY/PROJECT SUMMARY

The site is currently an active retail fueling (gasoline and diesel) station, which has two 10,000-gallon and one 8,000-gallon steel underground storage tanks (USTs). The two 10,000-gallon USTs were installed in 1969 and the 8,000-gallon UST was installed in 1974. One 10,000-gallon UST and one 8,000-gallon contain unleaded gasoline and the remaining 10,000-gallon UST (in the middle) contains diesel fuel.

On June 15, 1995, the 10,000-gallon unleaded gasoline UST (#002) failed a tightness test. The PA Department of Environmental Protection (PADEP) was notified of the failure and subsequently, Mountain Research, Inc. (MRI) was retained by United in May 1996 to perform site characterization activities.

From June 1996 through October 1997, four soil boring/monitoring wells, MW-1, MW-1A, MW-2, and MW-2A, were installed on the site and five monitoring wells, MW-3 through MW-7, were installed off-site, on the Beckwith Machinery Company (BMC) property. Quarterly groundwater sampling began in February 1996. Groundwater analytical results for the monitoring wells indicated unleaded gasoline constituents at concentrations above their respective Medium Specific

Concentration (MSC) values. In June 1997, soil/groundwater samples were collected on-site and in the right-of-way of South 2nd Street. The results of the investigation indicated several soil/groundwater samples contained unleaded gasoline constituents at concentrations above their respective MSC values.

MRI prepared a Remedial Action Plan (RAP) in July 1999 proposing a Matrix Trailer Mounted Oxygen Injection System. The PADEP approved the RAP in January 2000. In February 2000, system installation was initiated. The system consisted of eight oxygen injection points and a small trailer to house any ancillary equipment. On April 12, 2000, the system was activated. The system was operational from April 12, 2000 until the first quarter of 2005. From February 1996 through first quarter of 2005, MRI performed quarterly groundwater sampling from the monitoring well network.

From early 2005 through mid-2006, additional site investigations were initiated at the site to re-evaluate the remedial approach. In October 2006, a Supplemental Site Characterization Report (SCR) and RAP Addendum was submitted to the PADEP. The Supplemental SCR/RAP Addendum identified two separate source areas, one on-site and one off-site at the BMC property. The on-site source area (Source Area #1) was found to have impacted groundwater beneath the site and downgradient on the former BMC property. Impacted groundwater from Source Area #2 was found to be related to an off-site release and not associated with the Kwik Fill M-90 facility. The Supplemental SCR/RAP Addendum strategy included remediating groundwater via an air sparge/soil vapor extraction (AS/SVE) system. An additional RAP Addendum was submitted in December 2006. The PADEP approved the Supplemental SCR/RAP Addendum and additional RAP Addendum in January 2007, with modifications. An AS/SVE system was installed at the site and operated from November 2007 through the fourth quarter of 2008.

A second release of unleaded gasoline occurred at the site, and was reported in February 2008. Additional site characterization activities were initiated and an Additional SCR and RAP Addendum was submitted in June 2011. The June 2011 Additional SCR/RAP Addendum included the selection of a dual phase extraction (DPE)/SVE system to address on-site soil and groundwater and enhanced in-situ bioremediation (EB) to address off-site groundwater. The June RAP Addendum was approved by the PADEP in July 2011.

REMEDIAL ACTION PLAN IMPLEMENTATION

The PA Underground Storage Tank Indemnification Fund (PAUSTIF) and their administrator, ICF International (ICFI), put the site remedial work out for competitive bid. The proposed scope of work was based upon the July 2011 approved RAP. Letterle was awarded the bid in March of 2012 and began implementation of the approved RAP.

Remedial actions completed in previous quarters include off-site well abandonment, DPE well installation, remedial system trenching and piping, remedial system installation, and the application of a chemical oxidant as part of an enhanced bioremediation feasibility study.

Remediation System

The remedial system trailer was constructed and mobbed to the site during the third quarter of 2012 and began operation on October 30, 2012. The principal DPE system components housed within the trailer include:

- Two claw pumps;
- One air compressor;
- One air/water separator (AWS) tank;
- One equalization tank;
- Two transfer pumps and level controls;
- Six pneumatic groundwater pumps;
- Four 400-pound liquid-phase granular activated carbon (GAC) vessels (high pressure units);
- Two 600-pound vapor-phase GAC vessels; and,
- Control panel for the claw pumps, air compressor, and the transfer pumps (including all system interlocks).

The recovered groundwater is treated and discharged to the sanitary sewer under an issued permit from the Clearfield Municipal Authority (CMA). Under the terms of the permit, analytical reports and totalizer readings are reported in Discharge Monitoring Reports (DMR) on a monthly basis to the CMA. Petroleum impacted soil and groundwater remediation systems have been listed as exempt from the Plan Approval/Operating permit requirements by PADEP, Division of Air Quality. The remediation system is operated under the exemption requirements.

QUARTERLY SITE ACTIVITIES COMPLETED – 2ND QUARTER 2014

Remediation System Operating Summary

Start Date:	October 30, 2012
2 nd Quarter 2014 System Uptime:	60%
2 nd Quarter 2014 Total Gallons Treated:	125,456 gallons
Total Gallons Treated To Date:	1,210,424 gallons

System Sampling Dates

Groundwater Influent, Midfluent, Effluent:	April 7, 2014
	May 12, 2014
	June 9, 2014

Groundwater Effluent:	April 7, 2014
	April 22, 2014
	May 12, 2014
	May 27, 2014
	June 9, 2014
	June 23, 2014
Vapor:	May 12, 2014

Groundwater Gauging/Sampling

The monitoring well network is gauged and sampled on a quarterly basis to analyze the effectiveness of the remediation system and to monitor groundwater impacts/movement at the site. Approximately one week prior to groundwater gauging/sampling, the remediation system was deactivated to allow for static groundwater conditions.

Groundwater Gauging

Letterle completed a quarterly groundwater gauging event on June 11, 2014. A total of 15 wells were gauged:

- *15 wells in the shallow overburden groundwater monitoring well network: MW-2A, MW-3, MW-4, MW-5, MW-7, MW-10, MW-14, MW-15, MW-21, MW-22, MW-23, MW-29, MW-30, MW-32, and MW-33.*

Gauging Methodology

Depth-to-groundwater was measured in each well to determine groundwater elevations and interpret the predominant direction of groundwater movement. Depth-to-groundwater measurements were recorded using an electronic water level indicator capable of measuring to within 0.01 feet of accuracy. The electronic water level indicator was decontaminated between wells.

Gauging Results

Groundwater elevation data collected during the second quarter of 2014 groundwater gauging event indicates the following:

- Groundwater elevations in shallow overburden groundwater ranged from 1,135.21 feet in MW-7 to 1,144.97 feet in MW-2A;
- The predominant direction of movement in shallow overburden groundwater is interpreted to be to the northwest (towards the West Branch Susquehanna River); and,
- Using the June 11, 2014 groundwater elevation data, a groundwater hydraulic gradient of 0.025 feet per foot (ft/ft) between groundwater monitoring wells MW-2A and MW-7 was calculated.

Table 1 summarizes the historical groundwater gauging data and also presents the resultant groundwater gauging results from the second quarter of 2014 groundwater gauging event. A groundwater potentiometric surface contour map for the June 11, 2014 groundwater gauging event is presented as **Figure 3**.

Groundwater Sampling

Letterle completed a quarterly groundwater sampling event on June 11, 2014. A total of 14 wells were sampled:

- *14 wells in the shallow overburden groundwater monitoring well network:* MW-2A, MW-3, MW-4, MW-7, MW-9, MW-10, MW-14, MW-15, MW-17, MW-21, MW-29, MW-30, MW-32, and MW-33.

Sampling Methodology

Subsequent to gauging the groundwater level in each well, low-flow sampling was initiated. For wells shallower than 20 feet, a combination of polyethylene and silicon tubing are utilized in conjunction with a peristaltic pump. The peristaltic pump is then utilized to purge the well at a low flow rate of <0.5 liters (500 milliliters) per minute. For wells deeper than 20 feet, polyethylene tubing is utilized in conjunction with a two-inch Mini-Monsoon submersible pump to purge the well at a low flow rate of <0.5 liters (500 milliliters) per minute. The intake of each respective pump was placed approximately three feet below the measured water level. In general, each well is purged at a rate of 100-400 milliliters per minute to avoid creating drawdown. If a well was dewatered, a bailer was utilized to collect the sample after the well recovered.

The purged groundwater is then passed through a flow-through cell that measures dissolved oxygen (DO), pH, total dissolved solids (TDS), temperature, specific conductivity, and oxidation-reduction potential (ORP). Measurements of these parameters were recorded every 5 minutes. These measurements were recorded until three consecutive readings stabilized to within 10% of one another. Purging was considered to be complete upon parameter stabilization for three consecutive readings. Once stabilization was documented, the flow-through cell was disconnected and the sample was immediately collected from the discharge line.

The pump was decontaminated between each sampled well. The purged groundwater was filtered through a mobile GAC vessel and then discharged to the ground surface.

The samples were sealed in pre-preserved laboratory supplied glassware, labeled, custody sealed, placed in an ice-filled cooler, and returned to Letterle's office. The samples were stored in a refrigerator (at 4 °C) until they were collected by the laboratory. The samples were submitted to Fairway Laboratories of Altoona, PA, for analysis of the pre-March 15, 2008 PADEP Land Recycling Program Technical Guidance Manual, Table IV-9 - Short List of Petroleum Products, specifically unleaded gasoline constituents (PADEP unleaded gasoline short list constituents) via United States Environmental Protection Agency (USEPA) Method 8260B and were accompanied by Chain-of-Custody documentation.

Sampling Results

The groundwater analytical results from the groundwater sampling event conducted on June 11, 2014 indicated no exceedances of the applicable PADEP Used-Aquifer TDS $\leq 2,500$ milligrams per liter (mg/L) Residential Statewide Health Standard (UARSHS) MSCs.

Table 1 summarizes the historical groundwater analytical data and also presents the resultant groundwater analytical results from the second quarter of 2014 groundwater sampling event. Groundwater analytical laboratory reports are included in **Appendix A**.

Groundwater samples were not collected from MW-9 and MW-17 due to the inability to locate the respective monitoring wells.

PLANNED ACTIVITY

The following activities are currently planned for the 3rd Quarter of 2014:

- Remedial system operation and maintenance (including permit-required sampling);
- Quarterly groundwater gauging and sampling; and,
- Quarterly reporting.

TABLE

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-1	3/17/2010	10.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.26	1147.28
	6/8/2010	11.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.57	1146.97
	8/30/2010	18.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.78	1144.76
	11/17/2010	13.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.40	1146.14
	3/1/2011	6.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.78	1147.76
	5/31/2011	13.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.75	1145.79
	8/24/2011	12.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.12	1145.42
	3/28/2012	14.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.12	1147.42
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-1A	3/17/2010	7.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.57	1147.20
	6/8/2010	6.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.86	1146.91
	8/30/2010	16.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.32	1144.45
	11/17/2010	10.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.88	1145.89
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.04	1147.73
	5/31/2011	4.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.29	1145.48
	8/24/2011	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.65	1145.12
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.55	1147.22
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-2	3/17/2010	20.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.07	1146.91
	6/8/2010	20.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.36	1146.62
	8/30/2010	20.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.61	1144.37
	11/17/2010	20.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.36	1145.62
	3/1/2011	11.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.73	1147.25
	5/31/2011	10.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.68	1145.30
	8/24/2011	14.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.90	1145.08
	3/28/2012	11.5	1.1	<1.00	<1.00	<3.00	<1.00	<2.00	2.85	1147.13
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-2A	3/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.21	1147.66
	6/8/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.27	1147.60
	8/30/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.23	1145.64
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.25	1146.62
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.91	1147.96
	5/31/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.16	1146.71
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.52	1146.35
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.45	1148.42
	6/25/2012	5.22	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1144.36
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.21	1145.66
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.12	1144.75
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1144.57
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.00	1145.87
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.06	1144.81
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.48	1145.39
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.67	1145.20
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.90	1144.97
MW-3	3/18/2010	43.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.43	1143.80
	6/7/2010	44.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.40	1143.83
	8/31/2010	41.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.92	1142.31
	11/17/2010	40.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.48	1142.75
	3/2/2011	33.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.81	1144.42
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	32.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.38	1142.85
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.40	1144.83
	6/25/2012	21.9	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.17	1143.06
	9/6/2012	27.5	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.17	1142.06
	12/14/2012	18.4	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.63	1140.60
	3/5/2013	11.8	13.4	<1.00	<1.00	<2.00	<1.00	<1.00	5.36	1140.87
	5/28/2013	12.6	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.40	1141.83
	9/9/2013	20.1	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.42	1140.81
	12/2/2013	17.2	<1.00	<1.00	1.55	<2.00	1.65	<1.00	5.45	1140.78
	3/25/2014	13.5	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.30	1140.93
	6/11/2014	15.9	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.47	1140.76

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well PADEP-IARSHS MSCs	Date	Compound							Depth-to- Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethyl- benzene	Xylenes (Total)	Cumene	Naphthalene		
		20	5	1,000	700	10,000	840	100		
MW-4	3/18/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.97	1144.15
	6/7/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.17	1142.95
	8/31/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.44	1140.68
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.26	1141.86
	3/2/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.92	1144.20
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.24	1141.88
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.20	1143.92
	6/25/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.74	1142.38
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.11	1141.01
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.40	1141.72
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.58	1142.54
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.61	1141.51
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.00	1140.12
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.40	1140.72
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.90	1142.22
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.71	1141.41
MW-5	3/17/2010	5.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.16	1143.51
	6/7/2010	4.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.53	1143.14
	8/31/2010	3.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.18	1141.49
	11/17/2010	2.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.80	1141.87
	3/1/2011	1.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.43	1144.24
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	5.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.64	1142.03
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.04	1143.63
	6/25/2012	Well not part of quarterly sampling program.							2.25	1142.42
	9/6/2012								NG	NG
	12/14/2012								NG	NG
	3/5/2013								NG	NG
	5/28/2013								3.00	1141.67
	9/9/2013								4.17	1140.50
	12/2/2013								4.01	1140.66
	3/25/2014								4.03	1140.64
	6/11/2014								NG	NG
MW-6	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/7/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/31/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/1/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located. Well not part of quarterly sampling program.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	12/2/2013									
	3/25/2014									
	6/11/2014									
MW-7	3/18/2010	3.6	59.5	11.5	44.4	54.7	25.6	44.5	2.60	1139.41
	6/7/2010	3.1	57.7	12.9	55.2	60.3	35.4	61.3	5.77	1136.24
	8/31/2010	6.8	104	14.4	47.9	49.2	29.3	38.7	7.92	1134.09
	11/17/2010	7.2	97.9	12.5	46.5	47.4	27.3	57.7	6.85	1135.16
	3/2/2011	4.1	51.9	8.8	39.3	27.7	22.4	20.9	3.93	1138.08
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	7.7	73.8	10.2	25.8	28.5	31.3	40.7	7.21	1134.80
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	7.15	1134.86
	6/25/2012	3.84	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.49	1134.52
	9/6/2012	10.6	NA	<2.00	<2.00	<4.00	<2.00	<2.00	7.76	1134.25
	12/14/2012	<2.00	NA	14.8	89.5	43.6	29.0	65.4	5.80	1136.21
	3/5/2013	<1.00	NA	2.29	5.67	5.16	2.25	3.28	6.55	1135.46
	5/28/2013	<1.00	NA	<1.00	1.07	<2.00	1.89	<1.00	6.30	1135.71
	9/9/2013	5.10	NA	<1.00	<1.00	<2.00	2.75	<1.00	7.80	1134.21
	12/2/2013	2.97	NA	9.81	29.3	17.1	17.0	38.6	7.08	1134.93
	3/25/2014	2.42	NA	<2.00	<2.00	<4.00	<2.00	<2.00	6.26	1135.75
	6/11/2014	2.58	NA	<1.00	<1.00	<2.00	<1.00	<1.00	6.80	1135.21

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-9	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/8/2010	32.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.00	1141.97
	8/30/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/1/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	12/2/2013									
	3/25/2014									
	6/11/2014									
MW-10	3/17/2010	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.64	1140.76
	6/7/2010	8.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.78	1141.62
	8/31/2010	8.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.08	1140.32
	11/17/2010	7.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.50	1139.90
	3/2/2011	7.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.14	1142.26
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	7.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.42	1140.98
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.42	1140.98
	6/25/2012	5.01	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.23	1141.17
	9/6/2012	6.16	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.10	1140.30
	12/14/2012	5.56	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.08	1140.32
	3/5/2013	5.80	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.81	1140.59
	5/28/2013	4.92	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.90	1140.50
	9/9/2013	6.87	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.70	1139.70
	12/2/2013	5.58	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.34	1140.06
MW-12	3/25/2014	<2.00	4.02	<2.00	<2.00	<4.00	<2.00	<2.00	1.70	1140.70
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.20	1140.20
	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/7/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/31/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	30.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.28	1142.28
	3/2/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well not part of quarterly sampling program.							2.83	1142.73
	9/6/2012								NG	NG
	12/14/2012								NG	NG
	3/5/2013								NG	NG
	5/28/2013								NG	NG
	9/9/2013								NG	NG
	12/2/2013								NG	NG
	3/25/2014								NG	NG
	6/11/2014								NG	NG
MW-14	3/17/2010	23.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.97	1146.75
	6/7/2010	18.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.22	1146.50
	8/31/2010	35.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.43	1144.29
	11/17/2010	21.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.40	1145.32
	3/2/2011	2.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.62	1147.10
	5/31/2011	21.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1145.28
	8/24/2011	17.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.80	1143.92
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.71	1146.01
	6/25/2012	8.80	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.59	1145.13
	9/6/2012	19.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.63	1144.09
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.89	1141.83
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.14	1141.58
	5/28/2013	1.38	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.80	1143.92
	9/9/2013	3.30	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.30	1142.42
	12/2/2013	1.52	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.00	1142.72
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1142.32
	6/11/2014	1.45	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.16	1142.56

Table 1
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United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethyl benzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-15	3/18/2010	6.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.73	1145.56
	6/7/2010	6.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.08	1145.21
	8/31/2010	7.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.88	1143.41
	11/17/2010	6.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1143.85
	3/2/2011	4.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.51	1145.78
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	6.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.27	1144.02
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.20	1145.09
	6/25/2012	6.98	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.11	1144.18
	9/6/2012	5.64	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.18	1143.11
	12/14/2012	2.23	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.45	1141.84
	3/5/2013	1.70	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.97	1142.32
	5/28/2013	1.09	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1142.99
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.51	1141.78
	12/2/2013	1.76	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.52	1141.77
	3/25/2014	1.30	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.16	1142.13
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.64
MW-17	3/18/2010	9.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.73	1142.53
	6/7/2010	1.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.09	1143.17
	8/31/2010	13.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.78	1141.48
	11/17/2010	11.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.70	1141.56
	3/1/2011	7.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.11	1143.15
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	12/2/2013									
	3/25/2014									
	6/11/2014									
MW-21	3/17/2010	41.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.86	1144.60
	6/7/2010	42.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.12	1144.34
	8/30/2010	40.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.43	1143.03
	11/17/2010	35.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.22	1143.24
	3/2/2011	33.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.50	1144.96
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	37.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.05	1143.11
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.10	1144.36
	6/25/2012	21.7	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.94	1143.52
	9/6/2012	42.1	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	3.79	1142.67
	12/14/2012	10.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.09	1141.37
	3/5/2013	12.7	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.61	1141.85
	5/28/2013	9.92	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.97	1142.49
	9/9/2013	31.2	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.90	1141.56
	12/2/2013	2.24	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.80	1141.66
	3/25/2014	4.71	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.50	1141.96
	6/11/2014	4.35	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.90	1141.56

Table 1
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United Refining Company - Kwik Fill M-90
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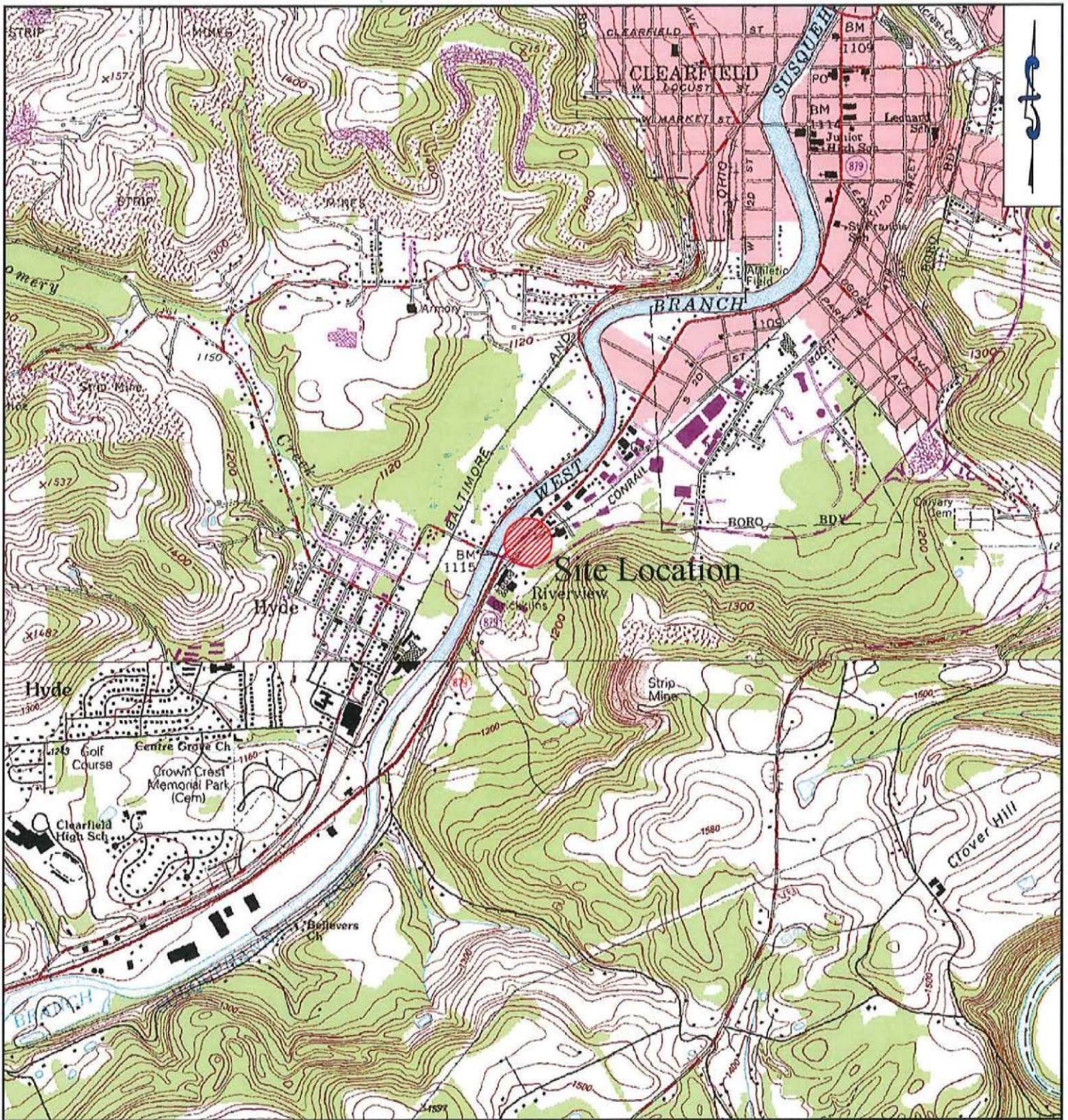
Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-22	3/17/2010	5.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.79	1143.08
	6/7/2010	8.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.18	1142.69
	8/30/2010	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.60	1141.27
	11/17/2010	6.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.38	1141.49
	3/2/2011	6.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.42	1143.45
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	10.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.04	1141.83
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.11	1142.76
	6/25/2012	Well not part of quarterly sampling program.							2.81	1142.06
	9/6/2012								3.43	1141.44
	12/14/2012								4.06	1140.81
	3/5/2013								3.60	1141.27
	5/28/2013								3.50	1141.37
	9/9/2013								4.52	1140.35
	12/2/2013								4.31	1140.56
	3/25/2014								4.41	1140.46
	6/11/2014								3.96	1140.91
MW-23	3/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.51	1144.65
	6/7/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.03	1145.13
	8/31/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.63	1142.53
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.90	1143.26
	3/2/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.02	1145.14
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.93	1143.23
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.80	1144.36
	6/25/2012	Well not part of quarterly sampling program.							4.57	1142.59
	9/6/2012								5.37	1141.79
	12/14/2012								5.99	1141.17
	3/5/2013								5.05	1142.11
	5/28/2013								5.12	1142.04
	9/9/2013								6.00	1141.16
	12/2/2013								5.68	1141.48
	3/25/2014								5.90	1141.26
	6/11/2014								6.23	1140.93
MW-28	3/17/2010	4.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.13	1146.94
	6/8/2010	3.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1146.63
	8/30/2010	6.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.64	1144.43
	11/17/2010	4.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.46	1145.61
	3/1/2011	7.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.01	1147.06
	5/31/2011	3.4	NA	NA	NA	NA	NA	NA	4.82	1145.25
	8/24/2011	4.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.97	1145.10
	3/28/2012	14.6	NA	NA	NA	NA	NA	NA	2.88	1147.19
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-29	3/17/2010	35.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.61	1144.65
	6/7/2010	39.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.83	1144.43
	8/30/2010	39.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.95	1142.31
	11/17/2010	37.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.95	1143.31
	3/2/2011	9.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.23	1145.03
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	37.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.81	1143.45
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.71	1144.55
	6/25/2012	22.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.58	1143.68
	9/6/2012	25.0	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.58	1142.68
	12/14/2012	3.13	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.77	1141.49
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.36	1141.90
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.70	1142.56
	9/9/2013	1.39	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.61
	12/2/2013	11.0	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.47	1141.79
	3/25/2014	4.06	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.25	1142.01
	6/11/2014	5.47	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.61

