



Quarterly Groundwater Monitoring Report – 2nd Quarter 2016

**Gasoline Fueling Station – Royal Farms #001
2620 Mountain Road
Joppa, MD 21085
MDE Case No. 2005-0357-HA
MDE Facility ID No. 3965**

AEC Project Number: 05-056-RF001

Prepared for:

Maryland Department of the Environment
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Oil Control Program
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And

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July 8, 2016

Regulatory Information

Regulatory Agency: Maryland Department of the Environment
Agency Contact: Jeannette DeBartolomeo
Facility ID: 3965
OCP Case No.: 2005-0357-HA
Current Case Status: Quarterly on-site potable well and groundwater monitoring well sampling, tank field monitoring pipe gauging
Reporting Period: 04-01-16 through 06-30-16

General Site Information

Royal Farms Contact: Tom Ruszin
Consultant Contact: Jeff Stein
Facility Status: Operating fuel station
Area Property Use: See Site Vicinity Map and Site Map (Figures 1 and 2)
Monitoring Wells: MW-1R, MW-2R, MW-5R, MW-6, MW-7, MW-8, and MW-9
Monitoring Pipes: TFMP-1, TFMP-2, TFMP-3, TFMP-4
Potable Wells: On-site: 2620 Mountain Road (HA-94-1328 (currently in use) and HA-94-0892 (currently out of use))

Activities Completed this Period

Sampling Date: June 14, 2016
Wells Sampled: MW-1R, MW-2R, MW-5R, MW-6, MW-7, MW-8, and MW-9
LNAPL Present: None
Minimum/Maximum
Groundwater Elevation: 169.96 (MW-9) feet / 180.70 (MW-5R) feet (Figure 3)
Groundwater Flow Direction: North and West (Figure 3)

Introduction

Advantage Environmental Consultants (AEC) has completed quarterly sampling of the groundwater monitoring wells, in accordance with the correspondence from the Maryland Department of the Environment (MDE) dated November 24, 2015. In addition, all four of the tank field monitoring pipes (TFMP's) were gauged for presence of light non-aqueous phase liquid (LNAPL) and scanned with a photoionization device (PID).

Redevelopment of the Site was completed during the second and third quarters, 2015. Redevelopment included renovation of the store, removal of the underground storage tank (UST) system on the eastern portion of the site, and installation of a new UST system on the western portion of the site.

Figure 1 in Attachment A illustrates the site vicinity. Figure 2 in Attachment A illustrates the groundwater monitoring wells, TFMP's and onsite potable drinking water well locations. The following is a description of this work and the results of the recent groundwater sampling effort.

Groundwater Gauging, Sampling, and Analysis

Monitoring Wells

Groundwater levels within each monitoring well are measured on a quarterly basis using an interface probe accurate to 0.01 feet. The interface probe is cleaned (Liquinox and water rinse) prior to use in each well. No LNAPL was observed in the monitoring wells during the June 14, 2016 sampling event. Monitoring well gauging data is summarized in Table 1 of Attachment B and Figure 3 of Attachment A.

The groundwater samples were collected on June 14, 2016 and analyzed according to Environmental Protection Agency (EPA) protocols. Groundwater samples were collected from the monitoring wells by first gauging and purging at least three well volumes using a PVC bailer which was cleaned prior to use in each well. After purging, each well was allowed to recharge for a period of at least one hour prior to sampling. The monitoring well samples were collected using a dedicated disposable sampling bailer. Each sample was placed in 40 milliliter glass vials with Teflon-lined septa and preserved with hydrochloric acid, as appropriate. Once collected, the samples were placed on ice in a cooler to await shipment to the laboratory. The samples were analyzed for volatile organic compounds (VOCs) including fuel oxygenates per EPA Analytical Method 8260B and Total Petroleum Hydrocarbons (TPH) Diesel Range Organics (DRO) and TPH Gasoline Range Organics (GRO) per EPA Analytical Method 8015M.

Laboratory analytical results for MW-1R show a concentration of TPH DRO above regulatory standards (i.e., Generic Numeric Cleanup Standards for Groundwater and Soil – Interim Final Guidance Update No. 2.1 – June, 2008). Laboratory analytical results show a concentration of Methyl tert-butyl ether

(MTBE) below regulatory standards. All other analytes were below detection limits (BDL).

Laboratory analytical results for MW-2R show a concentration of TPH DRO above regulatory standards. Laboratory analytical results show a concentration of MTBE below regulatory standards. All other analytes were BDL.

Laboratory analytical results for MW- 5R show a concentration of TPH DRO above regulatory standards. All other analytes were BDL.

Laboratory analytical results for MW- 6 show a concentration of TPH DRO above regulatory standards. Laboratory analytical results show concentrations of MTBE and acetone below regulatory standards. Laboratory analytical results show a concentration of TBA for which there is no regulatory standard. All other analytes were BDL.

Laboratory analytical results for MW-7 show a concentration of TPH DRO and MTBE above regulatory standards. Laboratory analytical results show a concentration of cis-1,2-Dichloroethene below regulatory standards. All other analytes were BDL.

Laboratory analytical results for MW-8 show all analytes were BDL.

Laboratory analytical results for MW-9 show all analytes were BDL.

A groundwater quality map is presented as Figure 4 in Attachment A. Table 2 in Attachment B summarizes current and historical groundwater analytical results. The laboratory analytical report is presented in Attachment C.

On-Site Potable Well Treatment System

Samples from the potable well point of entry treatment (POET) system were collected from the system's influent (PW-1), second mid-point (PW-2B), and effluent (PW-3). AEC was unable to sample the first mid-point (PW-2a) of the store's POET system, due to a sample port not being installed prior to quarterly sampling. All potable well samples were obtained after purging the system for 15 minutes. Each sample was placed in 40 milliliter glass vials with Teflon-lined septa and preserved with hydrochloric acid, as appropriate. Once collected, the samples were placed on ice in a cooler to await shipment to the laboratory. The samples were analyzed for VOCs including fuel oxygenates per EPA Method 524.2. The sampling was conducted by AEC staff certified by the MDE to collect public drinking water samples.