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-30	3/18/2010	17.0	23.9	<1.00	14.5	12.2	1.9	2.5	2.23	1145.03
	6/7/2010	20.1	17.9	<1.00	12.4	10.5	1.9	<2.00	2.41	1144.85
	8/31/2010	22.7	<1.00	<1.00	3.1	<3.00	<1.00	<2.00	4.07	1143.19
	11/17/2010	25.9	<1.00	<1.00	1.8	<3.00	<1.00	<2.00	3.61	1143.65
	3/2/2011	22.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.35	1144.91
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	8.41	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.31	1143.95
	9/6/2012	10.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1142.96
	12/14/2012	4.08	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.91	1141.35
	3/5/2013	6.13	1.80	<1.00	<1.00	<2.00	<1.00	<1.00	5.50	1141.76
	5/28/2013	6.56	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1142.75
	9/9/2013	6.28	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.68	1141.58
	12/2/2013	13.5	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.74	1141.52
	3/25/2014	7.18	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.39	1141.87
	6/11/2014	3.10	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.84	1141.42
MW-31	3/17/2010	7.8	668	783	265	2,700	26.4	119	3.16	1147.07
	6/8/2010	6.3	336	118	119	754	10.2	61.8	3.61	1146.62
	8/30/2010	8.0	18.8	1.1	10.5	34.1	1.3	3.3	5.73	1144.50
	11/17/2010	6.7	60.5	<1.00	20.6	20.4	1.8	4.3	4.73	1145.50
	3/1/2011	4.8	9.2	1.4	3.6	4.1	<1.00	<2.00	3.48	1146.75
	5/31/2011	6.3	66.1	<1.00	20.9	22.1	2.3	2.1	4.74	1145.49
	8/24/2011	14.3	439	7.2	135	272	12	35.7	5.03	1145.20
	3/28/2012	16.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.18	1147.05
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-32	5/28/2010	4.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.22	1145.58
	6/8/2010	2.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.21	1146.59
	8/30/2010	1.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.16	1144.64
	11/17/2010	2.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.64	1145.16
	3/1/2011	2.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.94	1146.86
	5/31/2011	2.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.15	1145.65
	8/24/2011	2.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.58	1145.22
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.49	1147.31
	6/25/2012	4.51	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1145.29
	9/6/2012	4.07	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.51	1144.29
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1144.15
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.50	1144.30
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.22	1144.58
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.50	1143.30
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.80	1144.00
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.45	1144.35
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.10	1143.70
MW-33	5/28/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.41	1145.72
	6/8/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.36	1146.77
	8/30/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.25	1144.88
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.96	1145.17
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.42	1146.71
	5/31/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.38	1145.75
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.72	1145.41
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.70	1147.43
	6/25/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.66	1145.47
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.70	1144.43
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.72	1145.41
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.46	1145.67
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.15	1145.98
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1143.73
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.56	1144.57
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.60	1145.53
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.32	1144.81

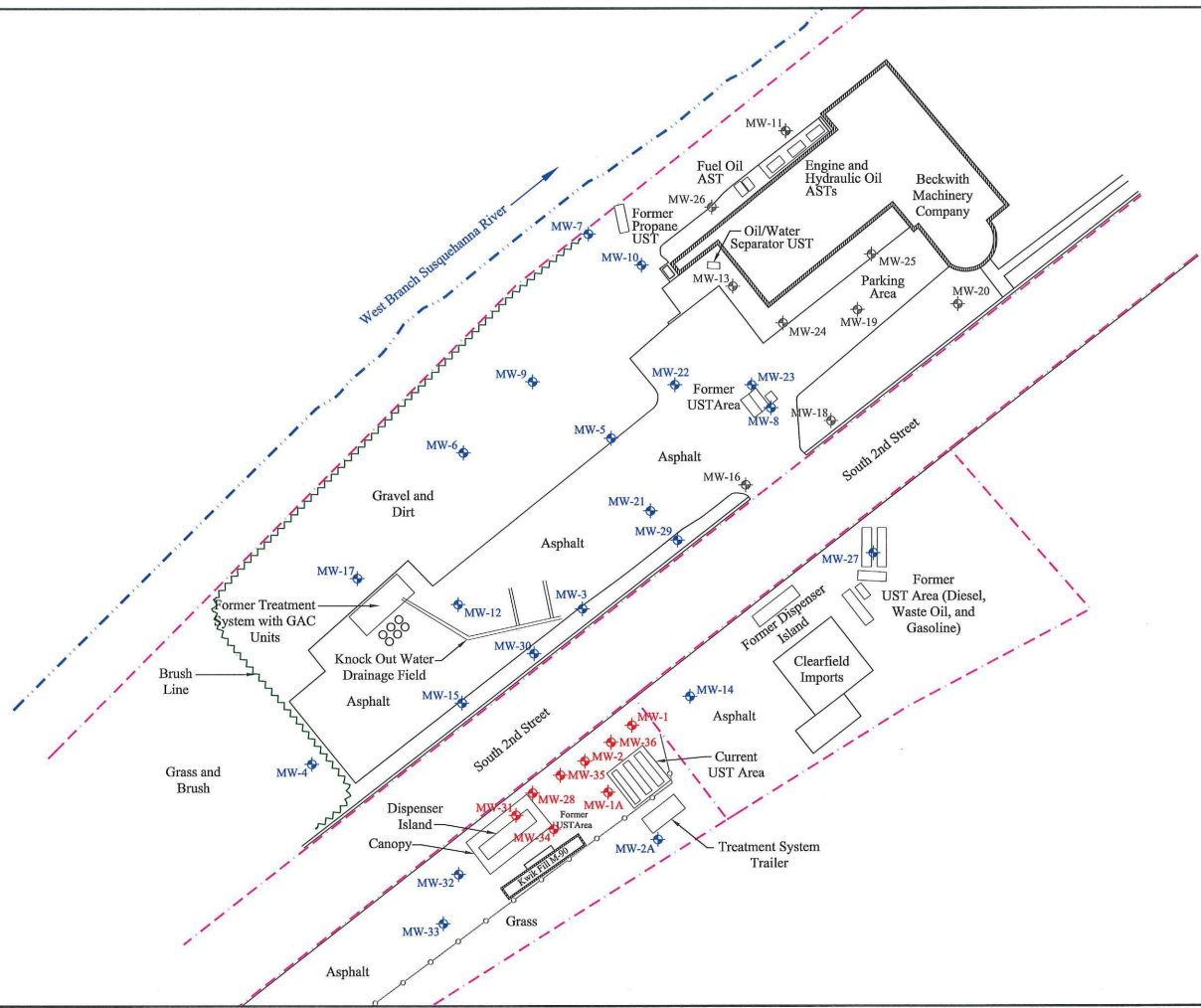
Notes: Groundwater elevation data reported in feet (ft).
Depth-to-groundwater results are reported in feet below top-of-casing (ft-btoc).
All results reported in µg/L.
Bold values indicate levels above LRL.
Bold and shaded values indicate exceedance of PADEP UARSHS MSCs.
NG - Not Gauged. NA - Not Analyzed. NS - Not Sampled.

FIGURES



Reference: 7.5-minute United States Geological Survey Topographic Quadrangles of Clearfield and Glen Richey, Pennsylvania, DeLorme 3-D Topographic Quads Program.

<i>Prepared For:</i>	<i>Project Information:</i>	<i>Prepared By:</i>
United Refining Company Kwik Fill M-90 1322 South 2nd Street Clearfield, Pennsylvania	Project Manager: Jed Hill Project Geologist: Steven Treschow, P.G.	 Letterle & Associates 629 East Rolling Ridge Drive Bellefonte, PA 16823 P: 814-355-2241 F: 814-355-2410 www.letterleassociates.com
<i>Title:</i>	<i>Scale (feet):</i>	
Figure 1 Site Location Map	Scale: 1" = 2000' 	



Prepared By:



629 East Rolling Ridge Drive
Bellefonte, PA 16823
P: 814-355-2241
F: 814-355-2410
www.letterleassociates.com

Project Manager: Jed Hill
Project Geologist: Steven Treschow, P.G.

Prepared For:

United Refining Company
Kwik Fill M-90
1322 South 2nd Street
Clearfield, Pennsylvania

Title:

Figure 2
Site Layout Map

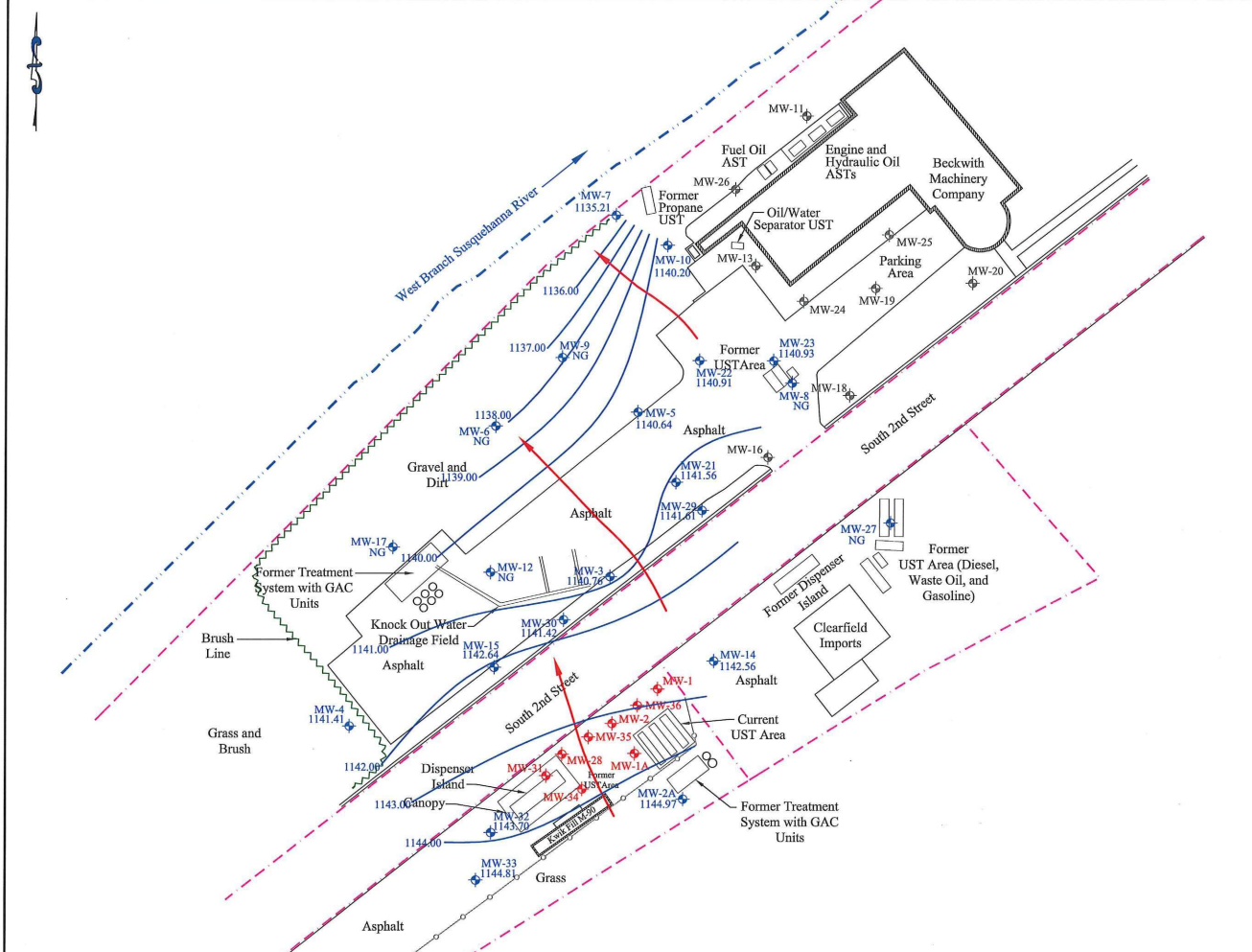
Legend:

- Groundwater Monitoring Well Location
- Abandoned Groundwater Monitoring Well
- Vapor/Groundwater Extraction Well
- Property Boundary
- Guard Rail

Scale (ft.):

1" = 60'
One Inch Equals Sixty Feet





Prepared By:

Letterle & Associates

629 East Rolling Ridge Drive
 Bellefonte, PA 16823
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 F: 814-355-2410
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Project Manager: Jed Hill
 Project Geologist: Steven Treschow, P.G.

Prepared For:

United Refining Company
 Kwik Fill M-90
 1322 South 2nd Street
 Clearfield, Pennsylvania

Title:

Figure 3
 Groundwater Potentiometric
 Surface Contour Map
 June 11, 2014

- Legend:**
- Groundwater Monitoring Well Location
 - Abandoned Groundwater Monitoring Well
 - Vapor/Groundwater Extraction Well
 - Property Boundary
 - Guard Rail
 - 1144.0 Groundwater Elevation (ft)
 - Groundwater Elevation Contour (dashed where inferred)
 - Groundwater Flow Direction

Scale (ft):

1" = 60'
 One Inch Equals Sixty Feet

0 60 120

APPENDIX

APPENDIX A

Groundwater Analytical Laboratory Reports



2019 Ninth Avenue
PO Box 1925
Altoona, PA 16603
(814) 946-4306
NELAP: PA 07-062, VA 460212

89 Kristi Road
Pennssdale, PA 17756
(570) 494-6380
PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 06/26/14 12:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
MW-2A	4F12092-01	Water	Grab	06/11/14 10:21	06/12/14 13:35
MW-3	4F12092-02	Water	Grab	06/11/14 13:18	06/12/14 13:35
MW-4	4F12092-03	Water	Grab	06/11/14 11:24	06/12/14 13:35
MW-7	4F12092-04	Water	Grab	06/11/14 13:32	06/12/14 13:35
MW-10	4F12092-05	Water	Grab	06/11/14 12:05	06/12/14 13:35
MW-14	4F12092-06	Water	Grab	06/11/14 09:57	06/12/14 13:35
MW-15	4F12092-07	Water	Grab	06/11/14 11:45	06/12/14 13:35
MW-21	4F12092-08	Water	Grab	06/11/14 12:42	06/12/14 13:35
MW-29	4F12092-09	Water	Grab	06/11/14 12:58	06/12/14 13:35
MW-30	4F12092-10	Water	Grab	06/11/14 12:23	06/12/14 13:35
MW-32	4F12092-11	Water	Grab	06/11/14 11:01	06/12/14 13:35
MW-33	4F12092-12	Water	Grab	06/11/14 10:40	06/12/14 13:35

Fairway Laboratories, Inc.

Reviewed and Submitted by:

Michael P. Tyler
Laboratory Director

Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.

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Letterle & Associates

629 East Rolling Ridge Drive

Bellefonte PA, 16823

Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD

Project Number: [none]

Collector: CLIENT

Number of Containers: 24

Reported:

06/26/14 12:50

Client Sample ID: MW-2A

Date/Time Sampled: 06/11/14 10:21

Laboratory Sample ID: 4F12092-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	*Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	06/19/14 03:58	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	06/19/14 03:58	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	06/19/14 03:58	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	06/19/14 03:58	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	06/19/14 03:58	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	06/19/14 03:58	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	06/19/14 03:58	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	94.2 %		70-130		06/19/14 03:58	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	118 %		70-130		06/19/14 03:58	EPA 8260B	wlm	
Surrogate: Fluorobenzene	104 %		70-130		06/19/14 03:58	EPA 8260B	wlm	

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State Certifications: MD 275, WV 364

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Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 06/26/14 12:50

Client Sample ID: MW-3

Date/Time Sampled: 06/11/14 13:18

Laboratory Sample ID: 4F12092-02 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	06/19/14 04:36	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	06/19/14 04:36	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	06/19/14 04:36	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	06/19/14 04:36	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	06/19/14 04:36	EPA 8260B	wlm	
Methyl tert-butyl ether	15.9		1.00	ug/l	06/19/14 04:36	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	06/19/14 04:36	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	98.7 %		70-130		06/19/14 04:36	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	113 %		70-130		06/19/14 04:36	EPA 8260B	wlm	
Surrogate: Fluorobenzene	94.3 %		70-130		06/19/14 04:36	EPA 8260B	wlm	

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Letterle & Associates

629 East Rolling Ridge Drive

Bellefonte PA, 16823

Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD

Project Number: [none]

Collector: CLIENT

Number of Containers: 24

Reported:

06/26/14 12:50

Client Sample ID: MW-4

Date/Time Sampled: 06/11/14 11:24

Laboratory Sample ID: 4F12092-03 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
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Volatile Organic Compounds by EPA Method 8260B

Benzene	<1.00	1.00	ug/l	06/20/14 06:38	EPA 8260B	wlm
Toluene	<1.00	1.00	ug/l	06/20/14 06:38	EPA 8260B	wlm
Ethylbenzene	<1.00	1.00	ug/l	06/20/14 06:38	EPA 8260B	wlm
Xylenes (total)	<2.00	2.00	ug/l	06/20/14 06:38	EPA 8260B	wlm
Isopropylbenzene	<1.00	1.00	ug/l	06/20/14 06:38	EPA 8260B	wlm
Methyl tert-butyl ether	<1.00	1.00	ug/l	06/20/14 06:38	EPA 8260B	wlm
Naphthalene	<1.00	1.00	ug/l	06/20/14 06:38	EPA 8260B	wlm
Surrogate: 4-Bromofluorobenzene	99.3 %	70-130		06/20/14 06:38	EPA 8260B	wlm
Surrogate: 1,2-Dichloroethane-d4	104 %	70-130		06/20/14 06:38	EPA 8260B	wlm
Surrogate: Fluorobenzene	101 %	70-130		06/20/14 06:38	EPA 8260B	wlm

Fairway Laboratories, Inc.

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Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none] **Reported:**
Collector: CLIENT 06/26/14 12:50
Number of Containers: 24

Client Sample ID: MW-7

Date/Time Sampled: 06/11/14 13:32

Laboratory Sample ID: 4F12092-04 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	11.9		1.00	ug/l	06/20/14 22:48	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	06/20/14 22:48	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	06/20/14 22:48	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	06/20/14 22:48	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	06/20/14 22:48	EPA 8260B	mtc	
Methyl tert-butyl ether	2.58		1.00	ug/l	06/20/14 22:48	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	06/20/14 22:48	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	100 %		70-130		06/20/14 22:48	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	107 %		70-130		06/20/14 22:48	EPA 8260B	mtc	
Surrogate: Fluorobenzene	96.2 %		70-130		06/20/14 22:48	EPA 8260B	mtc	

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89 Kristi Road
Pennsdale, PA 17756
(570) 494-6380
PaDEP: PA 41-04684



State Certifications: MD 275, WV 364

www.fairwaylaboratories.com

Letterle & Associates

629 East Rolling Ridge Drive

Bellefonte PA, 16823

Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD

Project Number: [none]

Collector: CLIENT

Number of Containers: 24

Reported:

06/26/14 12:50

Client Sample ID: MW-10

Date/Time Sampled: 06/11/14 12:05

Laboratory Sample ID: 4F12092-05 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
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Volatile Organic Compounds by EPA Method 8260B

Benzene	<1.00	1.00	ug/l	06/20/14 23:25	EPA 8260B	mtc
Toluene	<1.00	1.00	ug/l	06/20/14 23:25	EPA 8260B	mtc
Ethylbenzene	<1.00	1.00	ug/l	06/20/14 23:25	EPA 8260B	mtc
Xylenes (total)	<2.00	2.00	ug/l	06/20/14 23:25	EPA 8260B	mtc
Isopropylbenzene	<1.00	1.00	ug/l	06/20/14 23:25	EPA 8260B	mtc
Methyl tert-butyl ether	<1.00	1.00	ug/l	06/20/14 23:25	EPA 8260B	mtc
Naphthalene	<1.00	1.00	ug/l	06/20/14 23:25	EPA 8260B	mtc
Surrogate: 4-Bromofluorobenzene	99.9 %	70-130		06/20/14 23:25	EPA 8260B	mtc
Surrogate: 1,2-Dichloroethane-d4	107 %	70-130		06/20/14 23:25	EPA 8260B	mtc
Surrogate: Fluorobenzene	95.9 %	70-130		06/20/14 23:25	EPA 8260B	mtc

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629 East Rolling Ridge Drive

Bellefonte PA, 16823

Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD

Project Number: [none]

Collector: CLIENT

Number of Containers: 24

Reported:

06/26/14 12:50

Client Sample ID: MW-14

Date/Time Sampled: 06/11/14 09:57

Laboratory Sample ID: 4F12092-06 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	06/19/14 11:18	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	06/19/14 11:18	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	06/19/14 11:18	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	06/19/14 11:18	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	06/19/14 11:18	EPA 8260B	mtc	
Methyl tert-butyl ether	1.45		1.00	ug/l	06/19/14 11:18	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	06/19/14 11:18	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	96.8 %		70-130		06/19/14 11:18	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	92.7 %		70-130		06/19/14 11:18	EPA 8260B	mtc	
Surrogate: Fluorobenzene	99.9 %		70-130		06/19/14 11:18	EPA 8260B	mtc	

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Letterle & Associates
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jcd Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 06/26/14 12:50

Client Sample ID: MW-15

Date/Time Sampled: 06/11/14 11:45

Laboratory Sample ID: 4F12092-07 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	06/19/14 11:47	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	06/19/14 11:47	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	06/19/14 11:47	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	06/19/14 11:47	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	06/19/14 11:47	EPA 8260B	mtc	
Methyl tert-butyl ether	<1.00		1.00	ug/l	06/19/14 11:47	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	06/19/14 11:47	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	97.9 %		70-130		06/19/14 11:47	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	91.1 %		70-130		06/19/14 11:47	EPA 8260B	mtc	
Surrogate: Fluorobenzene	97.8 %		70-130		06/19/14 11:47	EPA 8260B	mtc	