Laboratory analytical results for PW-1 show a concentration of MTBE below regulatory standards. All other analytes were BDL.

Laboratory analytical results for PW-2b show all analytes were BDL.

Laboratory analytical results for PW-3 show all analytes were BDL.

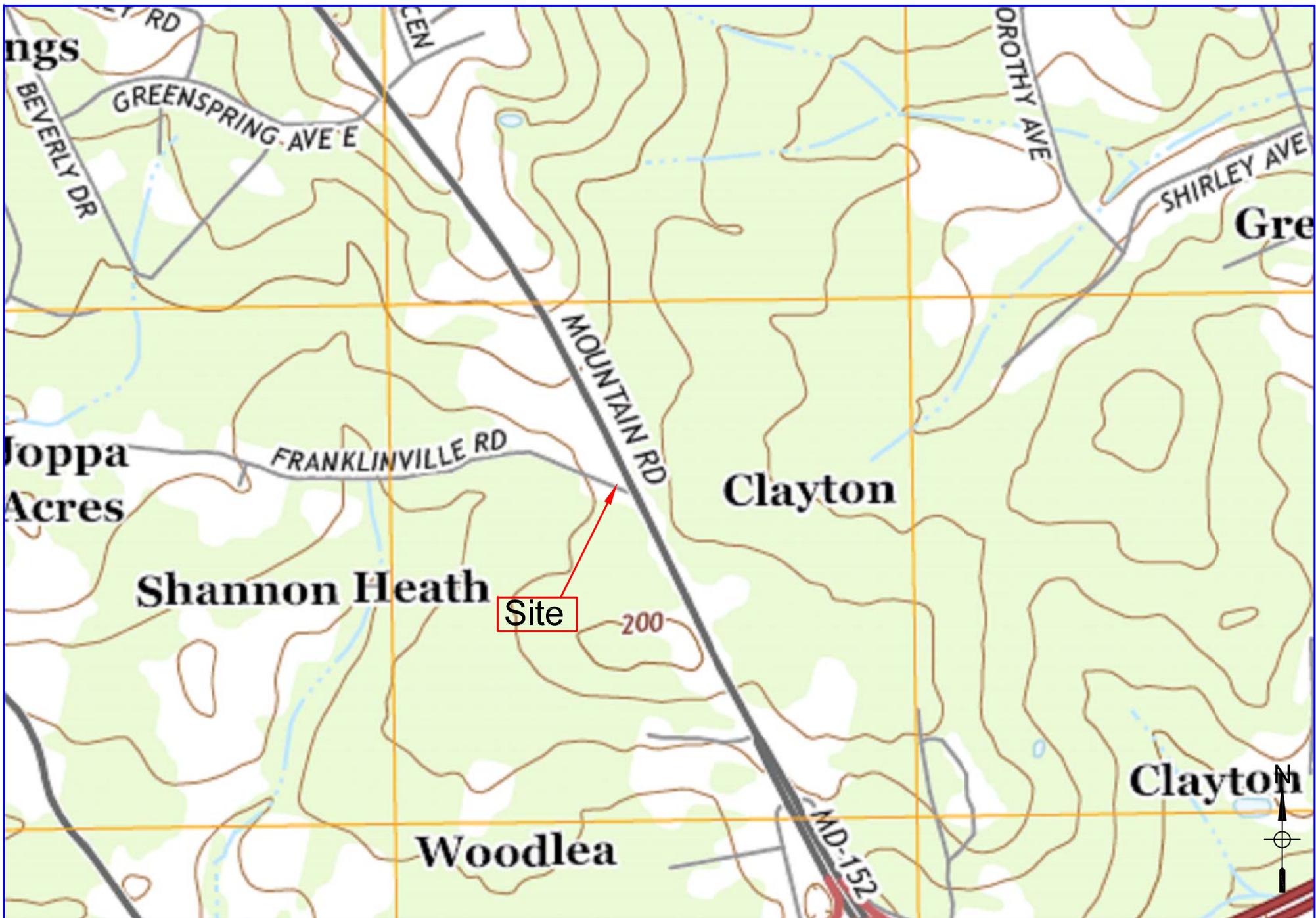
Table 3 in Attachment B summarizes current and historical potable well analytical results. The laboratory analytical report is presented in Attachment C.

Tank Field Monitoring Pipe Evaluation

AEC performed an evaluation of the TFMP's by screening each TFMP with a photoionization detector (PID) for the presence of petroleum hydrocarbon vapors. A plastic covering was securely fastened over each TFMP, and allowed to sit for a period of fifteen minutes. The plastic barrier was then punctured for the PID nozzle to enter, and a reading was taken. Vapors were detected in TFMP-1 at a concentration of 0.8 parts per million (ppm), TFMP-2 at a concentration of 0.6 ppm, and TFMP-3 at a concentration of 0.6 ppm. No petroleum odor was noted. These PID readings are slightly above background levels, and are probably not indicative of petroleum vapors. No vapors were detected in TFMP-4. The tank field monitoring pipes were gauged to determine the depth to water, and the presence of LNAPL. No LNAPL was detected in any of the tank field monitoring pipes.