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Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none] Reported:
Collector: CLIENT 06/26/14 12:50
Number of Containers: 24

Client Sample ID: MW-21

Date/Time Sampled: 06/11/14 12:42

Laboratory Sample ID: 4F12092-08 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	06/19/14 12:17	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	06/19/14 12:17	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	06/19/14 12:17	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	06/19/14 12:17	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	06/19/14 12:17	EPA 8260B	mtc	
Methyl tert-butyl ether	4.35		1.00	ug/l	06/19/14 12:17	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	06/19/14 12:17	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	96.0 %		70-130		06/19/14 12:17	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	92.0 %		70-130		06/19/14 12:17	EPA 8260B	mtc	
Surrogate: Fluorobenzene	100 %		70-130		06/19/14 12:17	EPA 8260B	mtc	

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Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 06/26/14 12:50

Client Sample ID: MW-29

Date/Time Sampled: 06/11/14 12:58

Laboratory Sample ID: 4F12092-09 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	06/19/14 12:47	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	06/19/14 12:47	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	06/19/14 12:47	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	06/19/14 12:47	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	06/19/14 12:47	EPA 8260B	mtc	
Methyl tert-butyl ether	5.47		1.00	ug/l	06/19/14 12:47	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	06/19/14 12:47	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	96.8 %		70-130		06/19/14 12:47	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	94.3 %		70-130		06/19/14 12:47	EPA 8260B	mtc	
Surrogate: Fluorobenzene	101 %		70-130		06/19/14 12:47	EPA 8260B	mtc	

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Bellevue PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none] Reported:
Collector: CLIENT 06/26/14 12:50
Number of Containers: 24

Client Sample ID: MW-30

Date/Time Sampled: 06/11/14 12:23

Laboratory Sample ID: 4F12092-10 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	06/19/14 13:17	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	06/19/14 13:17	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	06/19/14 13:17	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	06/19/14 13:17	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	06/19/14 13:17	EPA 8260B	mtc	
Methyl tert-butyl ether	3.10		1.00	ug/l	06/19/14 13:17	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	06/19/14 13:17	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	96.9 %		70-130		06/19/14 13:17	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	92.4 %		70-130		06/19/14 13:17	EPA 8260B	mtc	
Surrogate: Fluorobenzene	99.7 %		70-130		06/19/14 13:17	EPA 8260B	mtc	

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Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 06/26/14 12:50

Client Sample ID: MW-32

Date/Time Sampled: 06/11/14 11:01

Laboratory Sample ID: 4F12092-11 (Water/Grab)

Analyte	Result	MDL	RI	Units	Date / Time Analyzed	Method	* Analyst	Note
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Volatile Organic Compounds by EPA Method 8260B

Benzene	<1.00		1.00	ug/l	06/19/14 14:17	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	06/19/14 14:17	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	06/19/14 14:17	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	06/19/14 14:17	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	06/19/14 14:17	EPA 8260B	mtc	
Methyl tert-butyl ether	<1.00		1.00	ug/l	06/19/14 14:17	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	06/19/14 14:17	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	96.5 %		70-130		06/19/14 14:17	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	93.9 %		70-130		06/19/14 14:17	EPA 8260B	mtc	
Surrogate: Fluorobenzene	101 %		70-130		06/19/14 14:17	EPA 8260B	mtc	

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Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 06/26/14 12:50

Client Sample ID: MW-33

Date/Time Sampled: 06/11/14 10:40

Laboratory Sample ID: 4F12092-12 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	06/19/14 14:47	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	06/19/14 14:47	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	06/19/14 14:47	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	06/19/14 14:47	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	06/19/14 14:47	EPA 8260B	mtc	
Methyl tert-butyl ether	<1.00		1.00	ug/l	06/19/14 14:47	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	06/19/14 14:47	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	96.9 %		70-130		06/19/14 14:47	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	94.1 %		70-130		06/19/14 14:47	EPA 8260B	mtc	
Surrogate: Fluorobenzene	101 %		70-130		06/19/14 14:47	EPA 8260B	mtc	

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629 East Rolling Ridge Drive

Bellefonte PA, 16823

Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD

Project Number: [none]

Collector: CLIENT

Number of Containers: 24

Reported:

06/26/14 12:50

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

* P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252 certified.

< Represents "less than" - indicates that the result was less than the reporting limit.

MDL Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.

RL Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.

[CALC] Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Please print. See back of COC for instructions/terms and conditions.

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Fax: (610) 946-8791

FAIRWAY LABORATORIES
Environmental Laboratory
89 Kristi Rd
Pennsdale, PA 17756
Phone: (570) 494-6380

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COC #

Client Name: <u>LeHalle & Associates</u>		Received on ice? ☐ Y ☐ N		Reportable to PADEP? ☐ Yes ☐ No		PWSSD #		Analyses Requested		LAB USE ONLY FedEx USPS UPS Other	
Address: <u>629 E. Rolling Ridge Dr</u>		Sample Temp: _____		Matrix		# of Containers		Tracking #		Bottle Type/Comments	
Contact: <u>520 Hill</u>		GRAB Composite		GRAB Composite		Solid Water Other					
Phone #: <u>814-355-2241</u>		TAT: Normal ☒ Rush ☐		Start Date		End Date					
Fax #: <u>-2410</u>		Rush TAT subject to pre-approval and surcharge		Start Time		End Time					
Project Name: <u>CleanAir10 Cont. GUL</u>		Date Required: <u>6/11/14</u>		6-11		10:21					
Quote/PO #: _____		Sample Description/Location		13:18		11:24					
		1 MVR-2A		15:22		12:05					
		2 MVR-3		09:57		12:42					
		3 MVR-4		11:45		12:23					
		4 MVR-7		11:01							
		5 MVR-10									
		6 MVR-14									
		7 MVR-15									
		8 MVR-21									
		9 MVR-24									
		10 MVR-30									
		11 MVR-32									
Sampled by: <u>AMA</u>		Date: <u>6-11</u> Time: <u>15:30</u>		Received by: <u>T. Hughes</u>		Date: <u>6/24/14</u> Time: <u>09:35</u>		Remarks			
Relinquished by: <u>T. Hughes</u>		Date: <u>6/24/14</u> Time: <u>12:45</u>		Received by: <u>T. Hughes</u>		Date: <u>6/24/14</u> Time: <u>12:45</u>					
Relinquished by: <u>T. Hughes</u>		Date: <u>6/24/14</u> Time: <u>12:35</u>		Received by: <u>NS</u>		Date: <u>6/24/14</u> Time: <u>13:35</u>					

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REMEDIAL ACTION PROGRESS REPORT
3rd Quarter 2014

PADEP Facility ID #17-14821
PAUSTIF Claim #2008-0034(M)
Kwik Fill M-90
1322 South 2nd Street
Lawrence Township, Clearfield County
Clearfield, Pennsylvania 16830

Prepared for:

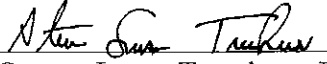
United Refining Company of Pennsylvania
15 Bradley Street
P.O. Box 688
Warren, Pennsylvania 16365

Prepared by:

Letterle & Associates, Inc.
629 East Rolling Ridge Drive
Bellefonte, Pennsylvania 16823




Jed Hill
Project Manager


Steven James Treschow, P.G.
Professional Geologist

October 2014

"By affixing my seal to this document, I am certifying that the information is true and correct to the best of my knowledge. 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."

Steven James Treschow, P.G. (signed and sealed this day (October 23, 2014))



629 East Rolling Ridge Drive, Bellefonte, PA 16823
P: 814.355.2241 F: 814.355.2410 www.letterleassociates.com

October 23, 2014

Mr. Scott Ferguson, P.G.
Pennsylvania Department of Environmental Protection
Environmental Cleanup Program
208 West Third Street, Suite 101
Williamsport, PA 17701-6448

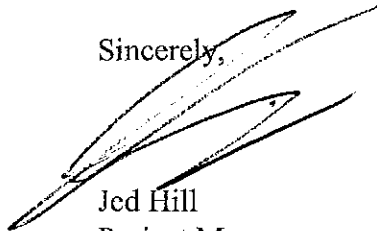
**Re: 3rd Quarter 2014 Remedial Action Progress Report
United Refining Company of Pennsylvania
Kwik Fill M-90
1322 South 2nd Street
Lawrence Township, Clearfield County, Clearfield, Pennsylvania
PADEP Facility ID #17-14821/PAUSTIF Claim #2008-0034(M)**

Dear Mr. Ferguson:

Letterle & Associates, Inc. is pleased to submit this Remedial Action Progress Report (RAPR) for the above referenced facility. This RAPR presents the groundwater monitoring data from the third quarter of 2014 and also includes a description of remedial activities completed from July 1, 2014 through September 30, 2014 (third quarter of 2014).

If you have any questions or comments regarding this report, please feel free to contact me at (814) 355-2241 or jhill@letterleassociates.com.

Sincerely,



Jed Hill
Project Manager

Enclosure

cc: Mr. Scott C. Wonsettler, P.G., United Refining Company of Pennsylvania (with CD)
Mr. Gerald Hawk, ICF International (via email)
Mr. Robert McDonald, Arch Street Management
L:\Operations\Projects\Project Files\Bellefonte\United Refining\M-90 Clearfield #277\Reports\2014\Clearfield - 3rd Qtr 2014 RAPR.doc

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GENERAL INFORMATION

Client Contact:	Scott Wonsettler, P.G.
Letterle Project Manager:	Jed Hill
Regulatory Contact:	Scott Ferguson, P.G.
PADEP Facility ID #:	17-14821
PAUSTIF Claim #:	2008-0034 (M)
Number of Wells:	14 monitoring wells (on-site wells MW-2A, MW-32, and MW-33 and off-site monitoring wells MW-3, MW-4, MW-7, MW-9, MW-10, MW-14, MW-15, MW-17, MW-21, MW-29, and MW-30). 8 remediation system extraction wells (MW-1, MW-1A, MW-2, MW-28, MW-31, MW-34, MW-35, and MW-36).

Wells Containing LNAPL: 0

Letterle & Associates, Inc. (Letterle) has been contracted by United Refining Company (United) of Pennsylvania (PA) to perform remedial activities at the Kwik Fill M-90 facility located at 1322 South 2nd Street in Lawrence Township, Clearfield County, Clearfield, PA (the site).

The site location is depicted on the 7.5-minute United States Geological Survey (USGS) Topographic Quadrangles of Clearfield and Glen Richey, PA presented as **Figure 1**. The site exists at an approximate elevation of 1,045 feet above mean sea level (ft-amsl). A more detailed site layout map, which fully depicts the site area, is presented as **Figure 2**.

This Remedial Action Progress Report (RAPR) includes a description of the on-going remedial action activities and presents the groundwater monitoring data obtained at the site during the third quarter of 2014.

SITE HISTORY/PROJECT SUMMARY

The site is currently an active retail fueling (gasoline and diesel) station, which has two 10,000-gallon and one 8,000-gallon steel underground storage tanks (USTs). The two 10,000-gallon USTs were installed in 1969 and the 8,000-gallon UST was installed in 1974. One 10,000-gallon UST and one 8,000-gallon contain unleaded gasoline and the remaining 10,000-gallon UST (in the middle) contains diesel fuel.

On June 15, 1995, the 10,000-gallon unleaded gasoline UST (#002) failed a tightness test. The PA Department of Environmental Protection (PADEP) was notified of the failure and subsequently, Mountain Research, Inc. (MRI) was retained by United in May 1996 to perform site characterization activities.

From June 1996 through October 1997, four soil boring/monitoring wells, MW-1, MW-1A, MW-2, and MW-2A, were installed on the site and five monitoring wells, MW-3 through MW-7, were installed off-site, on the Beckwith Machinery Company (BMC) property. Quarterly groundwater sampling began in February 1996. Groundwater analytical results for the monitoring wells indicated unleaded gasoline constituents at concentrations above their respective Medium Specific

Concentration (MSC) values. In June 1997, soil/groundwater samples were collected on-site and in the right-of-way of South 2nd Street. The results of the investigation indicated several soil/groundwater samples contained unleaded gasoline constituents at concentrations above their respective MSC values.

MRI prepared a Remedial Action Plan (RAP) in July 1999 proposing a Matrix Trailer Mounted Oxygen Injection System. The PADEP approved the RAP in January 2000. In February 2000, system installation was initiated. The system consisted of eight oxygen injection points and a small trailer to house any ancillary equipment. On April 12, 2000, the system was activated. The system was operational from April 12, 2000 until the first quarter of 2005. From February 1996 through first quarter of 2005, MRI performed quarterly groundwater sampling from the monitoring well network.

From early 2005 through mid-2006, additional site investigations were initiated at the site to re-evaluate the remedial approach. In October 2006, a Supplemental Site Characterization Report (SCR) and RAP Addendum was submitted to the PADEP. The Supplemental SCR/RAP Addendum identified two separate source areas, one on-site and one off-site at the BMC property. The on-site source area (Source Area #1) was found to have impacted groundwater beneath the site and downgradient on the former BMC property. Impacted groundwater from Source Area #2 was found to be related to an off-site release and not associated with the Kwik Fill M-90 facility. The Supplemental SCR/RAP Addendum strategy included remediating groundwater via an air sparge/soil vapor extraction (AS/SVE) system. An additional RAP Addendum was submitted in December 2006. The PADEP approved the Supplemental SCR/RAP Addendum and additional RAP Addendum in January 2007, with modifications. An AS/SVE system was installed at the site and operated from November 2007 through the fourth quarter of 2008.

A second release of unleaded gasoline occurred at the site, and was reported in February 2008. Additional site characterization activities were initiated and an Additional SCR and RAP Addendum was submitted in June 2011. The June 2011 Additional SCR/RAP Addendum included the selection of a dual phase extraction (DPE)/SVE system to address on-site soil and groundwater and enhanced in-situ bioremediation (EB) to address off-site groundwater. The June RAP Addendum was approved by the PADEP in July 2011.

REMEDIAL ACTION PLAN IMPLEMENTATION

The PA Underground Storage Tank Indemnification Fund (PAUSTIF) and their administrator, ICF International (ICFI), put the site remedial work out for competitive bid. The proposed scope of work was based upon the July 2011 approved RAP. Letterle was awarded the bid in March of 2012 and began implementation of the approved RAP.

Remedial actions completed in previous quarters include off-site well abandonment, DPE well installation, remedial system trenching and piping, remedial system installation, and the application of a chemical oxidant as part of an enhanced bioremediation feasibility study.

Remediation System

The remedial system trailer was constructed and mobbed to the site during the third quarter of 2012 and began operation on October 30, 2012. The principal DPE system components housed within the trailer include:

- Two claw pumps;
- One air compressor;
- One air/water separator (AWS) tank;
- One equalization tank;
- Two transfer pumps and level controls;
- Six pneumatic groundwater pumps;
- Four 400-pound liquid-phase granular activated carbon (GAC) vessels (high pressure units);
- Two 600-pound vapor-phase GAC vessels; and,
- Control panel for the claw pumps, air compressor, and the transfer pumps (including all system interlocks).

The recovered groundwater is treated and discharged to the sanitary sewer under an issued permit from the Clearfield Municipal Authority (CMA). Under the terms of the permit, analytical reports and totalizer readings are reported in Discharge Monitoring Reports (DMR) on a monthly basis to the CMA. Petroleum impacted soil and groundwater remediation systems have been listed as exempt from the Plan Approval/Operating permit requirements by PADEP, Division of Air Quality. The remediation system is operated under the exemption requirements.

QUARTERLY SITE ACTIVITIES COMPLETED – 3RD QUARTER 2014

Remediation System Operating Summary

Start Date:	October 30, 2012
3 rd Quarter 2014 System Uptime:	72%
3 rd Quarter 2014 Total Gallons Treated:	145,763 gallons
Total Gallons Treated To Date:	1,356,187 gallons

System Sampling Dates

Groundwater Influent, Midfluent, Effluent:	July 7, 2014
	August 6, 2014
	September 8, 2014

Groundwater Effluent:	July 7, 2014
	July 25, 2014
	August 6, 2014
	August 18, 2014
	September 8, 2014
	September 20, 2014
Vapor:	August 6, 2014

Groundwater Gauging/Sampling

The monitoring well network is gauged and sampled on a quarterly basis to analyze the effectiveness of the remediation system and to monitor groundwater impacts/movement at the site. Approximately one week prior to groundwater gauging/sampling, the remediation system was deactivated to allow for static groundwater conditions.

Groundwater Gauging

Letterle completed a quarterly groundwater gauging event on September 24, 2014. A total of 14 wells were gauged:

- *14 wells in the shallow overburden groundwater monitoring well network: MW-2A, MW-3, MW-4, MW-7, MW-10, MW-14, MW-15, MW-21, MW-22, MW-23, MW-29, MW-30, MW-32, and MW-33.*

Gauging Methodology

Depth-to-groundwater was measured in each well to determine groundwater elevations and interpret the predominant direction of groundwater movement. Depth-to-groundwater measurements were recorded using an electronic water level indicator capable of measuring to within 0.01 feet of accuracy. The electronic water level indicator was decontaminated between wells.

Gauging Results

Groundwater elevation data collected during the third quarter of 2014 groundwater gauging event indicates the following:

- Groundwater elevations in shallow overburden groundwater ranged from 1,133.99 feet in MW-7 to 1,144.67 feet in MW-2A;
- The predominant direction of movement in shallow overburden groundwater is interpreted to be to the northwest (towards the West Branch Susquehanna River); and,
- Using the September 24, 2014 groundwater elevation data, a groundwater hydraulic gradient of 0.028 feet per foot (ft/ft) between groundwater monitoring wells MW-2A and MW-7 was calculated.

Table 1 summarizes the historical groundwater gauging data and also presents the resultant groundwater gauging results from the third quarter of 2014 groundwater gauging event. A groundwater potentiometric surface contour map for the September 24, 2014 groundwater gauging event is presented as **Figure 3**.

Groundwater Sampling

Letterle completed a quarterly groundwater sampling event on September 24, 2014. A total of 12 wells were sampled:

- *12 wells in the shallow overburden groundwater monitoring well network:* MW-2A, MW-3, MW-4, MW-7, MW-10, MW-14, MW-15, MW-21, MW-29, MW-30, MW-32, and MW-33.

Sampling Methodology

Subsequent to gauging the groundwater level in each well, low-flow sampling was initiated. For wells shallower than 20 feet, a combination of polyethylene and silicon tubing are utilized in conjunction with a peristaltic pump. The peristaltic pump is then utilized to purge the well at a low flow rate of <0.5 liters (500 milliliters) per minute. For wells deeper than 20 feet, polyethylene tubing is utilized in conjunction with a two-inch Mini-Monsoon submersible pump to purge the well at a low flow rate of <0.5 liters (500 milliliters) per minute. The intake of each respective pump was placed approximately three feet below the measured water level. In general, each well is purged at a rate of 100-400 milliliters per minute to avoid creating drawdown. If a well was dewatered, a bailer was utilized to collect the sample after the well recovered.

The purged groundwater is then passed through a flow-through cell that measures dissolved oxygen (DO), pH, total dissolved solids (TDS), temperature, specific conductivity, and oxidation-reduction potential (ORP). Measurements of these parameters were recorded every 5 minutes. These measurements were recorded until three consecutive readings stabilized to within 10% of one another. Purging was considered to be complete upon parameter stabilization for three consecutive readings. Once stabilization was documented, the flow-through cell was disconnected and the sample was immediately collected from the discharge line.

The pump was decontaminated between each sampled well. The purged groundwater was filtered through a mobile GAC vessel and then discharged to the ground surface.

The samples were sealed in pre-preserved laboratory supplied glassware, labeled, custody sealed, placed in an ice-filled cooler, and returned to Letterle's office. The samples were stored in a refrigerator (at 4 °C) until they were collected by the laboratory. The samples were submitted to Fairway Laboratories of Altoona, PA, for analysis of the pre-March 15, 2008 PADEP Land Recycling Program Technical Guidance Manual, Table IV-9 - Short List of Petroleum Products, specifically unleaded gasoline constituents (PADEP unleaded gasoline short list constituents) via United States Environmental Protection Agency (USEPA) Method 8260B and were accompanied by Chain-of-Custody documentation.

Sampling Results

The groundwater analytical results from the groundwater sampling event conducted on September 24, 2014 indicated no exceedances of the applicable PADEP Used-Aquifer TDS $\leq 2,500$ milligrams per liter (mg/L) Residential Statewide Health Standard (UARSHS) MSCs.

Table 1 summarizes the historical groundwater analytical data and also presents the resultant groundwater analytical results from the third quarter of 2014 groundwater sampling event. Groundwater analytical laboratory reports are included in **Appendix A**.

Groundwater samples were not collected from MW-9 and MW-17 due to the inability to locate the respective monitoring wells.

PLANNED ACTIVITY

The following activities are currently planned for the 4th Quarter of 2014:

- Shut down the remediation system (per the PAUSTIF bid schedule)
- Soil attainment and soil vapor attainment sampling;
- Quarterly groundwater gauging and attainment sampling; and,
- Quarterly reporting.