Attachment A

Figures

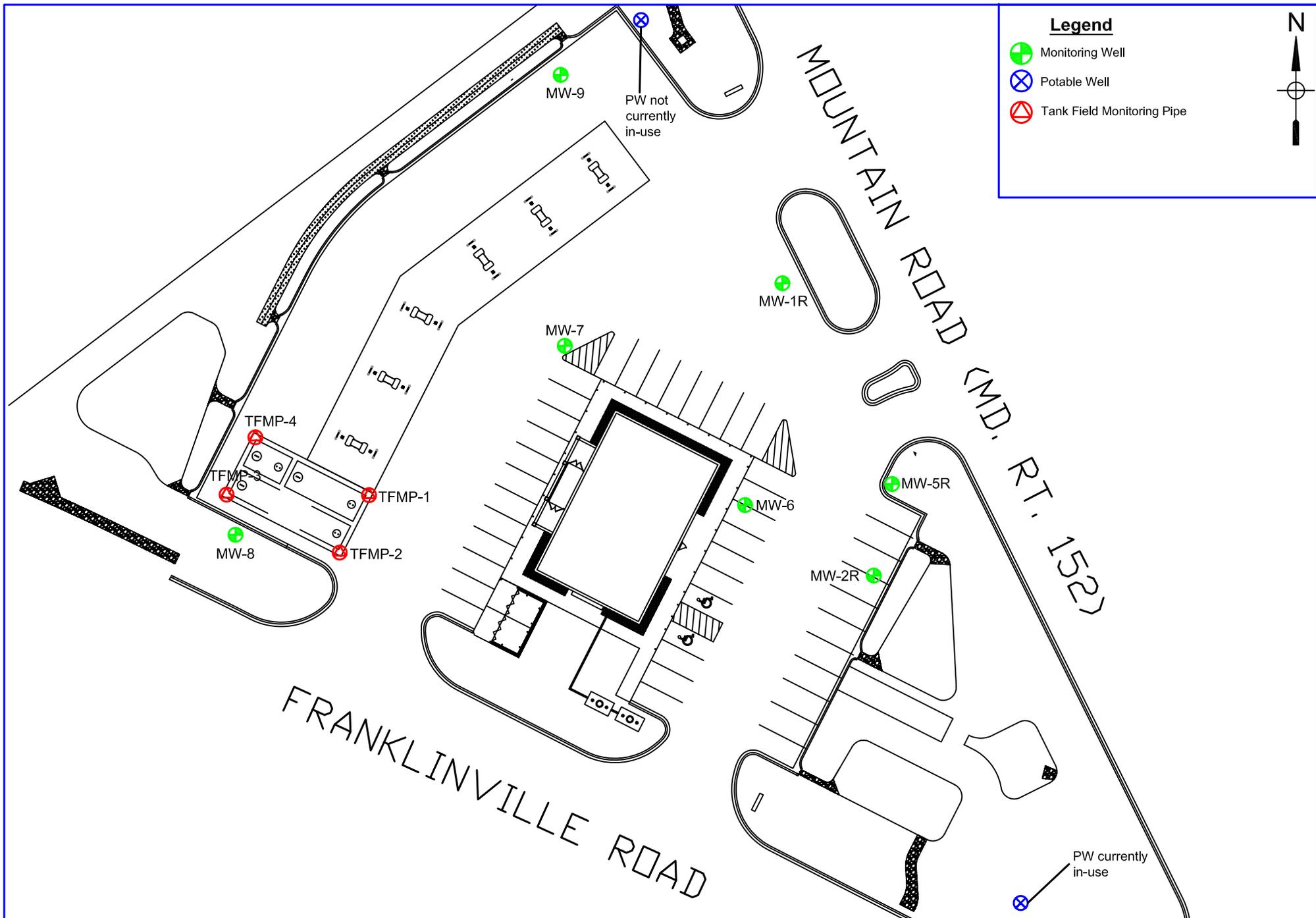


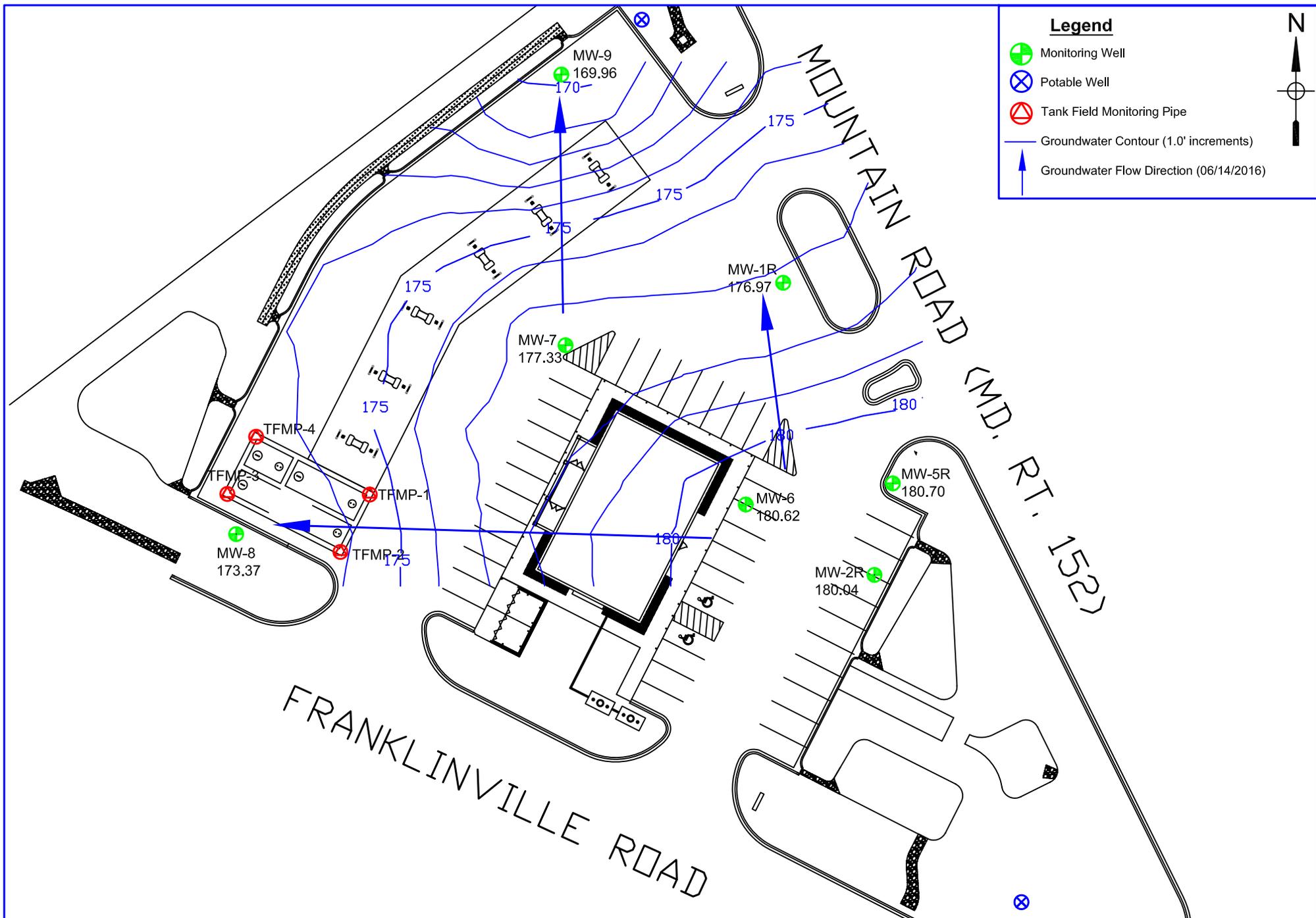
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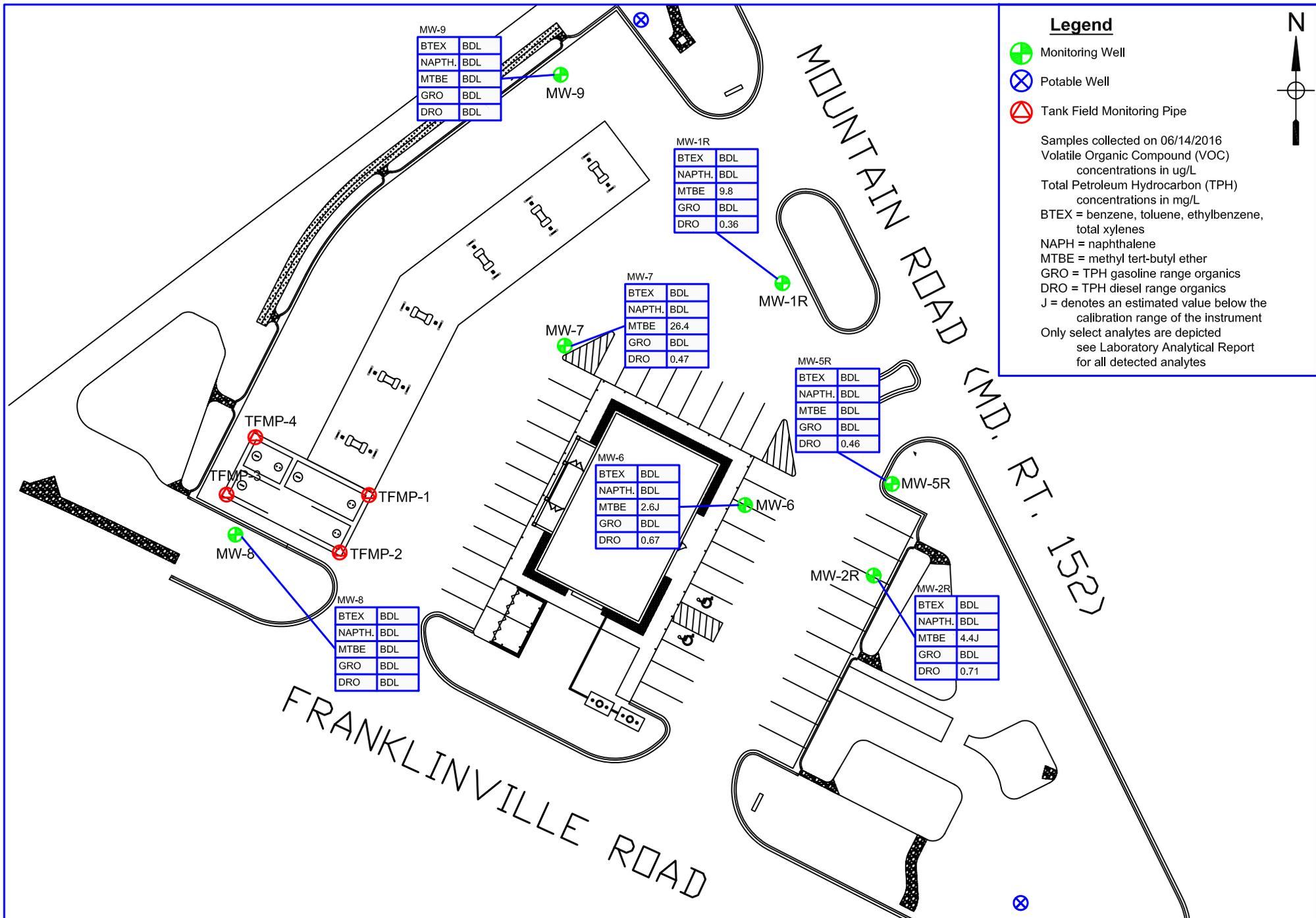
June 2016
 Project No. 05-056
 Task No. RF-001

Figure 1
 Drawn by: JSS

Site Vicinity Map
 Royal Farms Store No. 001
 2620 Mountain Road
 Joppa, MD 21085







Attachment B

Tables

**Table 1 - Historical Groundwater Elevation Data
Gasoline Fueling Station – Royal Farms #1
2620 Mountain Road, Joppa, Maryland 21085**