TABLE

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-1	3/17/2010	10.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.26	1147.28
	6/8/2010	11.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.57	1146.97
	8/30/2010	18.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.78	1144.76
	11/17/2010	13.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.40	1146.14
	3/1/2011	6.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.78	1147.76
	5/31/2011	13.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.75	1145.79
	8/24/2011	12.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.12	1145.42
	3/28/2012	14.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.12	1147.42
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-1A	3/17/2010	7.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.57	1147.20
	6/8/2010	6.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.86	1146.91
	8/30/2010	16.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.32	1144.45
	11/17/2010	10.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.88	1145.89
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.04	1147.73
	5/31/2011	4.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.29	1145.48
	8/24/2011	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.65	1145.12
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.55	1147.22
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-2	3/17/2010	20.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.07	1146.91
	6/8/2010	20.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.36	1146.62
	8/30/2010	20.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.61	1144.37
	11/17/2010	20.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.36	1145.62
	3/1/2011	11.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.73	1147.25
	5/31/2011	10.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.68	1145.30
	8/24/2011	14.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.90	1145.08
	3/28/2012	11.5	1.1	<1.00	<1.00	<3.00	<1.00	<2.00	2.85	1147.13
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-2A	3/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.21	1147.66
	6/8/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.27	1147.60
	8/30/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.23	1145.64
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.25	1146.62
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.91	1147.96
	5/31/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.16	1146.71
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.52	1146.35
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.45	1148.42
	6/25/2012	5.22	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1144.36
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.21	1145.66
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.12	1144.75
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1144.57
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.00	1145.87
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.06	1144.81
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.48	1145.39
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.67	1145.20
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.90	1144.97
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.20	1144.67
MW-3	3/18/2010	43.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.43	1143.80
	6/7/2010	44.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.40	1143.83
	8/31/2010	41.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.92	1142.31
	11/17/2010	40.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.48	1142.75
	3/2/2011	33.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.81	1144.42
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	32.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.38	1142.85
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.40	1144.83
	6/25/2012	21.9	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.17	1143.06
	9/6/2012	27.5	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.17	1142.06
	12/14/2012	18.4	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.63	1140.60
	3/5/2013	11.8	13.4	<1.00	<1.00	<2.00	<1.00	<1.00	5.36	1140.87
	5/28/2013	12.6	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.40	1141.83
	9/9/2013	20.1	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.42	1140.81
	12/2/2013	17.2	<1.00	<1.00	1.55	<2.00	1.65	<1.00	5.45	1140.78
	3/25/2014	13.5	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.30	1140.93
	6/11/2014	15.9	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.47	1140.76
	9/24/2014	4.60	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.69	1140.54

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-4	3/18/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.97	1144.15
	6/7/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.17	1142.95
	8/31/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.44	1140.68
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.26	1141.86
	3/2/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.92	1144.20
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.24	1141.88
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.20	1143.92
	6/25/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.74	1142.38
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.11	1141.01
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.40	1141.72
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.58	1142.54
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.61	1141.51
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.00	1140.12
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.40	1140.72
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.90	1142.22
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.71	1141.41
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.85	1140.27
MW-5	3/17/2010	5.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.16	1143.51
	6/7/2010	4.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.53	1143.14
	8/31/2010	3.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.18	1141.49
	11/17/2010	2.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.80	1141.87
	3/1/2011	1.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.43	1144.24
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	5.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.64	1142.03
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.04	1143.63
	6/25/2012	Well not part of quarterly sampling program.							2.25	1142.42
	9/6/2012								NG	NG
	12/14/2012								NG	NG
	3/5/2013								NG	NG
	5/28/2013								3.00	1141.67
	9/9/2013								4.17	1140.50
	12/2/2013								4.01	1140.66
	3/25/2014								4.03	1140.64
	6/11/2014								NG	NG
	9/24/2014								NG	NG
MW-6	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/7/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/31/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/1/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located. Well not part of quarterly sampling program.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	12/2/2013									
	3/25/2014									
	6/11/2014									
	9/24/2014									

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation*
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-7	3/18/2010	3.6	59.5	11.5	44.4	54.7	25.6	44.5	2.60	1139.41
	6/7/2010	3.1	57.7	12.9	55.2	60.3	35.4	61.3	5.77	1136.24
	8/31/2010	6.8	104	14.4	47.9	49.2	29.3	38.7	7.92	1134.09
	11/17/2010	7.2	97.9	12.5	46.5	47.4	27.3	57.7	6.85	1135.16
	3/2/2011	4.1	51.9	8.8	39.3	27.7	22.4	20.9	3.93	1138.08
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	7.7	73.8	10.2	25.8	28.5	31.3	40.7	7.21	1134.80
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	7.15	1134.86
	6/25/2012	3.84	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.49	1134.52
	9/6/2012	10.6	NA	<2.00	<2.00	<4.00	<2.00	<2.00	7.76	1134.25
	12/14/2012	<2.00	NA	14.8	89.5	43.6	29.0	65.4	5.80	1136.21
	3/5/2013	<1.00	NA	2.29	5.67	5.16	2.25	3.28	6.55	1135.46
	5/28/2013	<1.00	NA	<1.00	1.07	<2.00	1.89	<1.00	6.30	1135.71
	9/9/2013	5.10	NA	<1.00	<1.00	<2.00	2.75	<1.00	7.80	1134.21
	12/2/2013	2.97	NA	9.81	29.3	17.1	17.0	38.6	7.08	1134.93
	3/25/2014	2.42	NA	<2.00	<2.00	<4.00	<2.00	<2.00	6.26	1135.75
	6/11/2014	2.58	NA	<1.00	<1.00	<2.00	<1.00	<1.00	6.80	1135.21
	9/24/2014	2.09	NA	<1.00	<1.00	<2.00	<1.00	<1.00	8.02	1133.99
MW-9	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/8/2010	32.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.00	1141.97
	8/30/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/1/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	12/2/2013									
	3/25/2014									
	6/11/2014									
	9/24/2014									
MW-10	3/17/2010	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.64	1140.76
	6/7/2010	8.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.78	1141.62
	8/31/2010	8.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.08	1140.32
	11/17/2010	7.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.50	1139.90
	3/2/2011	7.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.14	1142.26
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	7.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.42	1140.98
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.42	1140.98
	6/25/2012	5.01	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.23	1141.17
	9/6/2012	6.16	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.10	1140.30
	12/14/2012	5.56	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.08	1140.32
	3/5/2013	5.80	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.81	1140.59
	5/28/2013	4.92	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.90	1140.50
	9/9/2013	6.87	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.70	1139.70
	12/2/2013	5.58	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.34	1140.06
	3/25/2014	<2.00	4.02	<2.00	<2.00	<4.00	<2.00	<2.00	1.70	1140.70
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.20	1140.20
	9/24/2014	4.06	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.00	1139.40

Table 1
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United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-12	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/7/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/31/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	30.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.28	1142.28
	3/2/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well not part of quarterly sampling program.							2.83	1142.73
	9/6/2012								NG	NG
	12/14/2012								NG	NG
	3/5/2013								NG	NG
	5/28/2013								NG	NG
	9/9/2013								NG	NG
	12/2/2013								NG	NG
	3/25/2014								NG	NG
	6/11/2014								NG	NG
	9/24/2014								NG	NG
MW-14	3/17/2010	23.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.97	1146.75
	6/7/2010	18.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.22	1146.50
	8/31/2010	35.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.43	1144.29
	11/17/2010	21.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.40	1145.32
	3/2/2011	2.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.62	1147.10
	5/31/2011	21.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1145.28
	8/24/2011	17.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.80	1143.92
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.71	1146.01
	6/25/2012	8.80	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.59	1145.13
	9/6/2012	19.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.63	1144.09
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.89	1141.83
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.14	1141.58
	5/28/2013	1.38	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.80	1143.92
	9/9/2013	3.30	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.30	1142.42
	12/2/2013	1.52	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.00	1142.72
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1142.32
	6/11/2014	1.45	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.16	1142.56
	9/24/2014	1.02	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.26	1141.46
MW-15	3/18/2010	6.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.73	1145.56
	6/7/2010	6.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.08	1145.21
	8/31/2010	7.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.88	1143.41
	11/17/2010	6.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1143.85
	3/2/2011	4.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.51	1145.78
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	6.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.27	1144.02
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.20	1145.09
	6/25/2012	6.98	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.11	1144.18
	9/6/2012	5.64	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.18	1143.11
	12/14/2012	2.23	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.45	1141.84
	3/5/2013	1.70	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.97	1142.32
	5/28/2013	1.09	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1142.99
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.51	1141.78
	12/2/2013	1.76	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.52	1141.77
	3/25/2014	1.30	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.16	1142.13
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.64
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.15	1141.14

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United Refining Company - Kwik Fill M-90
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Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-17	3/18/2010	9.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.73	1142.53
	6/7/2010	1.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.09	1143.17
	8/31/2010	13.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.78	1141.48
	11/17/2010	11.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.70	1141.56
	3/1/2011	7.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.11	1143.15
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	12/2/2013									
	3/25/2014									
	6/11/2014									
	9/24/2014									
MW-21	3/17/2010	41.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.86	1144.60
	6/7/2010	42.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.12	1144.34
	8/30/2010	40.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.43	1143.03
	11/17/2010	35.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.22	1143.24
	3/2/2011	33.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.50	1144.96
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	37.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.05	1143.41
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.10	1144.36
	6/25/2012	21.7	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.94	1143.52
	9/6/2012	42.1	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	3.79	1142.67
	12/14/2012	10.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.09	1141.37
	3/5/2013	12.7	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.61	1141.85
	5/28/2013	9.92	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.97	1142.49
	9/9/2013	31.2	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.90	1141.56
	12/2/2013	2.24	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.80	1141.66
	3/25/2014	4.71	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.50	1141.96
	6/11/2014	4.35	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.90	1141.56
	9/24/2014	8.24	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.44	1141.02
MW-22	3/17/2010	5.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.79	1143.08
	6/7/2010	8.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.18	1142.69
	8/30/2010	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.60	1141.27
	11/17/2010	6.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.38	1141.49
	3/2/2011	6.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.42	1143.45
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	10.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.04	1141.83
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.11	1142.76
	6/25/2012	Well not part of quarterly sampling program.							2.81	1142.06
	9/6/2012								3.43	1141.44
	12/14/2012								4.06	1140.81
	3/5/2013								3.60	1141.27
	5/28/2013								3.50	1141.37
	9/9/2013								4.52	1140.35
	12/2/2013								4.31	1140.56
	3/25/2014								4.41	1140.46
	6/11/2014								3.96	1140.91
	9/24/2014								4.75	1140.12

Table 1
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United Refining Company - Kwik Fill M-90
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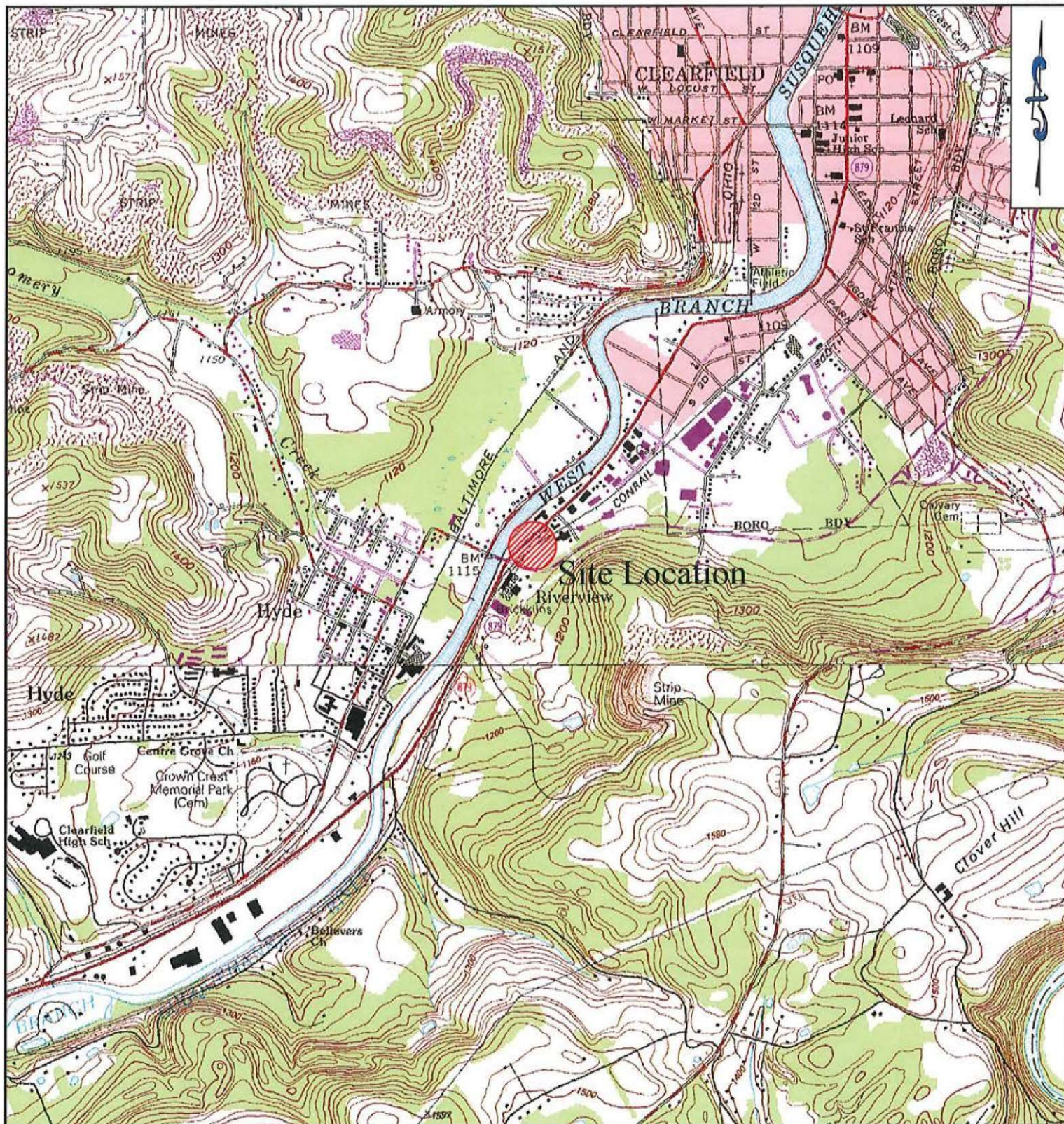
Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethyl Benzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-23	3/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.51	1144.65
	6/7/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.03	1145.13
	8/31/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.63	1142.53
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.90	1143.26
	3/2/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.02	1145.14
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.93	1143.23
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.80	1144.36
	6/25/2012	Well not part of quarterly sampling program.							4.57	1142.59
	9/6/2012								5.37	1141.79
	12/14/2012								5.99	1141.17
	3/5/2013								5.05	1142.11
	5/28/2013								5.12	1142.04
	9/9/2013								6.00	1141.16
	12/2/2013								5.68	1141.48
	3/25/2014								5.90	1141.26
	6/11/2014								6.23	1140.93
	9/24/2014								6.10	1141.06
MW-28	3/17/2010	4.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.13	1146.94
	6/8/2010	3.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1146.63
	8/30/2010	6.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.64	1144.43
	11/17/2010	4.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.46	1145.61
	3/1/2011	7.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.01	1147.06
	5/31/2011	3.4	NA	NA	NA	NA	NA	NA	4.82	1145.25
	8/24/2011	4.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.97	1145.10
	3/28/2012	14.6	NA	NA	NA	NA	NA	NA	2.88	1147.19
MW-29	6/25/2012	Monitoring well converted to remedial extraction well.								
	3/17/2010	35.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.61	1144.65
	6/7/2010	39.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.83	1144.43
	8/30/2010	39.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.95	1142.31
	11/17/2010	37.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.95	1143.31
	3/2/2011	9.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.23	1145.03
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	37.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.81	1143.45
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.71	1144.55
	6/25/2012	22.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.58	1143.68
	9/6/2012	25.0	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.58	1142.68
	12/14/2012	3.13	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.77	1141.49
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.36	1141.90
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.70	1142.56
	9/9/2013	1.39	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.61
	12/2/2013	11.0	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.47	1141.79
	3/25/2014	4.06	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.25	1142.01
	6/11/2014	5.47	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.61
	9/24/2014	2.20	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.17	1141.09

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-30	3/18/2010	17.0	23.9	<1.00	14.5	12.2	1.9	2.5	2.23	1145.03
	6/7/2010	20.1	17.9	<1.00	12.4	10.5	1.9	<2.00	2.41	1144.85
	8/31/2010	22.7	<1.00	<1.00	3.1	<3.00	<1.00	<2.00	4.07	1143.19
	11/17/2010	25.9	<1.00	<1.00	1.8	<3.00	<1.00	<2.00	3.61	1143.65
	3/2/2011	22.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.35	1144.91
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	8.41	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.31	1143.95
	9/6/2012	10.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1142.96
	12/14/2012	4.08	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.91	1141.35
	3/5/2013	6.13	1.80	<1.00	<1.00	<2.00	<1.00	<1.00	5.50	1141.76
	5/28/2013	6.56	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1142.75
	9/9/2013	6.28	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.68	1141.58
	12/2/2013	13.5	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.74	1141.52
	3/25/2014	7.18	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.39	1141.87
	6/11/2014	3.10	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.84	1141.42
	9/24/2014	8.54	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1140.86
MW-31	3/11/2010	7.8	668	783	265	2,700	26.4	119	3.16	1147.07
	6/8/2010	6.3	336	118	119	754	10.2	61.8	3.61	1146.62
	8/30/2010	8.0	18.8	1.1	10.5	34.1	1.3	3.3	5.73	1144.50
	11/17/2010	6.7	60.5	<1.00	20.6	20.4	1.8	4.3	4.73	1145.50
	3/1/2011	4.8	9.2	1.4	3.6	4.1	<1.00	<2.00	3.48	1146.75
	5/31/2011	6.3	66.1	<1.00	20.0	22.1	2.3	2.1	4.74	1145.49
	8/24/2011	14.3	439	7.2	135	272	12	35.7	5.03	1145.20
	3/28/2012	16.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.18	1147.05
	6/25/2012	Monitoring well converted to remedial extraction well.								
MW-32	5/28/2010	4.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.22	1145.58
	6/8/2010	2.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.21	1146.59
	8/30/2010	1.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.16	1144.64
	11/17/2010	2.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.64	1145.16
	3/1/2011	2.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.94	1146.86
	5/31/2011	2.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.15	1145.65
	8/24/2011	2.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.58	1145.22
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.49	1147.31
	6/25/2012	4.51	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1145.29
	9/6/2012	4.07	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.51	1144.29
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1144.15
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.50	1144.30
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.22	1144.58
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.50	1143.30
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.80	1144.00
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.45	1144.35
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.10	1143.70
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.39	1143.41
MW-33	5/28/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.41	1145.72
	6/8/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.36	1146.77
	8/30/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.25	1144.88
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.96	1145.17
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.42	1146.71
	5/31/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.38	1145.75
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.72	1145.41
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.70	1147.43
	6/25/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.66	1145.47
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.70	1144.43
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.72	1145.41
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.46	1145.67
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.15	1145.98
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1143.73
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.56	1144.57
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.60	1145.53
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.32	1144.81
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.71	1144.42

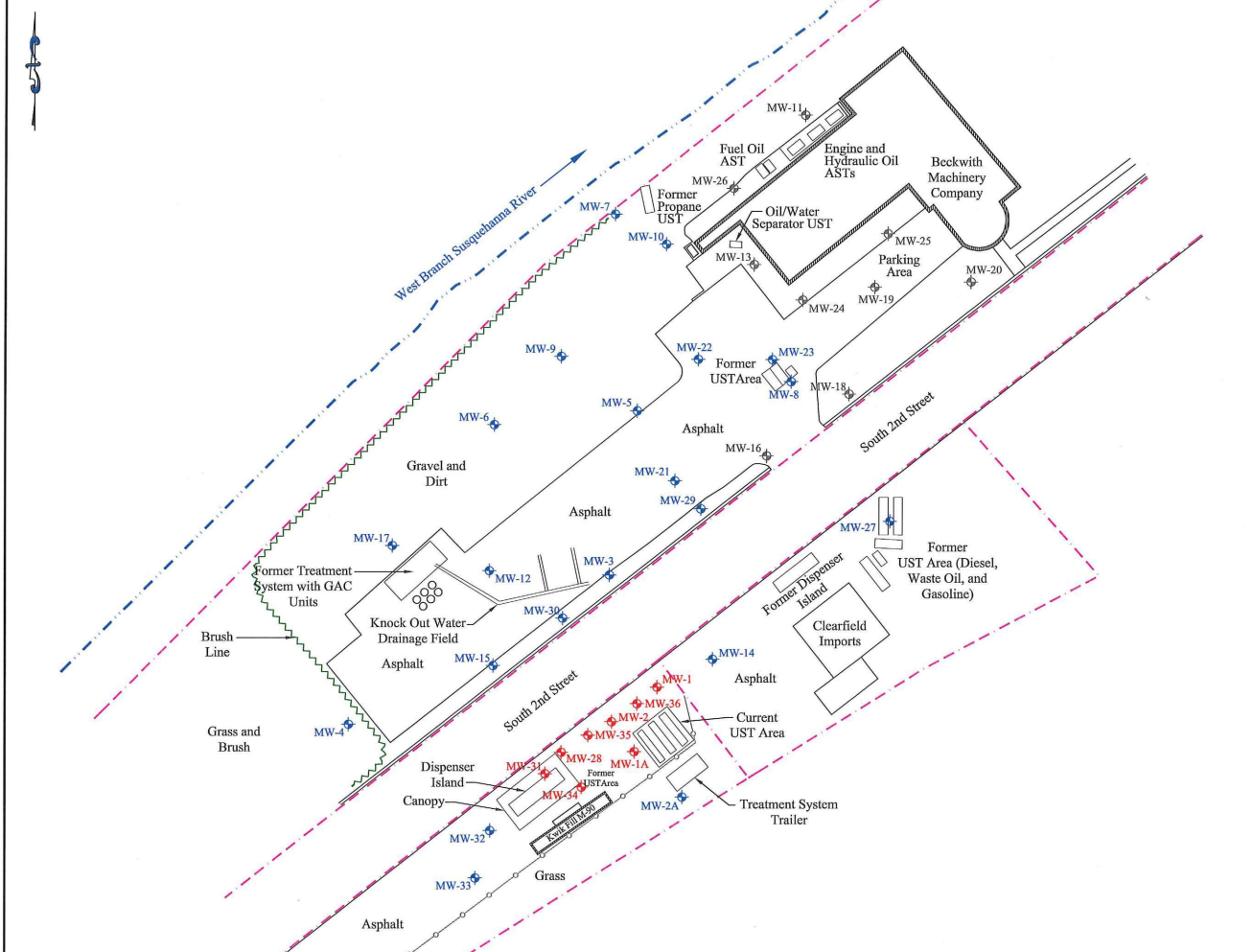
Notes: Groundwater elevation data reported in feet (ft).
Depth-to-groundwater results are reported in feet below top-of-casing (ft-btoc).
All results reported in ug/l.
Bold values indicate levels above LRL.
Bold and shaded values indicate exceedance of PADEP UARSHS MSCs.
NG - Not Gauged, NA - Not Analyzed, NS - Not Sampled.

FIGURES



Reference: 7.5-minute United States Geological Survey Topographic Quadrangles of Clearfield and Glen Richey, Pennsylvania, DeLorme 3-D Topographic Quads Program.

Prepared For:	Project Information:	Prepared By:
United Refining Company Kwik Fill M-90 1322 South 2nd Street Clearfield, Pennsylvania	Project Manager: Jed Hill Project Geologist: Steven Treschow, P.G.	 Letterle & Associates 629 East Rolling Ridge Drive Bellefonte, PA 16823 P: 814-355-2241 F: 814-355-2410 www.letterleassociates.com
Title:	Scale (feet):	
Figure 1 Site Location Map	Scale: 1" = 2000' 	



Prepared By:

Letterle & Associates

629 East Rolling Ridge Drive
 Bellefonte, PA 16823
 P: 814-355-2241
 F: 814-355-2410
 www.letterleassociates.com

Project Manager: Jed Hill
 Project Geologist: Steven Treschow, P.G.

Prepared For:

United Refining Company
 Kwik Fill M-90
 1322 South 2nd Street
 Clearfield, Pennsylvania

Title:

Figure 2
 Site Layout Map

Legend:

- Groundwater Monitoring Well Location
- Abandoned Groundwater Monitoring Well
- Vapor/Groundwater Extraction Well
- Property Boundary
- Guard Rail

Scale (ft.):

1" = 60'
 One Inch Equals Sixty Feet

0 60 120

Prepared By:



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Project Geologist: Steven Treschow, P.G.

Prepared For:

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Kwik Fill M-90
1322 South 2nd Street
Clearfield, Pennsylvania

Title:

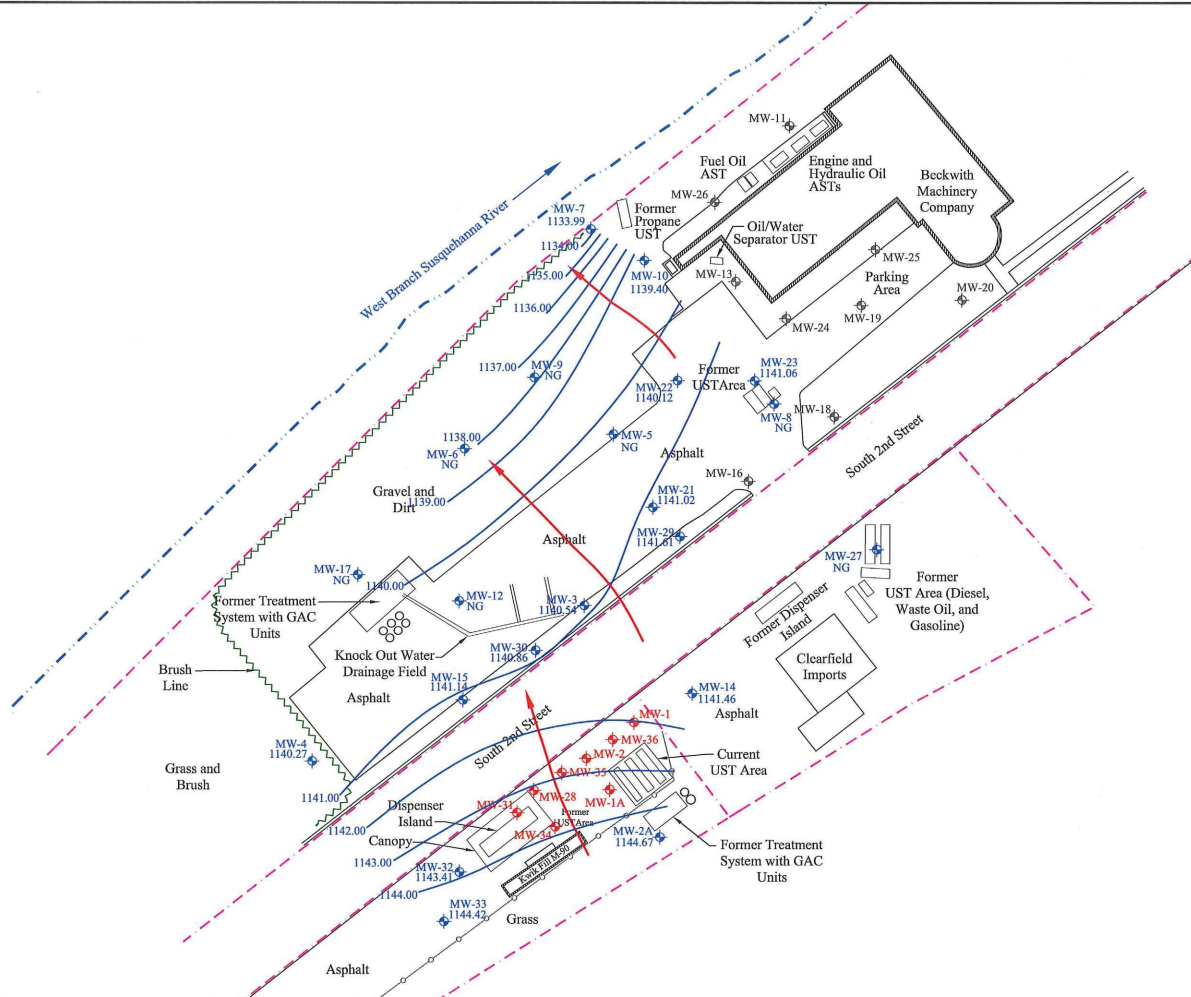
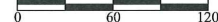
Figure 3
Groundwater Potentiometric
Surface Contour Map
September 24, 2014

Legend:

- Groundwater Monitoring Well Location
- Abandoned Groundwater Monitoring Well
- Vapor/Groundwater Extraction Well
- Property Boundary
- Guard Rail
- 1144.0 Groundwater Elevation (ft)
- Groundwater Elevation Contour (dashed where inferred)
- Groundwater Flow Direction

Scale (ft):

1" = 60'
One Inch Equals Sixty Feet



APPENDIX

APPENDIX A

Groundwater Analytical Laboratory Reports



2019 Ninth Avenue
PO Box 1925
Altoona, PA 16603
(814) 946-4306
NELAP: PA 07-062, VA 460212

89 Kristi Road
Pennsdale, PA 17756
(570) 494-6380
PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
MW-2A	4I25051-01	Water	Grab	09/24/14 09:49	09/25/14 13:30
MW-3	4I25051-02	Water	Grab	09/24/14 13:14	09/25/14 13:30
MW-4	4I25051-03	Water	Grab	09/24/14 11:00	09/25/14 13:30
MW-7	4I25051-04	Water	Grab	09/24/14 13:38	09/25/14 13:30
MW-10	4I25051-05	Water	Grab	09/24/14 11:47	09/25/14 13:30
MW-14	4I25051-06	Water	Grab	09/24/14 09:28	09/25/14 13:30
MW-15	4I25051-07	Water	Grab	09/24/14 11:24	09/25/14 13:30
MW-21	4I25051-08	Water	Grab	09/24/14 12:36	09/25/14 13:30
MW-29	4I25051-09	Water	Grab	09/24/14 12:49	09/25/14 13:30
MW-30	4I25051-10	Water	Grab	09/24/14 12:12	09/25/14 13:30
MW-32	4I25051-11	Water	Grab	09/24/14 10:29	09/25/14 13:30
MW-33	4I25051-12	Water	Grab	09/24/14 10:11	09/25/14 13:30

Fairway Laboratories, Inc.

Reviewed and Submitted by:

Michael P. Tyler
Laboratory Director

Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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PaDEP: PA 41-04684



State Certifications: MD 275, WV 364

www.fairwaylaboratories.com

Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-2A

Date/Time Sampled: 09/24/14 09:49

Laboratory Sample ID: 4I25051-01 (Water/Grab)

Analyte	Result	MDL	RI	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 14:06	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 14:06	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 14:06	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 14:06	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 14:06	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	09/27/14 14:06	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 14:06	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	96.8 %		70-130		09/27/14 14:06	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	101 %		70-130		09/27/14 14:06	EPA 8260B	wlm	
Surrogate: Fluorobenzene	94.3 %		70-130		09/27/14 14:06	EPA 8260B	wlm	

Fairway Laboratories, Inc.

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www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none] **Reported:**
Collector: CLIENT 10/06/14 09:28
Number of Containers: 24

Client Sample ID: MW-3

Date/Time Sampled: 09/24/14 13:14

Laboratory Sample ID: 4125051-02 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 01:39	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 01:39	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 01:39	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 01:39	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 01:39	EPA 8260B	wlm	
Methyl tert-butyl ether	4.60		1.00	ug/l	09/27/14 01:39	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 01:39	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	97.3 %		70-130		09/27/14 01:39	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	101 %		70-130		09/27/14 01:39	EPA 8260B	wlm	
Surrogate: Fluorobenzene	95.5 %		70-130		09/27/14 01:39	EPA 8260B	wlm	

Fairway Laboratories, Inc.

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Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-4

Date/Time Sampled: 09/24/14 11:00

Laboratory Sample ID: 4125051-03 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 02:35	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 02:35	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 02:35	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 02:35	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 02:35	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	09/27/14 02:35	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 02:35	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	97.8 %		70-130		09/27/14 02:35	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	102 %		70-130		09/27/14 02:35	EPA 8260B	wlm	
Surrogate: Fluorobenzene	96.4 %		70-130		09/27/14 02:35	EPA 8260B	wlm	

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Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-7

Date/Time Sampled: 09/24/14 13:38

Laboratory Sample ID: 4I25051-04 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Toluene	<1.00		1.00	ug/l	09/27/14 06:43	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 06:43	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 06:43	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 06:43	EPA 8260B	wlm	
Methyl tert-butyl ether	2.09		1.00	ug/l	09/27/14 06:43	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 06:43	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	100 %		70-130		09/27/14 06:43	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	100 %		70-130		09/27/14 06:43	EPA 8260B	wlm	
Surrogate: Fluorobenzene	95.4 %		70-130		09/27/14 06:43	EPA 8260B	wlm	

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Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-10

Date/Time Sampled: 09/24/14 11:47

Laboratory Sample ID: 4125051-05 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 07:11	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 07:11	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 07:11	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 07:11	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 07:11	EPA 8260B	wlm	
Methyl tert-butyl ether	4.06		1.00	ug/l	09/27/14 07:11	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 07:11	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	98.6 %		70-130		09/27/14 07:11	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	99.1 %		70-130		09/27/14 07:11	EPA 8260B	wlm	
Surrogate: Fluorobenzene	95.4 %		70-130		09/27/14 07:11	EPA 8260B	wlm	

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629 East Rolling Ridge Drive
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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-14

Date/Time Sampled: 09/24/14 09:28

Laboratory Sample ID: 4I25051-06 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 07:38	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 07:38	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 07:38	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 07:38	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 07:38	EPA 8260B	wlm	
Methyl tert-butyl ether	1.02		1.00	ug/l	09/27/14 07:38	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 07:38	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	96.8 %		70-130		09/27/14 07:38	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	101 %		70-130		09/27/14 07:38	EPA 8260B	wlm	
Surrogate: Fluorobenzene	96.4 %		70-130		09/27/14 07:38	EPA 8260B	wlm	

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Letterle & Associates Inc.
629 East Rolling Ridge Drive
Belleville PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-15

Date/Time Sampled: 09/24/14 11:24

Laboratory Sample ID: 4125051-07 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
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Volatile Organic Compounds by EPA Method 8260B

Benzene	<1.00	1.00	ug/l	09/27/14 08:06	EPA 8260B	wlm
Toluene	<1.00	1.00	ug/l	09/27/14 08:06	EPA 8260B	wlm
Ethylbenzene	<1.00	1.00	ug/l	09/27/14 08:06	EPA 8260B	wlm
Xylenes (total)	<2.00	2.00	ug/l	09/27/14 08:06	EPA 8260B	wlm
Isopropylbenzene	<1.00	1.00	ug/l	09/27/14 08:06	EPA 8260B	wlm
Methyl tert-butyl ether	<1.00	1.00	ug/l	09/27/14 08:06	EPA 8260B	wlm
Naphthalene	<1.00	1.00	ug/l	09/27/14 08:06	EPA 8260B	wlm
Surrogate: 4-Bromofluorobenzene	98.1 %	70-130		09/27/14 08:06	EPA 8260B	wlm
Surrogate: 1,2-Dichloroethane-d4	99.8 %	70-130		09/27/14 08:06	EPA 8260B	wlm
Surrogate: Fluorobenzene	95.6 %	70-130		09/27/14 08:06	EPA 8260B	wlm

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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-21

Date/Time Sampled: 09/24/14 12:36

Laboratory Sample ID: 4125051-08 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 08:34	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 08:34	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 08:34	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 08:34	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 08:34	EPA 8260B	wlm	
Methyl tert-butyl ether	8.24		1.00	ug/l	09/27/14 08:34	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 08:34	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	98.3 %		70-130		09/27/14 08:34	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	98.5 %		70-130		09/27/14 08:34	EPA 8260B	wlm	
Surrogate: Fluorobenzene	94.6 %		70-130		09/27/14 08:34	EPA 8260B	wlm	

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Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-29

Date/Time Sampled: 09/24/14 12:49

Laboratory Sample ID: 4I25051-09 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 09:01	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 09:01	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 09:01	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 09:01	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 09:01	EPA 8260B	wlm	
Methyl tert-butyl ether	2.20		1.00	ug/l	09/27/14 09:01	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 09:01	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	97.3 %		70-130		09/27/14 09:01	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	98.7 %		70-130		09/27/14 09:01	EPA 8260B	wlm	
Surrogate: Fluorobenzene	95.0 %		70-130		09/27/14 09:01	EPA 8260B	wlm	

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Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellfonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-30

Date/Time Sampled: 09/24/14 12:12

Laboratory Sample ID: 4125051-10 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 09:28	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 09:28	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 09:28	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 09:28	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 09:28	EPA 8260B	wlm	
Methyl tert-butyl ether	8.54		1.00	ug/l	09/27/14 09:28	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 09:28	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	97.3 %		70-130		09/27/14 09:28	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	101 %		70-130		09/27/14 09:28	EPA 8260B	wlm	
Surrogate: Fluorobenzene	96.5 %		70-130		09/27/14 09:28	EPA 8260B	wlm	

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Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-32

Date/Time Sampled: 09/24/14 10:29

Laboratory Sample ID: 4125051-11 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 09:56	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 09:56	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 09:56	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 09:56	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 09:56	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	09/27/14 09:56	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 09:56	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	96.5 %		70-130		09/27/14 09:56	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	104 %		70-130		09/27/14 09:56	EPA 8260B	wlm	
Surrogate: Fluorobenzene	95.2 %		70-130		09/27/14 09:56	EPA 8260B	wlm	

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Letterle & Associates Inc.
629 East Rolling Ridge Drive
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 24
Reported: 10/06/14 09:28

Client Sample ID: MW-33

Date/Time Sampled: 09/24/14 10:11

Laboratory Sample ID: 4125051-12 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	09/27/14 10:24	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	09/27/14 10:24	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	09/27/14 10:24	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	09/27/14 10:24	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	09/27/14 10:24	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	09/27/14 10:24	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	09/27/14 10:24	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	97.3 %		70-130		09/27/14 10:24	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	102 %		70-130		09/27/14 10:24	EPA 8260B	wlm	
Surrogate: Fluorobenzene	95.7 %		70-130		09/27/14 10:24	EPA 8260B	wlm	

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Letterle & Associates Inc.

629 East Rolling Ridge Drive

Bellefonte PA, 16823

Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD

Project Number: [none]

Collector: CLIENT

Number of Containers: 24

Reported:

10/06/14 09:28

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

* P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252 certified.

< Represents "less than" - indicates that the result was less than the reporting limit.

MDL Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.

RL Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.

[CALC] Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

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Pennsdale, PA 17756
(570) 494-6380
PaDEP: PA 41-04684



www.fairwaylaboratories.com

State Certifications: MD 275, WV 364

Letterle & Associates Inc.

629 East Rolling Ridge Drive

Bellefonte PA, 16823

Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD

Project Number: [none]

Collector: CLIENT

Number of Containers: 24

Reported:

10/06/14 09:28

Terms & Conditions

Services provided by Fairway Laboratories Inc. are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Fairway Laboratories Inc. ("Fairway," "us" or "we") will initiate a chain-of-custody/request for analysis upon sample receipt unless the client includes a completed form with the received sample(s). Upon request, Fairway will provide chain-of-custody forms for use.

CONFIDENTIALITY Fairway maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

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RETURN OF RESULTS Fairway routinely provides faxed or verbal results within 10 working days of receipt of sample(s) and a hard copy of the data results is routinely received via US Postal Service within 15 working days. At the request of the client, Fairway may offer expedited return of sample results. Surcharges may apply to rush requests. All rush requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Fairway for 5 years, after which, they will be destroyed.

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WARRANTY AND LIMITATION OF LIABILITY For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

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Fairway Laboratories, Inc.

Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Please print. See back of COC for instructions/terms and conditions.

2019 9th Ave.
P.O. Box 1925
Altoona, PA 16602
Phone: (814) 946-4306
Fax: (814) 946-8791

FAIRWAY LABORATORIES
Environmental Laboratory

89 Kristi Rd
Pennsdale, PA 17756
Phone: (570) 494-6380

4125051
COC # 3
Page 1 of 2

Client Name: <u>Le Heric + Associates</u>		Received on ice? Y ☐ N ☐		Reportable to PADEP? Yes ☐		PW/SID # <u> </u>		Analyses Requested		LAB USE ONLY FedEx USPS UPS Other	
Address: <u>629 E. Bellway Avenue Dr</u>		Sample Temp: <u> </u>		Matrix		# of Containers		Tracking #		Bottle Type/Comments	
Contact: <u>522 Hall</u>		GRAB -or- Composite		Solid		Water		Other			
Phone #: <u>814-355-2241</u>		Start Date		Start Time		End Date		End Time			
Fax #: <u>240</u>		Project Name: <u>Chambers Rd Kirk E.H.</u>		Date		Time		Time			
Quote/PO #: <u> </u>		TAT: Normal ☒ Rush ☐		Date		Time		Time			
Rush TAT subject to pre-approval and surcharge		Date Required: <u> </u>		Date		Time		Time			
Sample Description/Location		GRAB		Composite		Date		Time			
1 <u>MW-2A</u>		☒		☐		9-24		0949		☒	
2 <u>MW-3</u>		☐		☐		1314		1100		☒	
3 <u>MW-4</u>		☐		☐		1338		1147		☒	
4 <u>MW-7</u>		☐		☐		0928		1236		☒	
5 <u>MW-10</u>		☐		☐		1249		1249		☒	
6 <u>MW-14</u>		☐		☐		1249		1249		☒	
7 <u>MW-15</u>		☐		☐		1249		1249		☒	
8 <u>MW-21</u>		☐		☐		1249		1249		☒	
9 <u>MW-24</u>		☐		☐		1249		1249		☒	
10 <u>MW-30</u>		☐		☐		1249		1249		☒	
11 <u>MW-32</u>		☐		☐		1249		1249		☒	
Sampled by: <u>AM</u>		Date		Time		Date		Time		Remarks	
Relinquished by: <u>RT</u>		9-24		1530		9-24		0845			
Relinquished by: <u>RT</u>		9-25		1330		9-25		1330			
Relinquished by: <u>RT</u>		9-25		1330		9-25		1330			
Relinquished by: <u>RT</u>		9-25		1330		9-25		1330			

By relinquishing my sample to Fairway Laboratories, Inc., I hereby agree to the terms and conditions printed on the reverse.

White Original - FLI File Canary - FLI Copy Pink - Customer Receipt Copy

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COC #

Page 2 of 2

Bottle Type/Comments

[illegible]

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White Original - FLJ File

Canary - FLI Copy

Pink - Customer Receipt Copy

**REMEDIAL ACTION PROGRESS REPORT
4th Quarter 2014**

**PADEP Facility ID #17-14821
PAUSTIF Claim #2008-0034(M)**

**Kwik Fill M-90
1322 South 2nd Street
Lawrence Township, Clearfield County
Clearfield, Pennsylvania 16830**

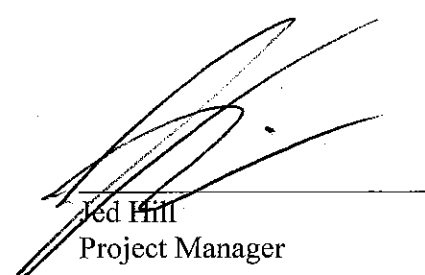
Prepared for:

**United Refining Company of Pennsylvania
15 Bradley Street
P.O. Box 688
Warren, Pennsylvania 16365**

Prepared by:

**Letterle & Associates, Inc.
2022 Axemann Road, Suite 201
Bellefonte, Pennsylvania 16823**




Ted Hill
Project Manager


George Hunzeker, P.G.
VP/Chief Technical Officer

January 2015

"By affixing my seal to this document, I am certifying that the information is true and correct to the best of my knowledge. 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."

George Hunzeker, P.G. (signed and sealed this day (January 26, 2015))



2022 Axemann Road, Suite 201, Bellefonte, PA 16823
P: 814.355.2241 F: 814.355.2410 www.letterleassociates.com

January 26, 2015

Mr. Scott Ferguson, P.G.
Pennsylvania Department of Environmental Protection
Environmental Cleanup Program
208 West Third Street, Suite 101
Williamsport, PA 17701-6448

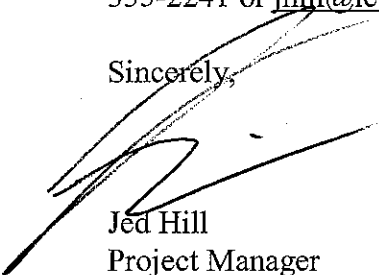
**Re: 4th Quarter 2014 Remedial Action Progress Report
United Refining Company of Pennsylvania
Kwik Fill M-90
1322 South 2nd Street
Lawrence Township, Clearfield County, Clearfield, Pennsylvania
PADEP Facility ID #17-14821/PAUSTIF Claim #2008-0034(M)**

Dear Mr. Ferguson:

Letterle & Associates, Inc. is pleased to submit this Remedial Action Progress Report (RAPR) for the above-referenced facility. This RAPR presents the groundwater monitoring data/results from the fourth quarter of 2014 and represents the first completed quarter of groundwater attainment sampling at the site.

If you have any questions or comments regarding this report, please feel free to contact me at (814) 355-2241 or jhill@letterleassociates.com.

Sincerely,



Jed Hill
Project Manager

Enclosure

cc: Mr. Scott C. Wonsettler, P.G., United Refining Company of Pennsylvania (with CD)
Mr. Gerald Hawk, ICF International (via email)
Mr. Robert McDonald, Arch Street Management
L:\Operations\Projects\Project Files\Bellefonte\United Refining\M-90 Clearfield #277\Reports\2014\Clearfield - 4th Qtr 2014 RAPR.doc

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Figure 2 – Site Layout Map

Figure 3 – Groundwater Potentiometric Surface Contour Map

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Appendix A – Groundwater Analytical Laboratory Reports

GENERAL INFORMATION

Client Contact:	Scott Wonsettler, P.G.
Letterle Project Manager:	Jed Hill
Regulatory Contact:	Scott Ferguson, P.G.
PADEP Facility ID #:	17-14821
PAUSTIF Claim #:	2008-0034 (M)
Number of Wells:	14 monitoring wells (on-site wells MW-2A, MW-32, and MW-33 and off-site monitoring wells MW-3, MW-4, MW-7, MW-9, MW-10, MW-14, MW-15, MW-17, MW-21, MW-29, and MW-30). 8 former remediation system extraction wells (MW-1, MW-1A, MW-2, MW-28, MW-31, MW-34, MW-35, and MW-36).
Wells Containing LNAPL:	0

Letterle & Associates, Inc. (Letterle) has been contracted by United Refining Company (United) of Pennsylvania (PA) to perform remedial activities at the Kwik Fill M-90 facility located at 1322 South 2nd Street in Lawrence Township, Clearfield County, Clearfield, PA (the site).

The site location is depicted on the 7.5-minute United States Geological Survey (USGS) Topographic Quadrangles of Clearfield and Glen Richey, PA presented as **Figure 1**. The site exists at an approximate elevation of 1,045 feet above mean sea level (ft-amsl). A more detailed site layout map, which fully depicts the site area, is presented as **Figure 2**.

The purpose of this Remedial Action Progress Report (RAPR) is to present the groundwater monitoring data/results collected during the fourth quarter of 2014. Additionally, this RAPR represents the first completed quarter of groundwater attainment sampling at the site.

SITE HISTORY/PROJECT SUMMARY

The site is currently an active retail fueling (gasoline and diesel) station, which has two 10,000-gallon and one 8,000-gallon steel underground storage tanks (USTs). The two 10,000-gallon USTs were installed in 1969 and the 8,000-gallon UST was installed in 1974. One 10,000-gallon UST and one 8,000-gallon contain unleaded gasoline and the remaining 10,000-gallon UST (in the middle) contains diesel fuel.

On June 15, 1995, the 10,000-gallon unleaded gasoline UST (#002) failed a tightness test. The PA Department of Environmental Protection (PADEP) was notified of the failure and subsequently, Mountain Research, Inc. (MRI) was retained by United in May 1996 to perform site characterization activities.

From June 1996 through October 1997, four soil boring/monitoring wells, MW-1, MW-1A, MW-2, and MW-2A, were installed on the site and five monitoring wells, MW-3 through MW-7, were installed off-site, on the Beckwith Machinery Company (BMC) property. Quarterly groundwater sampling began in February 1996. Groundwater analytical results for the monitoring wells indicated

unleaded gasoline constituents at concentrations above their respective Medium Specific Concentration (MSC) values. In June 1997, soil/groundwater samples were collected on-site and in the right-of-way of South 2nd Street. The results of the investigation indicated several soil/groundwater samples contained unleaded gasoline constituents at concentrations above their respective MSC values.

MRI prepared a Remedial Action Plan (RAP) in July 1999 proposing a Matrix Trailer Mounted Oxygen Injection System. The PADEP approved the RAP in January 2000. In February 2000, system installation was initiated. The system consisted of eight oxygen injection points and a small trailer to house any ancillary equipment. On April 12, 2000, the system was activated. The system was operational from April 12, 2000 until the first quarter of 2005. From February 1996 through first quarter of 2005, MRI performed quarterly groundwater sampling from the monitoring well network.

From early 2005 through mid-2006, additional site investigations were initiated at the site to re-evaluate the remedial approach. In October 2006, a Supplemental Site Characterization Report (SCR) and RAP Addendum was submitted to the PADEP. The Supplemental SCR/RAP Addendum identified two separate source areas, one on-site and one off-site at the BMC property. The on-site source area (Source Area #1) was found to have impacted groundwater beneath the site and downgradient on the former BMC property. Impacted groundwater from Source Area #2 was found to be related to an off-site release and not associated with the Kwik Fill M-90 facility. The Supplemental SCR/RAP Addendum strategy included remediating groundwater via an air sparge/soil vapor extraction (AS/SVE) system. An additional RAP Addendum was submitted in December 2006. The PADEP approved the Supplemental SCR/RAP Addendum and additional RAP Addendum in January 2007, with modifications. An AS/SVE system was installed at the site and operated from November 2007 through the fourth quarter of 2008.