Well No.	Date	Depth to Water	TOC Elevation	Water Elevation	Comments
MW-1	7/9/2005	17.01	94.17	77.16	
	2/6/2006	18.11	94.17	76.06	
	6/29/2006	15.75	94.17	78.42	
	1/25/2007	17.23	94.17	76.94	
	1/26/2007	17.23	94.17	76.94	
	2/5/2007	17.29	94.17	76.88	
	2/12/2007	NG	94.17	NG	
	2/19/2007	NG	94.17	NG	
	2/21/2007	NG	94.17	NG	
	3/30/2007	NG	94.17	NG	
	4/23/2007	NG	94.17	NG	
	4/27/2007	NG	94.17	NG	
	7/25/2007	17.73	94.17	76.44	
	8/22/2007	17.92	94.17	76.25	
	9/12/2007	19.59	94.17	74.58	
	10/30/2007	20.83	94.17	73.34	
	1/29/2008	20.31	94.17	73.86	
	3/19/2008	17.91	94.17	76.26	
	5/29/2008	16.74	94.17	77.43	
	6/19/2008	15.55	94.17	78.62	
	9/30/2008	19.27	94.17	74.90	
	12/16/2008	20.05	94.17	74.12	
	3/25/2009	18.46	94.17	75.71	
	6/26/2009	15.31	94.17	78.86	
	9/28/2009	16.00	94.17	78.17	
	12/29/2009	16.19	94.17	77.98	
	3/31/2010	13.95	94.17	80.22	
	6/29/2010	16.00	94.17	78.17	
	9/28/2010	18.85	94.17	75.32	
	12/21/2010	18.87	94.17	75.30	
	3/28/2011	17.87	94.17	76.30	
	6/30/2011	15.36	186.19**	170.83**	
	8/8/2011	16.86	186.19	169.33	
	8/12/2011	16.90	186.19	169.29	
	8/13/2011	17.06	186.19	169.13	
	8/14/2011	17.11	186.19	169.08	
	8/15/2011	16.89	186.19	169.30	
	8/16/2011	16.71	186.19	169.48	
	9/8/2011	15.82	186.19	170.37	
	12/22/2011	15.14	186.19	171.05	
	3/21/2012	12.58	186.19	173.61	
	6/12/2012	14.42	186.19	171.77	Slight odor
	9/28/2012	16.28	186.19	169.91	
	12/27/2012	16.59	186.19	169.60	
	3/14/2013	13.51	186.19	172.68	
	6/17/2013	12.90	186.19	173.29	
	9/10/2013	15.19	186.19	171.00	
	12/3/2013	16.88	186.19	169.31	
	3/11/2014	11.83	186.19	174.36	
	6/10/2014	11.80	186.19	174.39	
	9/18/2014	15.78	186.19	170.41	
	12/4/2014	18.02	186.19	168.17	
	3/3/2015	13.56	186.19	172.63	
MW-1R	9/16/2015	6.85	184.58	177.73	
	12/14/2015	8.04	184.58	176.54	
	3/8/2016	7.05	184.58	177.53	
	6/14/2016	7.61	184.58	176.97	
MW-2	7/9/2005	15.18	94.64	79.46	
	2/6/2006	16.57	94.64	78.07	
	6/29/2006	15.13	94.64	79.51	
	1/25/2007	15.62	94.64	79.02	
	1/26/2007	15.62	94.64	79.02	
	2/5/2007	15.67	94.64	78.97	
	2/12/2007	NG	94.64	NG	

Well No.	Date	Depth to Water	TOC Elevation	Water Elevation	Comments
	2/19/2007	NG	94.64	NG	
	2/21/2007	NG	94.64	NG	
	3/30/2007	NG	94.64	NG	
	4/23/2007	NG	94.64	NG	
	4/27/2007	NG	94.64	NG	
	7/25/2007	17.16	94.64	77.48	
	8/22/2007	17.64	94.64	77.00	
	9/12/2007	19.07	94.64	75.57	
	10/30/2007	20.42	94.64	74.22	
	1/29/2008	19.89	94.64	74.75	
	3/19/2008	17.66	94.64	76.98	
	5/29/2008	15.90	94.64	78.74	
	6/19/2008	14.82	94.64	79.82	
	9/30/2008	18.50	94.64	76.14	
	12/16/2008	19.92	94.64	74.72	
	3/25/2009	18.33	94.87*	76.54	
	6/26/2009	6.76	94.87	88.11	
	9/28/2009	6.90	94.87	87.97	
	12/29/2009	7.72	94.87	87.15	
	3/31/2010	8.15	94.87	86.72	
	6/29/2010	13.98	94.87	80.89	
	9/28/2010	16.55	94.87	78.32	
	12/21/2010	16.45	94.87	78.42	Slight odor
	3/28/2011	13.14	94.87	81.73	Slight odor
	6/30/2011	10.62	186.04**	175.42**	
	8/8/2011	15.72	186.04	170.32	
	8/12/2011	16.11	186.04	169.93	
	8/13/2011	16.51	186.04	169.53	
	8/14/2011	16.49	186.04	169.55	
	8/15/2011	15.75	186.04	170.29	
	8/16/2011	16.08	186.04	169.96	
	9/8/2011	15.25	186.04	170.79	
	12/22/2011	12.91	186.04	173.13	Slight odor
	3/21/2012	11.69	186.04	174.35	
	6/12/2012	13.83	186.04	172.21	Moderate odor
	9/28/2012	16.13	186.04	169.91	Moderate odor
	12/27/2012	15.63	186.04	170.41	
	3/14/2013	12.00	186.04	174.04	
	6/17/2013	11.44	186.04	174.60	Sheen
	9/10/2013	14.44	186.04	171.60	Moderate Odor
	12/3/2013	16.09	186.04	169.95	Slight Odor
	3/11/2014	9.48	186.04	176.56	Slight Odor
	6/10/2014	11.00	186.04	175.04	Slight Odor
	9/18/2014	16.60	186.04	169.44	Moderate Odor
	12/4/2014	20.06	186.04	165.98	Slight Odor
	3/3/2015	13.40	186.04	172.64	
MW-2R	9/16/2015	2.90	182.64	179.74	
	12/14/2015	3.23	182.64	179.41	
	3/8/2016	2.13	182.64	180.51	
	6/14/2016	2.60	182.64	180.04	
MW-3	7/9/2005	14.62	93.08	78.46	
	2/6/2006	15.51	93.08	77.57	
	6/29/2006	14.72	93.08	78.36	
	1/25/2007	15.63	93.08	77.45	
	1/26/2007	15.63	93.08	77.45	
	2/5/2007	15.67	93.08	77.41	
	2/12/2007	NG	93.08	NG	
	2/19/2007	NG	93.08	NG	
	2/21/2007	NG	93.08	NG	
	3/30/2007	NG	93.08	NG	
	4/23/2007	NG	93.08	NG	
	4/27/2007	NG	93.08	NG	
	7/25/2007	16.70	93.08	76.38	
	8/22/2007	16.98	93.08	76.10	
	9/12/2007	7.50	93.08	85.58	
	10/30/2007	6.69	93.08	86.39	
	1/29/2008	6.61	93.08	86.47	
	3/19/2008	5.81	93.08	87.27	
	5/29/2008	5.39	93.08	87.69	