A second release of unleaded gasoline occurred at the site, and was reported in February 2008. Additional site characterization activities were initiated and an Additional SCR and RAP Addendum was submitted in June 2011. The June 2011 Additional SCR/RAP Addendum included the selection of a dual phase extraction (DPE)/SVE system to address on-site soil and groundwater and enhanced in-situ bioremediation (EB) to address off-site groundwater. The June RAP Addendum was approved by the PADEP in July 2011.

The PA Underground Storage Tank Indemnification Fund (PAUSTIF) and their administrator, ICF International (ICFI), put the site remedial work out for competitive bid. The proposed scope of work was based upon the July 2011 approved RAP. Letterle was awarded the bid in March of 2012 and began implementation of the approved RAP.

REMEDIAL ACTION ACTIVITIES

The remedial system trailer was constructed and mobbed to the site during the third quarter of 2012 and began operation on October 30, 2012. The principal DPE system components housed within the trailer included:

- Two claw pumps;

- One air compressor;
- One air/water separator (AWS) tank;
- One equalization tank;
- Two transfer pumps and level controls;
- Six pneumatic groundwater pumps;
- Four 400-pound liquid-phase granular activated carbon (GAC) vessels (high pressure units);
- Two 600-pound vapor-phase GAC vessels; and,
- Control panel for the claw pumps, air compressor, and the transfer pumps (including all system interlocks).

In compliance with the PAUSTIF remediation agreement, the remediation system was to be operated for a total period of two years. Additionally, as specified in the remediation agreement, applicable PADEP Used-Aquifer (total dissolved solids (TDS) $\leq$ 500 milligrams per liter (mg/L)) Residential Statewide Health Standard (UARSHS) MSCs in groundwater had to be attained within seven quarters of system operation. This criterion was met and the remediation system was shut down on October 10, 2014 and the groundwater attainment monitoring program was initiated in the fourth quarter of 2014.

Approximately 1,356,187 gallons of groundwater was recovered (via the DPE system) and discharged to the Clearfield Municipal Authority (CMA) (via discharge permit) during the 24 months of operation.

QUARTERLY SITE ACTIVITIES COMPLETED – 4TH QUARTER 2014

Groundwater Gauging/Sampling

The groundwater monitoring well network is gauged and sampled on a quarterly basis to analyze the effectiveness of the completed remediation activities and to monitor groundwater impacts/movement at the site.

Groundwater Gauging

Letterle completed a quarterly groundwater gauging event on December 17, 2014. A total of 22 wells were gauged:

- *22 wells in the shallow overburden groundwater monitoring well network:* MW-1, MW-1A, MW-2, MW-2A, MW-3, MW-4, MW-7, MW-9, MW-10, MW-14, MW-15, MW-17, MW-21, MW-28, MW-29, MW-30, MW-31, MW-32, MW-33, MW-34, MW-35, and MW-36.

Gauging Methodology

Depth-to-groundwater was measured in each well to determine groundwater elevations and interpret the predominant direction of groundwater movement. Depth-to-groundwater measurements were

recorded using an electronic water level indicator capable of measuring to within 0.01 feet of accuracy. The electronic water level indicator was decontaminated between wells.

Gauging Results

Groundwater elevation data collected during the fourth quarter of 2014 groundwater gauging event indicates the following:

- Groundwater elevations in shallow overburden groundwater ranged from 1,135.99 feet in MW-7 to 1,147.07 feet in MW-2A;
- The predominant direction of groundwater movement in the shallow overburden aquifer is interpreted to be to the northwest (towards the West Branch Susquehanna River); and,
- Using the December 17, 2014 groundwater elevation data, a groundwater hydraulic gradient of 0.029 feet per foot (ft/ft) between groundwater monitoring wells MW-2A and MW-7 was calculated.

Table 1 summarizes the historical groundwater gauging data and also presents the resultant groundwater gauging results from the fourth quarter of 2014 groundwater gauging event. A groundwater potentiometric surface contour map for the December 17, 2014 groundwater gauging event is presented as **Figure 3**.

Groundwater Sampling

Letterle completed a quarterly groundwater sampling event on December 17, 2014. A total of 19 wells were sampled:

- *19 wells in the shallow overburden groundwater monitoring well network:* MW-1, MW-1A, MW-2, MW-2A, MW-3, MW-4, MW-7, MW-10, MW-14, MW-15, MW-21, MW-28, MW-29, MW-30, MW-31, MW-32, MW-34, MW-35, and MW-36.

Sampling Methodology

Subsequent to gauging the groundwater level in each well, low-flow sampling was initiated. For wells shallower than 20 feet, a combination of polyethylene and silicon tubing were utilized in conjunction with a peristaltic pump. The peristaltic pump was then utilized to purge the well at a low flow rate of <0.5 liters (500 milliliters) per minute. For wells deeper than 20 feet, polyethylene tubing was utilized in conjunction with a two-inch Mini-Monsoon submersible pump to purge the well at a low flow rate of <0.5 liters (500 milliliters) per minute. The intake of each respective pump was placed approximately three feet below the measured water level. In general, each well was purged at a rate of 100-400 milliliters per minute to avoid creating drawdown. If a well was dewatered, a bailer was utilized to collect the sample after the well recovered.

The purged groundwater was then passed through a flow-through cell that measures dissolved oxygen (DO), pH, TDS, temperature, specific conductivity, and oxidation-reduction potential (ORP). Measurements of these parameters were recorded every 5 minutes. These measurements were recorded until three consecutive readings stabilized to within 10% of one another. Purging was

considered to be complete upon parameter stabilization for three consecutive readings. Once stabilization was documented, the flow-through cell was disconnected and the sample was immediately collected from the discharge line.

The pump was decontaminated between each sampled well. The purged groundwater was filtered through a mobile GAC vessel and then discharged to the ground surface.

The samples were sealed in pre-preserved laboratory supplied glassware, labeled, custody sealed, placed in an ice-filled cooler, and returned to Letterle's office. The samples were stored in a refrigerator (at 4 °C) until they were collected by the laboratory. The samples were submitted to Fairway Laboratories of Altoona, PA, for analysis of the pre-March 15, 2008 PADEP Land Recycling Program Technical Guidance Manual, Table IV-9 - Short List of Petroleum Products, specifically unleaded gasoline constituents (PADEP unleaded gasoline short list constituents) via United States Environmental Protection Agency (USEPA) Method 8260B and were accompanied by Chain-of-Custody documentation.

Sampling Results

The groundwater analytical results from the groundwater sampling event conducted on December 17, 2014 indicated no exceedances of the applicable PADEP UARSHS MSCs.

Table 1 summarizes the historical groundwater analytical data and also presents the resultant groundwater analytical results from the fourth quarter of 2014 groundwater sampling event. Groundwater analytical laboratory reports are included in **Appendix A**.

Groundwater samples were not collected from MW-9 and MW-17 due to the inability to locate the respective monitoring wells.

CONCLUSIONS AND RECOMMENDATIONS

In compliance with the PAUSTIF remediation agreement, the remediation system operated for a total period of two years and was shut down on October 10, 2014. The groundwater attainment monitoring program was initiated in the fourth quarter of 2014. Additionally, the initial soil vapor attainment sampling event and the soil attainment sampling event were completed in the fourth quarter of 2014.

Quarterly groundwater attainment sampling was performed on December 17, 2014 (fourth quarter of 2014), which represents the first of eight required groundwater attainment sampling events to be performed at the site as part of the groundwater attainment monitoring program.

PLANNED ACTIVITY

The following activities are currently planned for the 1st Quarter of 2015:

- Quarterly groundwater gauging and attainment sampling; and,
- Quarterly reporting.

TABLE

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth to Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCS		20	5	1,000	700	10,000	840	100		
MW-1	3/17/2010	10.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.26	1147.28
	6/8/2010	11.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.57	1146.97
	8/30/2010	18.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.78	1144.76
	11/17/2010	13.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.40	1146.14
	3/1/2011	6.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.78	1147.76
	5/31/2011	13.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.75	1145.79
	8/24/2011	12.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.12	1145.42
	3/28/2012	14.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.12	1147.42
	6/25/2012	Monitoring well converted to remedial extraction well.								
	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.51	1146.03
MW-1A	3/17/2010	7.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.57	1147.20
	6/8/2010	6.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.86	1146.91
	8/30/2010	16.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.32	1144.45
	11/17/2010	10.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.88	1145.89
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.04	1147.73
	5/31/2011	4.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.29	1145.48
	8/24/2011	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.65	1145.12
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.55	1147.22
	6/25/2012	Monitoring well converted to remedial extraction well.								
	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.38	1145.39
MW-2	3/17/2010	20.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.07	1146.91
	6/8/2010	20.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.36	1146.62
	8/30/2010	20.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.61	1144.37
	11/17/2010	20.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.36	1145.62
	3/1/2011	11.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.73	1147.25
	5/31/2011	10.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.68	1145.30
	8/24/2011	14.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.90	1145.08
	3/28/2012	11.5	1.1	<1.00	<1.00	<3.00	<1.00	<2.00	2.85	1147.13
	6/25/2012	Monitoring well converted to remedial extraction well.								
	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.79	1146.19
MW-2A	3/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.21	1147.66
	6/8/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.27	1147.60
	8/30/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.23	1145.64
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.25	1146.62
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.91	1147.96
	5/31/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.16	1146.71
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.52	1146.35
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.45	1148.42
	6/25/2012	5.22	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1144.36
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.21	1145.66
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.12	1144.75
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1144.57
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.00	1145.87
	8/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.06	1144.81
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.48	1145.39
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.67	1145.20
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.90	1144.97
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.20	1144.67
	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.80	1147.07

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-3	3/18/2010	43.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.43	1143.80
	6/7/2010	44.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.40	1143.83
	8/31/2010	41.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.92	1142.31
	11/17/2010	40.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.48	1142.75
	3/2/2011	33.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.81	1144.42
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	32.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.38	1142.85
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.40	1144.83
	6/25/2012	21.9	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.17	1143.06
	9/6/2012	27.5	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.17	1142.06
	12/14/2012	18.4	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.63	1140.60
	3/5/2013	11.8	13.4	<1.00	<1.00	<2.00	<1.00	<1.00	5.36	1140.87
	5/28/2013	12.6	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.40	1141.83
	9/9/2013	20.1	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.42	1140.81
	12/2/2013	17.2	<1.00	<1.00	1.55	<2.00	1.65	<1.00	5.45	1140.78
	3/25/2014	13.5	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.30	1140.93
	6/1/2014	15.9	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.47	1140.76
	9/24/2014	4.60	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.69	1140.54
	12/17/2014	8.51	<1.00	<1.00	2.57	2.35	1.36	1.10	3.90	1142.33
MW-4	3/18/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.97	1144.15
	6/7/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.17	1142.95
	8/31/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.44	1140.68
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.26	1141.86
	3/2/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.92	1144.20
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.24	1141.88
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.20	1143.92
	6/25/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.74	1142.38
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.11	1141.01
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.40	1141.72
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.58	1142.54
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.61	1141.51
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.00	1140.12
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.40	1140.72
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.90	1142.22
	6/1/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.71	1141.41
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.85	1140.27
	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.10	1142.02
MW-5	3/17/2010	5.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.16	1143.51
	6/7/2010	4.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.53	1143.14
	8/31/2010	3.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.18	1141.49
	11/17/2010	2.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.80	1141.87
	3/1/2011	1.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.43	1144.24
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	5.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.64	1142.03
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.04	1143.63
	6/25/2012								2.25	1142.42
	9/6/2012								NG	NG
	12/14/2012								NG	NG
	3/5/2013								NG	NG
	5/28/2013								3.00	1141.67
	9/9/2013								4.17	1140.50
	12/2/2013								4.01	1140.66
	3/25/2014								4.03	1140.64
	6/1/2014								NG	NG
	9/24/2014								NG	NG
	12/17/2014								NG	NG

Well not part of quarterly sampling program.

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCS		20	5	1,000	700	10,000	840	100		
MW-6	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/7/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/31/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/1/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located. Well not part of quarterly sampling program.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	11/27/2013									
	3/25/2014									
	6/11/2014									
	9/24/2014									
	12/17/2014									
MW-7	3/18/2010	3.6	59.5	11.5	44.4	54.7	25.6	44.5	2.60	1139.41
	6/7/2010	3.1	57.7	12.9	55.2	60.3	35.4	61.3	5.77	1136.24
	8/31/2010	6.8	104	14.4	47.9	49.2	29.3	38.7	7.92	1134.09
	11/17/2010	7.2	97.9	12.5	46.5	47.4	27.3	57.7	6.85	1135.16
	3/2/2011	4.1	81.9	8.8	39.3	27.7	22.4	20.9	3.93	1138.08
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	7.7	73.8	10.2	25.8	28.5	31.3	40.7	7.21	1134.80
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	7.15	1134.86
	6/25/2012	3.84	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.49	1134.52
	9/6/2012	10.6	NA	<2.00	<2.00	<4.00	<2.00	<2.00	7.76	1134.25
	12/14/2012	<2.00	NA	14.8	89.5	43.6	29.0	65.4	5.80	1136.21
	3/5/2013	<1.00	NA	2.29	5.67	5.16	2.25	3.28	6.55	1135.46
	5/28/2013	<1.00	NA	<1.00	1.07	<2.00	1.89	<1.00	6.30	1135.71
	9/9/2013	5.10	NA	<1.00	<1.00	<2.00	2.75	<1.00	7.80	1134.21
	11/27/2013	2.97	NA	9.81	29.3	17.1	17.0	38.6	7.08	1134.93
	3/25/2014	2.42	NA	<2.00	<2.00	<4.00	<2.00	<2.00	6.26	1135.75
	6/11/2014	2.58	NA	<1.00	<1.00	<2.00	<1.00	<1.00	6.80	1135.21
	9/24/2014	2.09	NA	<1.00	<1.00	<2.00	<1.00	<1.00	8.02	1133.99
	12/17/2014	2.93	NA	<1.00	<1.00	<2.00	1.60	<1.00	6.02	1135.99
MW-9	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/7/2010	32.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.00	1141.97
	8/31/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/1/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	11/27/2013									
	3/25/2014									
	6/11/2014									
	9/24/2014									
	12/17/2014									

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth to Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-10	3/17/2010	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.64	1140.76
	6/7/2010	8.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.78	1141.62
	8/31/2010	8.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.08	1140.32
	11/17/2010	7.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.50	1139.90
	3/2/2011	7.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.14	1142.26
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	7.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.42	1140.98
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	1.42	1140.98
	6/25/2012	5.01	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.23	1141.17
	9/6/2012	6.16	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.10	1140.30
	12/14/2012	5.56	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.08	1140.32
	3/5/2013	5.80	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.81	1140.59
	5/28/2013	4.92	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.90	1140.50
	9/9/2013	6.87	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.70	1139.70
	12/2/2013	5.58	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.34	1140.06
	3/23/2014	<2.00	4.02	<2.00	<2.00	<4.00	<2.00	<2.00	1.70	1140.70
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.20	1140.20
	9/24/2014	4.06	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.00	1139.40
	12/17/2014	4.67	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.04	1141.36
MW-12	3/17/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/7/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/31/2010	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/17/2010	30.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.28	1142.28
	3/2/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/23/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012								2.83	1142.73
	9/6/2012								NG	NG
	12/14/2012								NG	NG
	3/5/2013								NG	NG
	5/28/2013								NG	NG
	9/9/2013								NG	NG
	12/2/2013								NG	NG
	3/25/2014								NG	NG
	6/11/2014								NG	NG
	9/24/2014								NG	NG
	12/17/2014								NG	NG
MW-14	3/17/2010	23.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.97	1146.75
	6/7/2010	18.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.22	1146.50
	8/31/2010	35.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.43	1144.29
	11/17/2010	21.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.40	1145.32
	3/2/2011	2.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.62	1147.10
	5/31/2011	21.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1145.28
	8/24/2011	17.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.80	1143.92
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.71	1146.01
	6/25/2012	8.80	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.59	1145.13
	9/6/2012	19.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.63	1144.09
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.89	1141.83
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.14	1141.58
	5/28/2013	1.38	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.80	1143.92
	9/9/2013	3.30	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.30	1142.42
	12/2/2013	1.52	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.00	1142.72
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1142.32
	6/11/2014	1.45	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.16	1142.56
	9/24/2014	1.02	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	7.26	1141.46
	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	1.66	1147.06

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United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth to Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	75	1000	700	10000	840	100		
MW-15	3/18/2010	6.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.73	1145.56
	6/7/2010	6.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.08	1145.21
	8/31/2010	7.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.88	1143.41
	11/19/2010	6.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1143.85
	3/2/2011	4.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.51	1145.78
	5/3/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	6.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.27	1144.02
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.20	1145.09
	6/25/2012	6.98	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.11	1144.18
	9/6/2012	5.64	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.18	1143.11
	12/14/2012	2.23	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.45	1141.84
	3/7/2013	1.70	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.97	1142.32
	5/28/2013	1.09	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1142.99
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.51	1141.78
	11/22/2013	1.76	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.52	1141.77
	3/25/2014	1.30	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.16	1142.13
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.64
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.15	1141.14
	12/17/2014	1.69	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.30	1143.99
MW-17	3/18/2010	9.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.73	1142.53
	6/7/2010	1.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.09	1143.17
	8/31/2010	13.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.78	1141.48
	11/19/2010	11.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.70	1141.56
	3/1/2011	7.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	0.11	1143.15
	5/3/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	Well could not be located.								
	9/6/2012									
	12/14/2012									
	3/5/2013									
	5/28/2013									
	9/9/2013									
	11/22/2013									
	3/25/2014									
	6/11/2014									
	9/24/2014									
	12/17/2014									
MW-21	3/17/2010	41.3	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.86	1144.60
	6/7/2010	42.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.12	1144.34
	8/30/2010	40.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.43	1143.03
	11/17/2010	35.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.22	1143.24
	3/2/2011	33.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.50	1144.96
	5/3/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	37.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.05	1143.41
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.10	1144.36
	6/25/2012	21.7	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	2.94	1143.52
	9/6/2012	42.1	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	3.79	1142.67
	12/14/2012	10.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.09	1141.37
	3/5/2013	12.7	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.61	1141.85
	5/3/2013	9.92	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.97	1142.49
	9/9/2013	31.2	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.90	1141.56
	11/22/2013	2.24	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.80	1141.66
	3/25/2014	4.71	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.50	1141.96
	6/11/2014	4.35	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.90	1141.56
	9/24/2014	8.24	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.44	1141.02
	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.16	1143.30

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth to Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-22	3/17/2010	5.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.79	1143.08
	6/7/2010	8.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.18	1142.69
	8/30/2010	8.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.60	1141.27
	11/17/2010	6.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.38	1141.49
	3/7/2011	6.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	1.42	1143.45
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	10.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.04	1141.83
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.11	1142.76
	6/25/2012	Well not part of quarterly sampling program.							2.81	1142.06
	9/6/2012								3.43	1141.44
	12/14/2012								4.06	1140.81
	3/5/2013								3.60	1141.27
	5/28/2013								3.50	1141.37
	9/9/2013								4.52	1140.35
	12/2/2013								4.31	1140.56
	3/25/2014								4.41	1140.46
	6/11/2014								3.96	1140.91
	9/24/2014								4.75	1140.12
	12/17/2014								3.85	1141.02
MW-23	3/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.51	1144.65
	6/7/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.03	1145.13
	8/31/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.63	1142.53
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.90	1143.26
	3/7/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.02	1145.14
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.93	1143.23
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.80	1144.36
	6/25/2012	Well not part of quarterly sampling program.							4.57	1142.59
	9/6/2012								5.37	1141.79
	12/14/2012								5.99	1141.17
	3/5/2013								5.05	1142.11
	5/28/2013								5.12	1142.04
	9/9/2013								6.00	1141.16
	12/2/2013								5.68	1141.48
	3/25/2014								5.90	1141.26
	6/11/2014								6.23	1140.93
	9/24/2014								6.10	1141.06
	12/17/2014								4.59	1142.57
MW-28	3/17/2010	4.5	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.13	1146.94
	6/8/2010	3.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.44	1146.63
	8/30/2010	6.4	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.64	1144.43
	11/17/2010	4.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.46	1145.61
	3/1/2011	7.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.01	1147.06
	5/31/2011	3.4	NA	NA	NA	NA	NA	NA	4.82	1145.25
	8/24/2011	4.9	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.97	1145.10
	3/28/2012	14.6	NA	NA	NA	NA	NA	NA	2.88	1147.19
	6/25/2012	Monitoring well converted to remedial extraction well.								
	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.97	1146.10