Well No.	Date	Depth to Water	TOC Elevation	Water Elevation	Comments
	6/19/2008	5.05	93.08	88.03	
	9/30/2008	6.13	93.08	86.95	
	12/16/2008	6.26	93.08	86.82	
	3/25/2009	6.90	93.08	86.18	
	6/26/2009	4.79	93.08	88.29	
	9/28/2009	4.66	93.08	88.42	
	12/29/2009	3.82	93.08	89.26	
	3/31/2010	2.86	93.08	90.22	
	6/29/2010	4.45	93.08	88.63	
	9/28/2010	5.42	93.08	87.66	
	12/21/2010	5.42	93.08	87.66	
	3/28/2011	4.56	93.08	88.52	
	6/30/2011	5.57	185.65**	180.08**	
	8/8/2011	6.72	185.65	178.93	
	8/12/2011	6.99	185.65	178.66	
	8/13/2011	7.02	185.65	178.63	
	8/14/2011	6.99	185.65	178.66	
	8/15/2011	6.90	185.65	178.75	
	8/16/2011	6.88	185.65	178.77	
	9/8/2011	5.86	185.65	179.79	
	12/22/2011	6.26	185.65	179.39	
	3/21/2012	5.37	185.65	180.28	
	6/12/2012	5.79	185.65	179.86	
	9/28/2012	7.18	185.65	178.47	
	12/27/2012	7.17	185.65	178.48	
	3/14/2013	6.21	185.65	179.44	
	6/17/2013	4.75	185.65	180.90	
	9/10/2013	6.49	185.65	179.16	
	12/3/2013	7.42	185.65	178.23	
	3/11/2014	4.75	185.65	180.90	
	6/10/2014	4.85	185.65	180.80	
	9/18/2014	7.01	185.65	178.64	
	12/4/2014	7.54	185.65	178.11	
	3/3/2015	6.52	185.65	179.13	
MW-4	6/30/2011	6.73	185.64	178.91	
	8/8/2011	11.46	185.64	174.18	
	8/12/2011	11.73	185.64	173.91	
	8/13/2011	11.84	185.64	173.80	
	8/14/2011	11.81	185.64	173.83	
	8/15/2011	7.68	185.64	177.96	
	8/16/2011	6.58	185.64	179.06	
	9/8/2011	4.81	185.64	180.83	
	12/22/2011	6.81	185.64	178.83	
	3/21/2012	4.52	185.64	181.12	Slight odor
	6/12/2012	5.39	185.64	180.25	Slight odor
	9/28/2012	7.54	185.64	178.10	
	12/27/2012	6.65	185.64	178.99	
	3/14/2013	5.76	185.64	179.88	
	6/17/2013	3.80	185.64	181.84	
	9/10/2013	6.90	185.64	178.74	
	12/3/2013	6.25	185.64	179.39	
	3/11/2014	4.98	185.64	180.66	
	6/10/2014	8.40	185.64	177.24	
	9/19/2014	10.10	185.64	175.54	
	12/4/2014	10.05	185.64	175.59	
	3/3/2015	NG	NG	NG	Blocked by ice
MW-5	6/30/2011	13.37	187.50	174.13	
	8/8/2011	16.76	187.50	170.74	
	8/12/2011	17.23	187.50	170.27	
	8/13/2011	17.49	187.50	170.01	
	8/14/2011	17.31	187.50	170.19	
	8/15/2011	17.45	187.50	170.05	
	8/16/2011	17.31	187.50	170.19	
	9/8/2011	14.80	187.50	172.70	Slight sheen
	12/22/2011	10.90	187.50	176.60	Slight odor
	3/21/2012	7.63	187.50	179.87	Slight odor
	6/12/2012	12.53	187.50	174.97	Moderate odor
	9/28/2012	16.96	187.50	170.54	Moderate odor