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

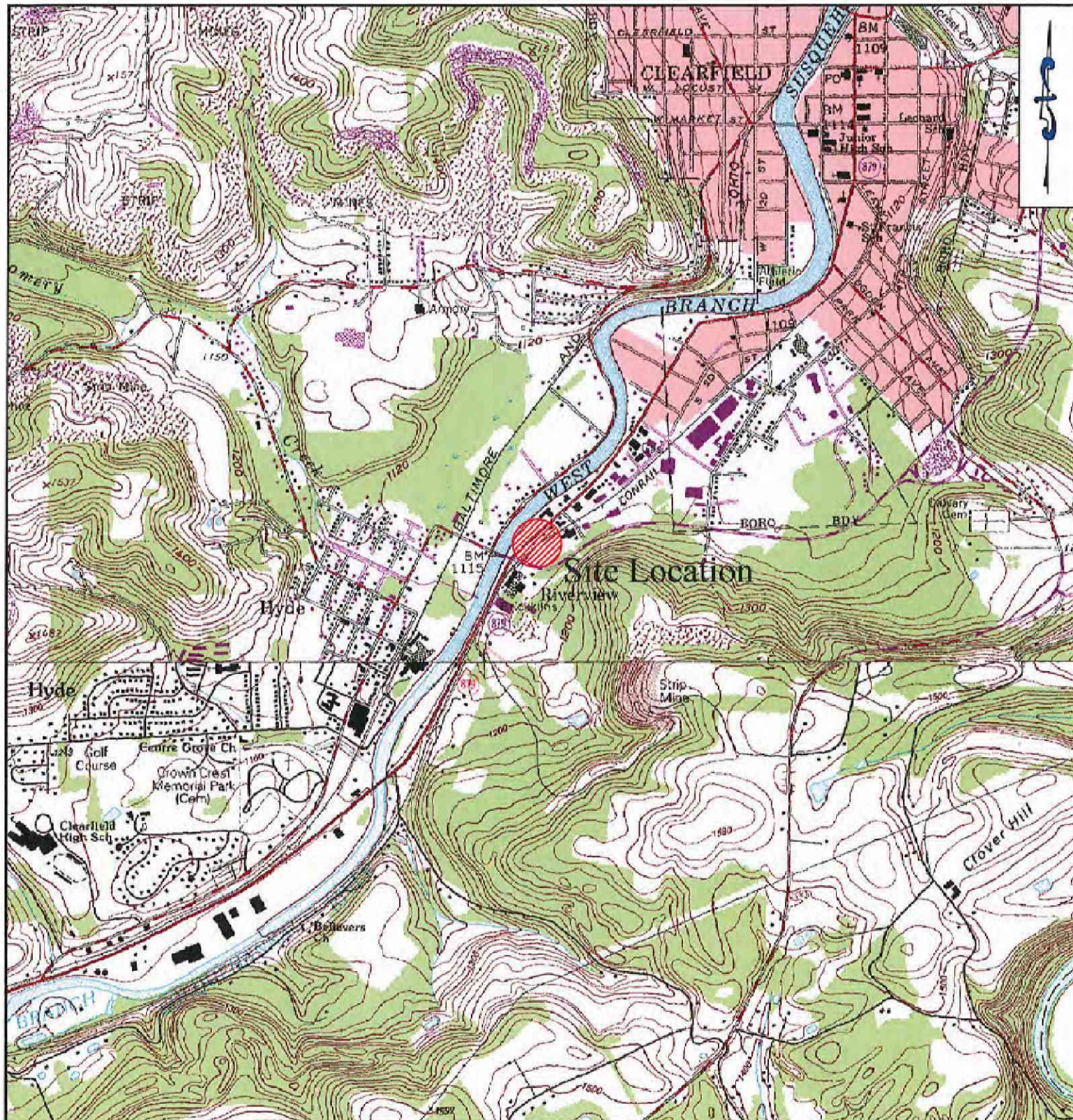
Piezometer/Well	Date	Compound							Depth to Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-29	3/17/2010	35.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.61	1144.65
	6/7/2010	39.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.83	1144.43
	8/30/2010	39.0	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.95	1142.31
	11/17/2010	37.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.95	1143.31
	3/2/2011	9.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.23	1145.03
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	37.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.81	1143.45
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	2.71	1144.55
	6/25/2012	22.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.58	1143.68
	9/6/2012	25.0	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.58	1142.68
	12/14/2012	3.13	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.77	1141.49
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.36	1141.90
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.70	1142.56
	9/9/2013	1.39	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.61
	11/22/2013	11.0	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.47	1141.79
	3/25/2014	4.06	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.25	1142.01
	6/11/2014	5.47	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1141.61
	9/24/2014	2.20	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.17	1141.09
	12/17/2014	9.76	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.92	1143.34
MW-30	3/18/2010	17.0	23.9	<1.00	14.5	12.2	1.9	2.5	2.23	1145.03
	6/7/2010	20.1	17.9	<1.00	12.4	10.5	1.9	<2.00	2.41	1144.85
	8/31/2010	22.7	<1.00	<1.00	3.1	<3.00	<1.00	<2.00	4.07	1143.19
	11/17/2010	25.9	<1.00	<1.00	1.8	<3.00	<1.00	<2.00	3.61	1143.65
	3/2/2011	22.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.35	1144.91
	5/31/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	8/24/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	11/28/2011	NS	NS	NS	NS	NS	NS	NS	NG	NG
	3/28/2012	NS	NS	NS	NS	NS	NS	NS	NG	NG
	6/25/2012	8.41	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.31	1143.95
	9/6/2012	10.8	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.30	1142.96
	12/14/2012	4.08	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.91	1141.35
	3/5/2013	6.13	1.80	<1.00	<1.00	<2.00	<1.00	<1.00	5.50	1141.76
	5/28/2013	6.56	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1142.75
	9/9/2013	6.28	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.68	1141.58
	12/2/2013	13.5	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.74	1141.52
	3/25/2014	7.18	<2.00	<2.00	<2.00	<4.00	<2.00	<2.00	5.39	1141.87
	6/11/2014	3.10	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.84	1141.42
	9/24/2014	8.54	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1140.86
	12/17/2014	5.38	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	3.55	1143.71
MW-31	3/17/2010	7.8	668	783	265	2,709	26.4	119	3.16	1147.07
	6/8/2010	6.3	336	118	119	754	10.2	61.8	3.61	1146.62
	8/30/2010	8.0	16.8	1.1	10.5	34.1	1.3	3.3	5.73	1144.50
	11/17/2010	6.7	60.5	<1.00	20.6	20.4	1.8	4.3	4.73	1145.50
	3/1/2011	4.8	9.2	1.4	3.6	4.1	<1.00	<2.00	3.48	1146.75
	5/31/2011	6.3	66.1	<1.00	20.0	22.1	2.3	2.1	4.74	1145.49
	8/24/2011	14.3	419	7.2	135	272	12	35.7	5.03	1145.20
	3/28/2012	16.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.18	1147.05
	6/25/2012	Monitoring well converted to remedial extraction well.								
	12/17/2014	<1.00	<1.00	<1.00	<1.00	13.6	<1.00	<1.00	4.30	1145.93

Table 1
Historic Groundwater Gauging and Analytical Data
United Refining Company - Kwik Fill M-90
Clearfield, Pennsylvania

Piezometer/Well	Date	Compound							Depth-to-Groundwater	Groundwater Elevation
		MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes (Total)	Cumene	Naphthalene		
PADEP UARSHS MSCs		20	5	1,000	700	10,000	840	100		
MW-32	5/28/2010	4.1	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.22	1145.58
	6/8/2010	2.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.21	1146.59
	8/30/2010	1.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.16	1144.64
	11/17/2010	2.2	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.64	1145.16
	3/1/2011	2.7	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.94	1146.86
	5/31/2011	2.6	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.15	1145.65
	8/24/2011	2.8	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.58	1145.22
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.49	1147.31
	6/25/2012	4.51	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.51	1145.29
	9/6/2012	4.07	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.51	1144.29
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.65	1144.15
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.50	1144.30
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.22	1144.58
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.50	1143.30
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.80	1144.00
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.45	1144.35
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.10	1143.70
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.39	1143.41
	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.19	1145.61
MW-33	5/28/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.41	1145.72
	6/8/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.36	1146.77
	8/30/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	5.25	1144.88
	11/17/2010	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.96	1145.17
	3/1/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	3.42	1146.71
	5/31/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.38	1145.75
	8/24/2011	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	4.72	1145.41
	3/28/2012	<1.00	<1.00	<1.00	<1.00	<3.00	<1.00	<2.00	2.70	1147.43
	6/25/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.66	1145.47
	9/6/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.70	1144.43
	12/14/2012	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.72	1145.41
	3/5/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.46	1145.67
	5/28/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.15	1145.98
	9/9/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	6.40	1143.73
	12/2/2013	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.56	1144.57
	3/25/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.60	1145.53
	6/11/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.32	1144.81
	9/24/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	5.71	1144.42
	12/17/2014	NS	NS	NS	NS	NS	NS	NS	4.29	1145.84
MW-34	12/17/2014	2.94	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.39	Not Surveyed
MW-35	12/17/2014	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.66	Not Surveyed
MW-36	12/17/2014	3.24	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	4.08	Not Surveyed

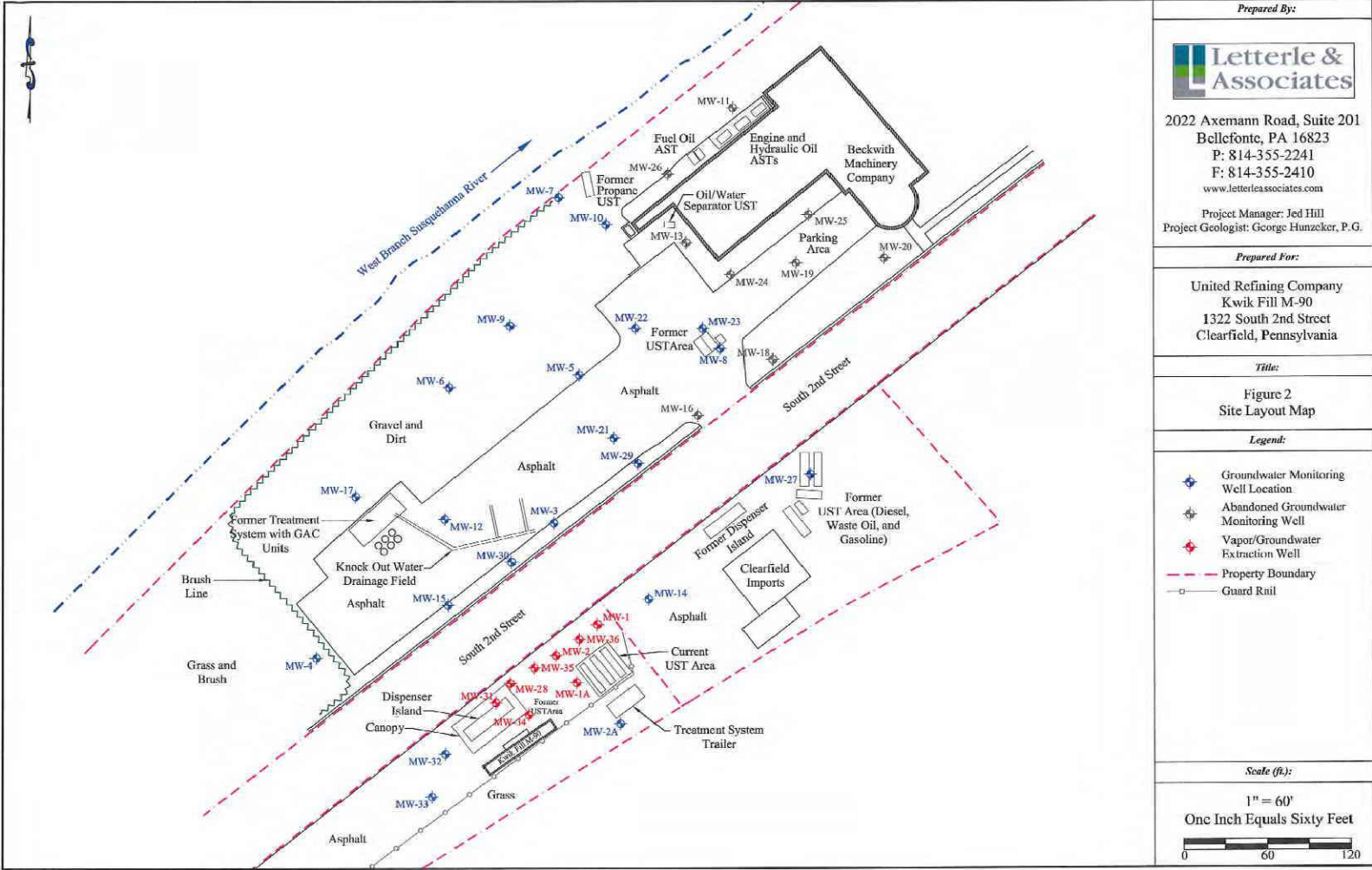
Notes: Groundwater elevation data reported in feet (ft).
Depth-to-groundwater results are reported in feet below top-of-casing (ft-bloc).
All results reported in ug/l.
Bold values indicate levels above LRL.
Bold and shaded values indicate exceedance of PADEP UARSHS MSCs.
NG - Not Gauged. NA - Not Analyzed. NS - Not Sampled.

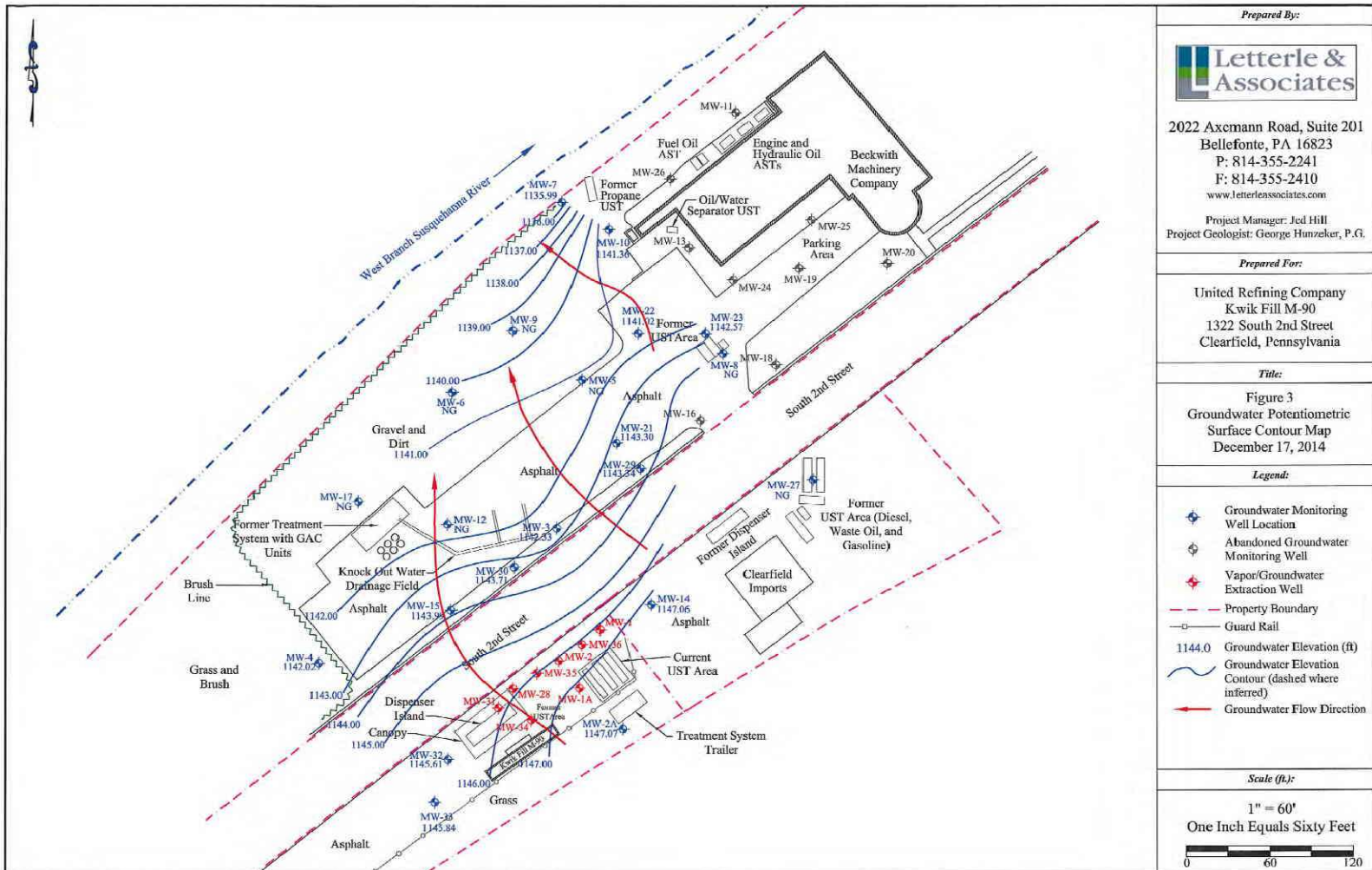
FIGURES



Reference: 7.5-minute United States Geological Survey Topographic Quadrangles of Clearfield and Glen Richey, Pennsylvania, DeLorme 3-D Topographic Quads Program.

<i>Prepared For:</i>	<i>Project Information:</i>	<i>Prepared By:</i>
United Refining Company Kwik Fill M-90 1322 South 2nd Street Clearfield, Pennsylvania	Project Manager: Jed Hill Project Geologist: George Hunzeker, P.G.	 Letterle & Associates 2022 Axemann Road, Suite 201 Bellefonte, PA 16823 P: 814-355-2241 F: 814-355-2410 www.letterleassociates.com
<i>Title:</i>	<i>Scale (feet):</i>	
Figure 1 Site Location Map	Scale: 1" = 2000' 	

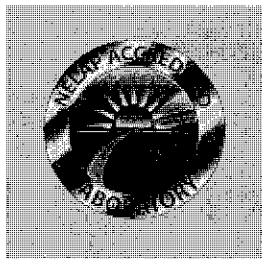




APPENDIX

APPENDIX A

Groundwater Analytical Laboratory Reports



2019 Ninth Avenue
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(814) 946-4306
NELAP: PA 07-062, VA 460212

89 Kristi Road
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(570) 494-6380
PaDEP: PA 41-04684



State Certifications: MD 275, WV 364

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Letterle & Associates Inc.
2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
MW-1	4L18059-01	Water	Grab	12/17/14 10:17	12/18/14 13:10
MW-1A	4L18059-02	Water	Grab	12/17/14 12:07	12/18/14 13:10
MW-2	4L18059-03	Water	Grab	12/17/14 11:05	12/18/14 13:10
MW-2A	4L18059-04	Water	Grab	12/17/14 12:16	12/18/14 13:10
MW-3	4L18059-05	Water	Grab	12/17/14 14:13	12/18/14 13:10
MW-4	4L18059-06	Water	Grab	12/17/14 13:30	12/18/14 13:10
MW-7	4L18059-07	Water	Grab	12/17/14 13:00	12/18/14 13:10
MW-10	4L18059-08	Water	Grab	12/17/14 13:14	12/18/14 13:10
MW-14	4L18059-09	Water	Grab	12/17/14 12:41	12/18/14 13:10
MW-15	4L18059-10	Water	Grab	12/17/14 13:45	12/18/14 13:10
MW-21	4L18059-11	Water	Grab	12/17/14 14:40	12/18/14 13:10
MW-28	4L18059-12	Water	Grab	12/17/14 11:19	12/18/14 13:10
MW-29	4L18059-13	Water	Grab	12/17/14 14:27	12/18/14 13:10
MW-30	4L18059-14	Water	Grab	12/17/14 14:00	12/18/14 13:10
MW-31	4L18059-15	Water	Grab	12/17/14 11:35	12/18/14 13:10
MW-32	4L18059-16	Water	Grab	12/17/14 11:50	12/18/14 13:10
MW-34	4L18059-17	Water	Grab	12/17/14 12:23	12/18/14 13:10
MW-35	4L18059-18	Water	Grab	12/17/14 10:50	12/18/14 13:10

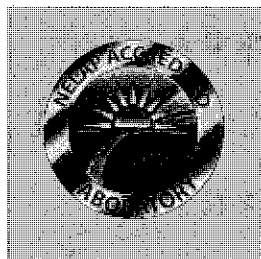
Fairway Laboratories, Inc.

Reviewed and Submitted by:

Michael P. Tyler
Laboratory Director

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PaDEP: PA 41-04684



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State Certifications: MD 275, WV 364

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2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

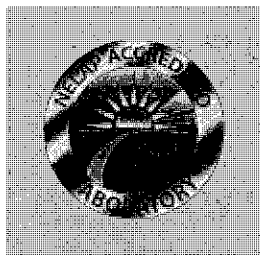
ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Sample Type	Date Sampled	Date Received
MW-36	4L18059-19	Water	Grab	12/17/14 10:32	12/18/14 13:10

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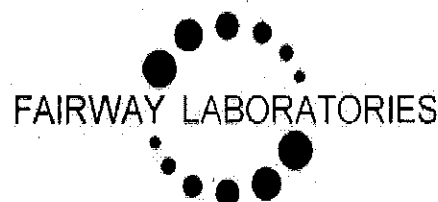
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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-1

Date/Time Sampled: 12/17/14 10:17

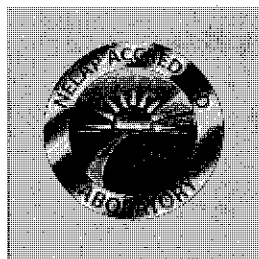
Laboratory Sample ID: 4L18059-01 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 14:04	EPA 8260B	bag	
Toluene	<1.00		1.00	ug/l	12/19/14 14:04	EPA 8260B	bag	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 14:04	EPA 8260B	bag	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 14:04	EPA 8260B	bag	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 14:04	EPA 8260B	bag	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/19/14 14:04	EPA 8260B	bag	
Naphthalene	<1.00		1.00	ug/l	12/19/14 14:04	EPA 8260B	bag	
Surrogate: 4-Bromofluorobenzene	89.5 %		70-130		12/19/14 14:04	EPA 8260B	bag	
Surrogate: 1,2-Dichloroethane-d4	90.8 %		70-130		12/19/14 14:04	EPA 8260B	bag	
Surrogate: Fluorobenzene	93.8 %		70-130		12/19/14 14:04	EPA 8260B	bag	

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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-1A

Date/Time Sampled: 12/17/14 12:07

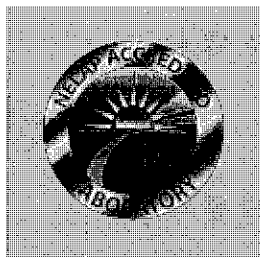
Laboratory Sample ID: 4L18059-02 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 11:11	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 11:11	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 11:11	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 11:11	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 11:11	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/19/14 11:11	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 11:11	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	103 %		70-130		12/19/14 11:11	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	119 %		70-130		12/19/14 11:11	EPA 8260B	wlm	
Surrogate: Fluorobenzene	112 %		70-130		12/19/14 11:11	EPA 8260B	wlm	

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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-2

Date/Time Sampled: 12/17/14 11:05

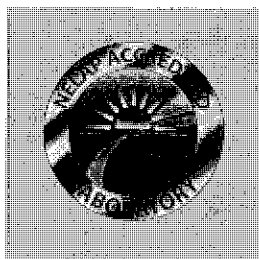
Laboratory Sample ID: 4L18059-03 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 11:48	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	12/19/14 11:48	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 11:48	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 11:48	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 11:48	EPA 8260B	mtc	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/19/14 11:48	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	12/19/14 11:48	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	88.5 %		70-130		12/19/14 11:48	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	101 %		70-130		12/19/14 11:48	EPA 8260B	mtc	
Surrogate: Fluorobenzene	95.7 %		70-130		12/19/14 11:48	EPA 8260B	mtc	

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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-2A

Date/Time Sampled: 12/17/14 12:16

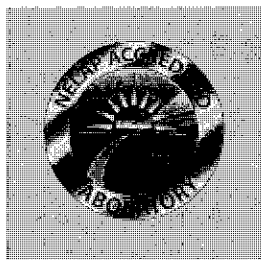
Laboratory Sample ID: 4L18059-04 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 13:03	EPA 8260B	mtc	
Toluene	<1.00		1.00	ug/l	12/19/14 13:03	EPA 8260B	mtc	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 13:03	EPA 8260B	mtc	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 13:03	EPA 8260B	mtc	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 13:03	EPA 8260B	mtc	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/19/14 13:03	EPA 8260B	mtc	
Naphthalene	<1.00		1.00	ug/l	12/19/14 13:03	EPA 8260B	mtc	
Surrogate: 4-Bromofluorobenzene	87.3 %		70-130		12/19/14 13:03	EPA 8260B	mtc	
Surrogate: 1,2-Dichloroethane-d4	106 %		70-130		12/19/14 13:03	EPA 8260B	mtc	
Surrogate: Fluorobenzene	96.3 %		70-130		12/19/14 13:03	EPA 8260B	mtc	

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Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none] Reported: 01/08/15 08:48
Collector: CLIENT
Number of Containers: 38

Client Sample ID: MW-3

Date/Time Sampled: 12/17/14 14:13

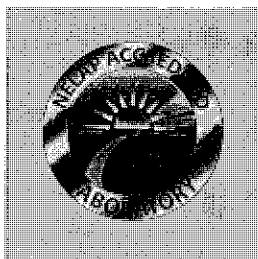
Laboratory Sample ID: 4L18059-05 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 11:49	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 11:49	EPA 8260B	wlm	
Ethylbenzene	2.57		1.00	ug/l	12/19/14 11:49	EPA 8260B	wlm	
Xylenes (total)	2.35		2.00	ug/l	12/19/14 11:49	EPA 8260B	wlm	
Isopropylbenzene	1.36		1.00	ug/l	12/19/14 11:49	EPA 8260B	wlm	
Methyl tert-butyl ether	8.51		1.00	ug/l	12/19/14 11:49	EPA 8260B	wlm	
Naphthalene	1.10		1.00	ug/l	12/19/14 11:49	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	104 %		70-130		12/19/14 11:49	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	113 %		70-130		12/19/14 11:49	EPA 8260B	wlm	
Surrogate: Fluorobenzene	112 %		70-130		12/19/14 11:49	EPA 8260B	wlm	

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Letterle & Associates Inc.
2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-4

Date/Time Sampled: 12/17/14 13:30

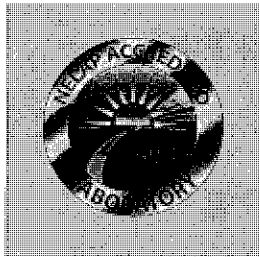
Laboratory Sample ID: 4L18059-06 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 12:27	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 12:27	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 12:27	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 12:27	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 12:27	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/19/14 12:27	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 12:27	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	104 %		70-130		12/19/14 12:27	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	117 %		70-130		12/19/14 12:27	EPA 8260B	wlm	
Surrogate: Fluorobenzene	114 %		70-130		12/19/14 12:27	EPA 8260B	wlm	