Well No.	Date	Depth to Water	TOC Elevation	Water Elevation	Comments
	12/27/2012	15.23	187.50	172.27	
	3/14/2013	11.41	187.50	176.09	Moderate odor
	6/17/2013	6.65	187.50	180.85	
	9/10/2013	15.79	187.50	171.71	Moderate odor
	12/3/2013	16.19	187.50	171.31	Moderate odor
	3/11/2014	8.66	187.50	178.84	Slight odor
	6/10/2014	7.79	187.50	179.71	Moderate odor
	9/18/2014	17.15	187.50	170.35	Slight Odor
	12/4/2014	16.76	187.50	170.74	Slight Odor
	3/3/2015	9.22	187.50	178.28	
MW-5R	9/16/2015	2.54	183.93	181.39	
	12/14/2015	3.50	183.93	180.43	
	3/8/2016	2.94	183.93	180.99	
	6/14/2016	3.23	183.93	180.70	
MW-6	9/16/2015	3.11	183.72	180.61	
	12/14/2015	3.25	183.72	180.47	
	3/8/2016	2.79	183.72	180.93	
	6/14/2016	3.10	183.72	180.62	
MW-7	9/16/2015	3.65	183.39	179.74	
	12/14/2015	4.52	183.39	178.87	
	3/8/2016	3.69	183.39	179.70	
	6/14/2016	6.06	183.39	177.33	
MW-8	9/16/2015	4.86	178.97	174.11	
	12/14/2015	4.82	178.97	174.15	
	3/8/2016	5.41	178.97	173.56	
	6/14/2016	5.60	178.97	173.37	
MW-9	9/16/2015	14.46	183.26	168.80	
	12/14/2015	14.64	183.26	168.62	
	3/8/2016	12.32	183.26	170.94	
	6/14/2016	13.30	183.26	169.96	
TP-1	7/9/2005	NG	NM	NM	
	2/6/2006	NG	NM	NM	
	6/29/2006	NG	NM	NM	
	1/25/2007	5.03	NM	NM	LPH (0.01 ft.)
	1/26/2007	5.03	NM	NM	LPH (0.01 ft.)
	2/5/2007	5.08	NM	NM	LPH (0.01 ft.)
	2/12/2007	6.97	NM	NM	LPH (0.01 ft.)
	2/19/2007	6.94	NM	NM	LPH (0.01 ft.)
	2/21/2007	6.21	NM	NM	LPH (0.01 ft.)
	3/30/2007	6.18	NM	NM	LPH (0.01 ft.)
	4/23/2007	8.47	NM	NM	LPH (0.01 ft.)
	4/27/2007	8.21	NM	NM	LPH (0.01 ft.)
	5/25/2007	6.65	NM	NM	Sheen
	6/1/2007	6.34	NM	NM	Sheen
	6/10/2007	6.25	NM	NM	Sheen
	6/15/2007	6.22	NM	NM	Sheen
	7/25/2007	6.54	NM	NM	Slight Sheen
	8/22/2007	6.89	NM	NM	Slight Sheen
	9/12/2007	7.40	NM	NM	Slight Sheen
	10/30/2007	6.55	NM	NM	Slight Sheen
	11/13/2007	6.69	NM	NM	Slight Sheen
	12/18/2007	6.55	NM	NM	Slight Sheen
	1/29/2008	6.48	NM	NM	Slight Sheen
	2/26/2008	6.07	NM	NM	
	3/19/2008	6.13	NM	NM	Slight Sheen
	4/24/2008	6.40	NM	NM	
	5/29/2008	5.44	NM	NM	Slight Sheen
	6/19/2008	5.61	NM	NM	Slight Sheen
	7/3/2008	5.90	NM	NM	
	7/11/2008	6.02	NM	NM	
	7/18/2008	6.01	NM	NM	
	7/25/2008	6.08	NM	NM	
	8/1/2008	6.19	NM	NM	
	8/15/2008	6.44	NM	NM	
	8/22/2008	6.68	NM	NM	
	8/27/2008	6.49	NM	NM	
	9/12/2008	6.55	NM	NM	
	9/18/2008	6.53	NM	NM	

Well No.	Date	Depth to Water	TOC Elevation	Water Elevation	Comments
	9/26/2008	6.63	NM	NM	
	9/30/2008	5.69	NM	NM	
	10/7/2008	5.87	NM	NM	Odor
	10/16/2008	6.51	NM	NM	Sheen/Odor
	10/23/2008	6.48	NM	NM	Odor
	10/30/2008	5.99	NM	NM	Odor
	11/6/2008	6.28	NM	NM	
	11/11/2008	6.50	NM	NM	Sheen/Odor
	11/19/2008	5.89	NM	NM	Odor
	11/25/2008	6.18	NM	NM	Odor
	12/5/2008	6.18	NM	NM	Odor
	12/10/2008	6.19	NM	NM	Odor
	12/16/2008	5.76	NM	NM	Slight Sheen
	12/24/2008	5.59	NM	NM	Odor
	1/2/2009	5.92	NM	NM	Odor
	1/8/2009	5.63	NM	NM	Odor
	1/14/2009	5.98	NM	NM	Odor
	1/23/2009	5.90	NM	NM	Odor
	1/30/2009	6.03	NM	NM	Odor
	2/5/2009	6.00	NM	NM	Odor
	2/9/2009	5.98	NM	NM	Odor
	2/16/2009	6.12	NM	NM	Odor
	2/23/2009	6.29	NM	NM	Odor
	3/3/2009	6.38	NM	NM	Odor
	3/11/2009	6.42	NM	NM	Odor
	3/17/2009	6.39	NM	NM	Odor
	3/25/2009	6.59	NM	NM	Slight Sheen
	4/3/2009	6.08	NM	NM	Slight Sheen
	4/10/2009	5.11	NM	NM	Slight Sheen
	4/23/2009	4.50	NM	NM	Slight Sheen
	5/1/2009	4.82	NM	NM	
	5/6/2009	4.20	NM	NM	
	5/14/2009	4.29	NM	NM	
	5/21/2009	4.27	NM	NM	
	5/27/2009	4.31	NM	NM	
	6/3/2009	6.18	NM	NM	
	6/8/2009	6.15	NM	NM	
	6/18/2009	4.01	NM	NM	
	6/26/2009	4.09	NM	NM	
	7/2/2009	4.07	NM	NM	
	7/7/2009	4.19	NM	NM	
	7/17/2009	4.52	NM	NM	Slight Odor
	7/21/2009	4.04	NM	NM	
	8/27/2009	5.35	NM	NM	
	9/28/2009	3.48	NM	NM	Sheen/Odor
	10/30/2009	2.85	NM	NM	Slight Odor
	11/30/2009	2.94	NM	NM	Sheen/Odor
	12/29/2009	2.24	NM	NM	Slight Odor
	1/26/2010	NG	NM	NM	
	2/26/2010	1.34	NM	NM	Slight Odor
	3/31/2010	3.25	NM	NM	
	4/27/2010	1.67	NM	NM	
	5/25/2010	2.37	NM	NM	Slight Sheen
	6/29/2010	3.09	NM	NM	
	7/29/2010	3.51	NM	NM	
	8/31/2010	4.76	NM	NM	
	9/28/2010	3.13	NM	NM	
	10/28/2010	3.77	NM	NM	
	11/30/2010	4.84	NM	NM	
	12/21/2010	4.76	NM	NM	Mod. Odor
	1/4/2011	5.25	NM	NM	
	2/28/2011	3.60	NM	NM	Slight Sheen
	3/28/2011	3.07	NM	NM	Slight Odor
	4/26/2011	2.89	NM	NM	Mod. Odor
	5/25/2011	3.05	NM	NM	
	6/30/2011	4.18	NM	NM	
	7/26/2011	5.12	NM	NM	
	8/8/2011	5.33	NM	NM	Slight Odor