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Letterle & Associates Inc.
2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-7

Date/Time Sampled: 12/17/14 13:00

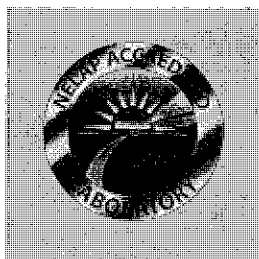
Laboratory Sample ID: 4L18059-07 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	6.63		1.00	ug/l	12/19/14 13:04	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 13:04	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 13:04	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 13:04	EPA 8260B	wlm	
Isopropylbenzene	1.60		1.00	ug/l	12/19/14 13:04	EPA 8260B	wlm	
Methyl tert-butyl ether	2.93		1.00	ug/l	12/19/14 13:04	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 13:04	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene		104 %		70-130	12/19/14 13:04	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4		115 %		70-130	12/19/14 13:04	EPA 8260B	wlm	
Surrogate: Fluorobenzene		112 %		70-130	12/19/14 13:04	EPA 8260B	wlm	

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(570) 494-6380
PaDEP: PA 41-04684



State Certifications: MD 275, WV 364

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Letterle & Associates Inc.
2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-10

Date/Time Sampled: 12/17/14 13:14

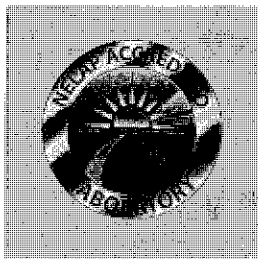
Laboratory Sample ID: 4L18059-08 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 13:42	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 13:42	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 13:42	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 13:42	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 13:42	EPA 8260B	wlm	
Methyl tert-butyl ether	4.67		1.00	ug/l	12/19/14 13:42	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 13:42	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	104 %		70-130		12/19/14 13:42	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	116 %		70-130		12/19/14 13:42	EPA 8260B	wlm	
Surrogate: Fluorobenzene	112 %		70-130		12/19/14 13:42	EPA 8260B	wlm	

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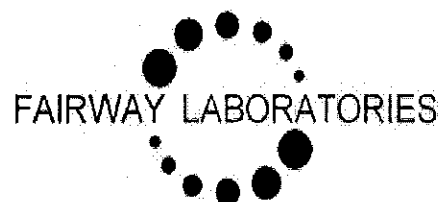
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Letterle & Associates Inc.
2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-14

Date/Time Sampled: 12/17/14 12:41

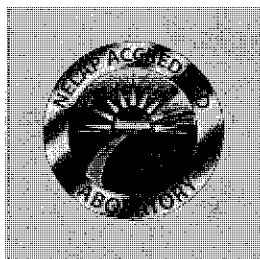
Laboratory Sample ID: 4L18059-09 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 14:21	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 14:21	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 14:21	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 14:21	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 14:21	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/19/14 14:21	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 14:21	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene		105 %	70-130		12/19/14 14:21	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4		116 %	70-130		12/19/14 14:21	EPA 8260B	wlm	
Surrogate: Fluorobenzene		114 %	70-130		12/19/14 14:21	EPA 8260B	wlm	

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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-15

Date/Time Sampled: 12/17/14 13:45

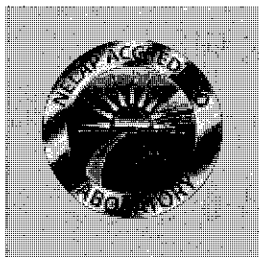
Laboratory Sample ID: 4L18059-10 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 14:59	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 14:59	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 14:59	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 14:59	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 14:59	EPA 8260B	wlm	
Methyl tert-butyl ether	1.69		1.00	ug/l	12/19/14 14:59	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 14:59	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	103 %		70-130		12/19/14 14:59	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	118 %		70-130		12/19/14 14:59	EPA 8260B	wlm	
Surrogate: Fluorobenzene	115 %		70-130		12/19/14 14:59	EPA 8260B	wlm	

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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-21

Date/Time Sampled: 12/17/14 14:40

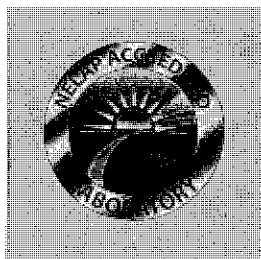
Laboratory Sample ID: 4L18059-11 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 15:37	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 15:37	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 15:37	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 15:37	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 15:37	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/19/14 15:37	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 15:37	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	104 %		70-130		12/19/14 15:37	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	119 %		70-130		12/19/14 15:37	EPA 8260B	wlm	
Surrogate: Fluorobenzene	115 %		70-130		12/19/14 15:37	EPA 8260B	wlm	

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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-28

Date/Time Sampled: 12/17/14 11:19

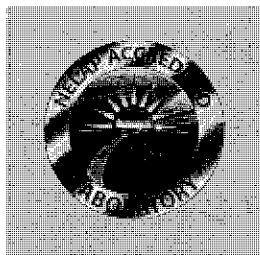
Laboratory Sample ID: 4L18059-12 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 16:15	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 16:15	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 16:15	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 16:15	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 16:15	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/19/14 16:15	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 16:15	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	103 %		70-130		12/19/14 16:15	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	118 %		70-130		12/19/14 16:15	EPA 8260B	wlm	
Surrogate: Fluorobenzene	115 %		70-130		12/19/14 16:15	EPA 8260B	wlm	

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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-29

Date/Time Sampled: 12/17/14 14:27

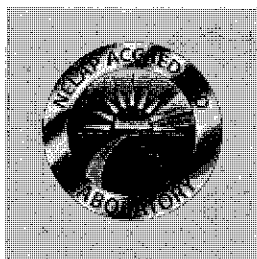
Laboratory Sample ID: 4L18059-13 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 16:54	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 16:54	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 16:54	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 16:54	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 16:54	EPA 8260B	wlm	
Methyl tert-butyl ether	9.76		1.00	ug/l	12/19/14 16:54	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 16:54	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene		103 %	70-130		12/19/14 16:54	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4		119 %	70-130		12/19/14 16:54	EPA 8260B	wlm	
Surrogate: Fluorobenzene		113 %	70-130		12/19/14 16:54	EPA 8260B	wlm	

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Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none] Reported: 01/08/15 08:48
Collector: CLIENT
Number of Containers: 38

Client Sample ID: MW-30

Date/Time Sampled: 12/17/14 14:00

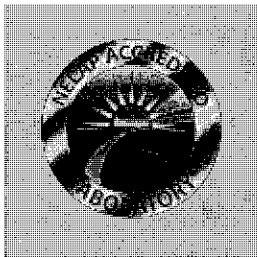
Laboratory Sample ID: 4L18059-14 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 05:29	EPA 8260B	wlm	2b
Toluene	<1.00		1.00	ug/l	12/19/14 05:29	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 05:29	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/19/14 05:29	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 05:29	EPA 8260B	wlm	
Methyl tert-butyl ether	5.38		1.00	ug/l	12/19/14 05:29	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 05:29	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	103 %		70-130		12/19/14 05:29	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	118 %		70-130		12/19/14 05:29	EPA 8260B	wlm	
Surrogate: Fluorobenzene	114 %		70-130		12/19/14 05:29	EPA 8260B	wlm	

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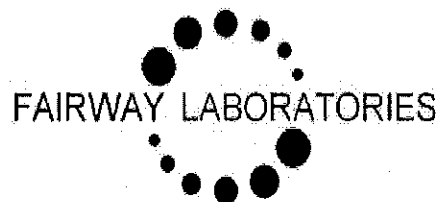
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2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-31

Date/Time Sampled: 12/17/14 11:35

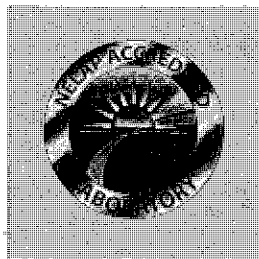
Laboratory Sample ID: 4L18059-15 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/19/14 18:10	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/19/14 18:10	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/19/14 18:10	EPA 8260B	wlm	
Xylenes (total)	13.6		2.00	ug/l	12/19/14 18:10	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/19/14 18:10	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/19/14 18:10	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/19/14 18:10	EPA 8260B	wlm	2e
Surrogate: 4-Bromofluorobenzene	103 %		70-130		12/19/14 18:10	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	119 %		70-130		12/19/14 18:10	EPA 8260B	wlm	
Surrogate: Fluorobenzene	115 %		70-130		12/19/14 18:10	EPA 8260B	wlm	

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Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-32

Date/Time Sampled: 12/17/14 11:50

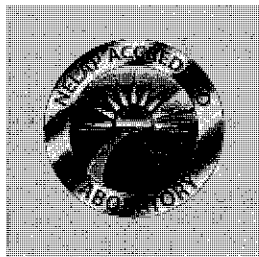
Laboratory Sample ID: 4L18059-16 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/20/14 00:30	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/20/14 00:30	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/20/14 00:30	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/20/14 00:30	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/20/14 00:30	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/20/14 00:30	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/20/14 00:30	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	103 %		70-130		12/20/14 00:30	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	115 %		70-130		12/20/14 00:30	EPA 8260B	wlm	
Surrogate: Fluorobenzene	112 %		70-130		12/20/14 00:30	EPA 8260B	wlm	

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Letterle & Associates Inc.
2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-34

Date/Time Sampled: 12/17/14 12:23

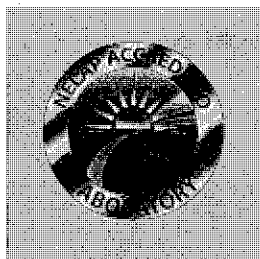
Laboratory Sample ID: 4L18059-17 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/20/14 01:08	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/20/14 01:08	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/20/14 01:08	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/20/14 01:08	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/20/14 01:08	EPA 8260B	wlm	
Methyl tert-butyl ether	2.94		1.00	ug/l	12/20/14 01:08	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/20/14 01:08	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene		105 %	70-130		12/20/14 01:08	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4		115 %	70-130		12/20/14 01:08	EPA 8260B	wlm	
Surrogate: Fluorobenzene		113 %	70-130		12/20/14 01:08	EPA 8260B	wlm	

Fairway Laboratories, Inc.

Fairway Labs in Altoona, PA is a NELAP (National Environmental Laboratory Accreditation Program) accredited lab, and as such, certifies that all applicable test results meet the requirements of NELAP, unless otherwise stated on the analytical report.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



2019 Ninth Avenue
PO Box 1925
Altoona, PA 16603
(814) 946-4306
NELAP: PA 07-062, VA 460212

89 Kristi Road
Pennsdale, PA 17756
(570) 494-6380
PaDEP: PA 41-04684



State Certifications: MD 275, WV 364

www.fairwaylaboratories.com

Letterle & Associates Inc.
2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-35

Date/Time Sampled: 12/17/14 10:50

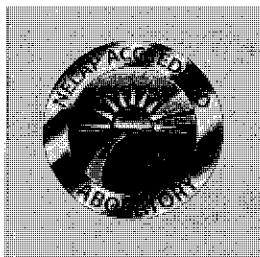
Laboratory Sample ID: 4L18059-18 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/20/14 01:46	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/20/14 01:46	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/20/14 01:46	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/20/14 01:46	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/20/14 01:46	EPA 8260B	wlm	
Methyl tert-butyl ether	<1.00		1.00	ug/l	12/20/14 01:46	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/20/14 01:46	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	103 %		70-130		12/20/14 01:46	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	120 %		70-130		12/20/14 01:46	EPA 8260B	wlm	
Surrogate: Fluorobenzene	114 %		70-130		12/20/14 01:46	EPA 8260B	wlm	

Fairway Laboratories, Inc.

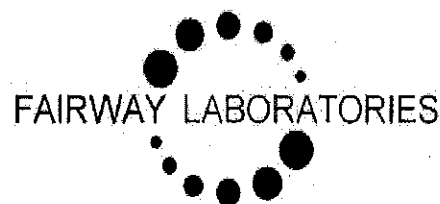
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Letterle & Associates Inc.
2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Client Sample ID: MW-36

Date/Time Sampled: 12/17/14 10:32

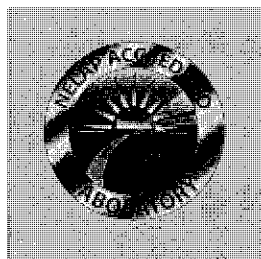
Laboratory Sample ID: 4L18059-19 (Water/Grab)

Analyte	Result	MDL	RL	Units	Date / Time Analyzed	Method	* Analyst	Note
Volatile Organic Compounds by EPA Method 8260B								
Benzene	<1.00		1.00	ug/l	12/20/14 02:24	EPA 8260B	wlm	
Toluene	<1.00		1.00	ug/l	12/20/14 02:24	EPA 8260B	wlm	
Ethylbenzene	<1.00		1.00	ug/l	12/20/14 02:24	EPA 8260B	wlm	
Xylenes (total)	<2.00		2.00	ug/l	12/20/14 02:24	EPA 8260B	wlm	
Isopropylbenzene	<1.00		1.00	ug/l	12/20/14 02:24	EPA 8260B	wlm	
Methyl tert-butyl ether	3.24		1.00	ug/l	12/20/14 02:24	EPA 8260B	wlm	
Naphthalene	<1.00		1.00	ug/l	12/20/14 02:24	EPA 8260B	wlm	
Surrogate: 4-Bromofluorobenzene	104 %		70-130		12/20/14 02:24	EPA 8260B	wlm	
Surrogate: 1,2-Dichloroethane-d4	115 %		70-130		12/20/14 02:24	EPA 8260B	wlm	
Surrogate: Fluorobenzene	113 %		70-130		12/20/14 02:24	EPA 8260B	wlm	

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Letterle & Associates Inc.
2022 Axemann Road Suite 201
Bellefonte PA, 16823
Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD
Project Number: [none]
Collector: CLIENT
Number of Containers: 38
Reported: 01/08/15 08:48

Notes

- 2b The spike recovery was outside acceptance limits for the MS and/or MSD. Data accepted based on acceptable LCS recovery.
- 2c CCV was outside the QC range. Data accepted based on additional batch QC.

Definitions

If surrogate values are not within the indicated range, then the results are considered to be estimated.

Reporting limits are adjusted accordingly when samples are analyzed at a dilution due to the matrix.

The following analyses are to be performed immediately upon sampling: pH, sulfite, chlorine residual, dissolved oxygen, filtration for ortho phosphorus, and ferrous iron. The date and time reported reflect the time the samples were analyzed at the laboratory.

MBAS, calculated as LAS, mol wt 348

If the solid sample weight for VOC analysis does not fall within the 3.5-6.5 gram range, the results are considered estimated values.

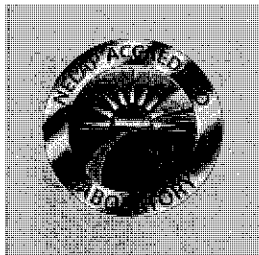
Samples collected by Fairway Laboratories' personnel are done so in accordance with Standard Operating Procedures established by Fairway Laboratories.

- * P indicates analysis performed by Fairway Laboratories, Inc. at the Pennsdale location. This location is PaDEP Chapter 252 certified.
- < Represents "less than" - indicates that the result was less than the reporting limit.
- MDL Method Detection Limit - is the lowest or minimum level that provides 99% confidence level that the analyte is detected. Any reported result values that are less than the RL are considered estimated values.
- RL Reporting Limit - is the lowest or minimum level at which the analyte can be quantified.
- [CALC] Indicates a calculated result. Calculations use results from other analyses performed under accredited methods.

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2022 Axemann Road Suite 201

Bellefonte PA, 16823

Project Manager: Jed Hill

Project: KWIK FILL-CLEARFIELD

Project Number: [none]

Collector: CLIENT

Number of Containers: 38

Reported:

01/08/15 08:48

Terms & Conditions

Services provided by Fairway Laboratories Inc. are limited to the terms and conditions stated herein, unless otherwise agreed to in a formal contract.

CHAIN OF CUSTODY Fairway Laboratories Inc. ("Fairway," "us" or "we") will initiate a chain-of-custody/request for analysis upon sample receipt unless the client includes a completed form with the received sample(s). Upon request, Fairway will provide chain-of-custody forms for use.

CONFIDENTIALITY Fairway maintains confidentiality in all of our client interactions. The client's consent will be required before releasing information about the services provided.

CONTRACTS All contracts are subject to review and approval by Fairway's legal council. Each contract must be signed by a corporate officer.

PAYMENT/BILLING Unless otherwise set forth in a signed contract or purchase order, terms of payment are "NET 30 Days." The time allowed for payment shall begin based on the invoice date. A 1.5% per month service charge may be added to all unpaid balances beyond the initial 30 days. In its sole discretion, Fairway reserves the right to request payment before services and hold sample results for payment of due balances. We will not bill a third party without prior agreement among all parties acknowledging and accepting responsibility for payment.

SAMPLE COLLECTION AND SUBMISSION Clients not requesting collection services from Fairway are responsible for proper collection, preservation, packaging, and delivery of samples to the laboratory in accordance with current law and commercial practice. Fairway shall have no responsibility for sample integrity prior to the receipt of the sample(s) and/or for any inaccuracy in test or analyses results as a result of the failure of the client or any third party to maintain the integrity of samples prior to delivery to Fairway. All samples submitted must be accompanied by a completed chain of custody or similar document clearly noting the requested analyses, dates/time sampled, client contact information, and trail of custody.

SUBCONTRACTING Some analyses may require subcontracting to another laboratory. Unless the client indicates otherwise, this decision will be made by Fairway. Subcontracted work will be identified on the final report in accordance with NELAC requirements.

RETURN OF RESULTS Fairway routinely provides faxed or verbal results within 10 working days of receipt of sample(s) and a hard copy of the data results is routinely received via US Postal Service within 15 working days. At the request of the client, Fairway may offer expedited return of sample results. Surcharges may apply to rush requests. All rush requests must be pre-approved by Fairway. We reserve the right to charge an archive retrieval fee for results older than one (1) year from the date of the request. All records will be maintained by Fairway for 5 years, after which, they will be destroyed.

SAMPLE DISPOSAL Fairway will maintain samples for four (4) weeks after the sample receipt date. Fairway will dispose of samples which are not and/or do not contain hazardous wastes (as such term is defined by applicable federal or state law), unless prior arrangements have been made for long-term storage. Fairway reserves the right to charge a disposal fee for the proper disposal of samples found or suspected to contain hazardous waste. A return shipping charge will be invoiced for samples returned to the client at their request.

HAZARD COMMUNICATION The client has the responsibility to inform the laboratory of any hazardous characteristics known or suspected about the sample, and to provide information on hazard prevention and personal protection as necessary or otherwise required by applicable law.

WARRANTY AND LIMITATION OF LIABILITY For services rendered, Fairway warrants that it will apply its best scientific knowledge and judgment and to employ its best level of effort consistent with professional standards within the environmental testing industry in performing the analytical services requested by its clients. We disclaim any other warranties, expressed or implied by law. Fairway does not accept any legal responsibility for the purposes for which client uses the test results.

LITIGATION All costs associated with compliance to any subpoena for documents, for testimony in a court of law, or for any other purpose relating to work performed by Fairway Laboratories, Inc. shall be invoiced by Fairway and paid by client. These costs shall include, but are not limited to, hourly charges for the persons involved, travel, mileage, and accommodations and for any and all other expenses associated with said litigation.

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Please print. See back of COC for instructions/terms and conditions.

2019 9th Ave.
PO. Box 1925
Altoona, PA 16602
Phone: (814) 946-4306
Fax: (814) 946-8791

FAIRWAY LABORATORIES
Environmental Laboratory
89 Kristi Rd
Pennsdale, PA 17756
Phone: (570) 494-6380

2118059 #1
COC #
Page 1 of 23

Client Name: <u>Lehite & Associates</u>		Received on ice? ☐ Y ☐ N		Reportable to PADEP? ☐ Yes ☐ No		PWSD # _____	
Address: <u>2072 Axemian Rd, Suite 204</u>		Sample Temp: _____		Matrix			
Contact: <u>Bellefonte, PA 16823</u>		Composite Start		GRAB Composite End		# of Containers	
Phone #: <u>(814) - 355 - 2241</u>		Start Date		End Date		Solid	
Fax #: <u>(814) - 355 - 2410</u>		Time		Time		Water	
Project Name: <u>Kwik Fill - Clearfield</u>		Date		Date		Other	
Quote/PO #: _____		Date		Date		1998 Unleaded Gas	
TAT: Normal ☒ Rush ☐		Date		Date		Analyses Requested	
Rush TAT subject to pre-approval and surcharge		Date		Date		LAB USE ONLY	
Date Required: _____		Date		Date		Fedex USPS UPS Other	
Sample Description/Location		Date		Date		Tracking #	
MW-1		Date		Date		Bottle Type/Comments	
MW-1A		Date		Date			
MW-2		Date		Date			
MW-2A		Date		Date			
MW-3		Date		Date			
MW-4		Date		Date			
MW-7		Date		Date			
MW-10		Date		Date			
MW-14		Date		Date			
MW-15		Date		Date			
MW-21		Date		Date			
Sampled by: <u>Logan Corbin</u>		Date		Date		Remarks	
Date		Date		Date			
Time		Time		Time			
Relinquished by: <u>[Signature]</u>		Date		Date			
Date		Date		Date			
Time		Time		Time			
Relinquished by: <u>[Signature]</u>		Date		Date			
Date		Date		Date			
Time		Time		Time			
Relinquished by: <u>[Signature]</u>		Date		Date			
Date		Date		Date			
Time		Time		Time			

By relinquishing my sample to Fairway Laboratories, Inc., I hereby agree to the terms and conditions printed on the reverse.

White Original - FLI File Canary - FLI Copy Pink - Customer Receipt Copy

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Please print. See back of COC for instructions/terms and conditions.

2019 9th Ave.
P.O. Box 1925
Altoona, PA 16602
Phone: (814) 946-4306
Fax: (814) 946-8791

FAIRWAY LABORATORIES
Environmental Laboratory

89 Kristi Rd
Pennsdale, PA 17756
Phone: (570) 494-6380

4L18059 #2
COC #
Page 2 of 43

Client Name: <u>Letterle & Associates</u>		Received on ice? Y N		Reportable to PADEP? Yes ☐ No ☐		PWSID #		Analyses Requested		LAB USE ONLY FedEx USPS UPS Other Tracking #	
Address: <u>2027 Arcadia Rd, Suite 201</u>		Sample Temp: _____		GRAB -or- Composite		Matrix		1998 Unleaded Gas		Bottle Type/Comments	
Contact: <u>Red Hill</u>		GRAB		Composite Start		Composite End					
Phone #: <u>(814) - 355 - 2441</u>		Date Required: ____/____/____		Start Date		Start Time		End Date		End Time	
Fax #: <u>(814) - 355 - 2440</u>		Rush TAT subject to pre-approval and surcharge		Solid		Water		Other		# of Containers	
Project Name: <u>Kwik Fill - Clearfield</u>		TAT: Normal ☒ Rush ☐		12/17/14		11:14		14:27		19:00	
Quote/PO #: _____		Sample Description/Location		12/17/14		11:35		12:23		16:50	
		MW-28		12/17/14		16:32					
		MW-29									
		MW-30									
		MW-31									
		MW-32									
		MW-33									
		MW-34									
		MW-35									
		MW-36									
Sampled by: <u>Logan Corbin</u>		Date		Time		Received by: <u>[Signature]</u>		Date		Time	
Relinquished by: <u>[Signature]</u>		Date		Time		Received by: <u>[Signature]</u>		Date		Time	
Relinquished by: <u>[Signature]</u>		Date		Time		Received by: <u>[Signature]</u>		Date		Time	
Relinquished by: <u>[Signature]</u>		Date		Time		Received by: <u>[Signature]</u>		Date		Time	
Remarks											

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