Well No.	Date	Depth to Water	TOC Elevation	Water Elevation	Comments
	8/12/2011	12.19	NM	NM	Surfactant Odor
	8/13/2011	11.86	NM	NM	Surfactant Odor
	8/14/2011	11.11	NM	NM	Surfactant Odor
	8/15/2011	10.66	NM	NM	Surfactant Odor
	8/16/2011	10.33	NM	NM	Surfactant Odor
	9/8/2011	4.11	NM	NM	Slight sheen
	10/31/2011	3.87	NM	NM	
	11/21/2011	4.57	NM	NM	
	12/22/2011	3.91	NM	NM	Mod. Odor
	1/26/2012	3.66	NM	NM	
	2/24/2012	4.15	NM	NM	Slight Odor
	3/21/2012	4.26	NM	NM	Moderate odor
	4/19/2012	4.77	NM	NM	Moderate odor
	5/24/2012	4.83	NM	NM	Slight odor
	6/12/2012	4.57	NM	NM	Moderate odor
	7/12/2012	5.03	NM	NM	Moderate odor/Slight sheen
	8/9/2012	5.05	NM	NM	Moderate odor
	9/28/2012	5.42	NM	NM	Slight Odor
	10/22/2012	4.86	NM	NM	
	11/20/2012	4.28	NM	NM	
	12/27/2012	3.86	NM	NM	
	1/14/2013	4.38	NM	NM	
	2/7/2013	4.29	NM	NM	Moderate Odor
	3/14/2013	3.85	NM	NM	Moderate Odor
	4/30/2013	4.03	NM	NM	Slight Odor
	5/17/2013	3.98	NM	NM	Slight Odor
	6/17/2013	3.15	NM	NM	Moderate Odor
	9/10/2013	4.81	NM	NM	
	12/3/2013	4.39	NM	NM	Moderate Odor
	3/11/2014	3.09	NM	NM	Slight Sheen
	6/10/2014	3.29	NM	NM	Slight Odor
	9/18/2014	5.24	NM	NM	Slight Odor
	12/4/2014	4.75	NM	NM	Slight Odor
	3/3/2015	4.08	NM	NM	
TFMP-1	9/16/2015	1.89	NM	NM	
	12/14/2015	3.70	NM	NM	PID=0.0
	3/8/2016	3.49	NM	NM	PID=1.1
	6/14/2016	4.17	NM	NM	PID=0.8
TP-2	7/9/2005	NG	NM	NM	
	2/6/2006	NG	NM	NM	
	6/29/2006	NG	NM	NM	
	1/25/2007	5.05	NM	NM	LPH (0.02 ft.)
	1/26/2007	5.33	NM	NM	LPH (0.01 ft.)
	2/5/2007	5.09	NM	NM	LPH (0.01 ft.)
	2/12/2007	6.87	NM	NM	LPH (0.02 ft.)
	2/19/2007	6.85	NM	NM	LPH (0.02 ft.)
	2/21/2007	6.08	NM	NM	LPH (0.02 ft.)
	3/30/2007	6.03	NM	NM	LPH (0.02 ft.)
	4/23/2007	8.39	NM	NM	LPH (0.01 ft.)
	4/27/2007	8.20	NM	NM	LPH (0.01 ft.)
	5/25/2007	6.45	NM	NM	Sheen
	6/1/2007	6.17	NM	NM	Sheen
	6/10/2007	6.02	NM	NM	
	6/15/2007	6.03	NM	NM	
	7/25/2007	6.39	NM	NM	Slight Sheen
	8/22/2007	7.02	NM	NM	Slight Sheen
	9/12/2007	7.24	NM	NM	Slight Sheen
	10/30/2007	6.43	NM	NM	
	11/13/2007	6.51	NM	NM	Slight Sheen
	12/18/2007	6.49	NM	NM	Slight Sheen
	1/29/2008	6.30	NM	NM	Slight Sheen
	2/26/2008	5.81	NM	NM	
	3/19/2008	5.94	NM	NM	Slight Sheen
	4/24/2008	6.35	NM	NM	
	5/29/2008	5.27	NM	NM	Slight Sheen
	6/19/2008	5.44	NM	NM	Slight Sheen
	7/3/2008	5.73	NM	NM	
	7/11/2008	5.88	NM	NM	

Well No.	Date	Depth to Water	TOC Elevation	Water Elevation	Comments
	7/18/2008	5.86	NM	NM	
	7/25/2008	5.89	NM	NM	
	8/1/2008	6.00	NM	NM	
	8/15/2008	6.28	NM	NM	
	8/22/2008	6.47	NM	NM	
	8/27/2008	6.31	NM	NM	
	9/12/2008	6.38	NM	NM	
	9/18/2008	6.37	NM	NM	
	9/26/2008	6.48	NM	NM	
	9/30/2008	5.78	NM	NM	
	10/7/2008	5.61	NM	NM	
	10/16/2008	6.33	NM	NM	Sheen/Odor
	10/23/2008	6.57	NM	NM	Odor
	10/30/2008	5.83	NM	NM	Odor
	11/6/2008	6.12	NM	NM	
	11/11/2008	6.33	NM	NM	Sheen/Odor
	11/19/2008	5.47	NM	NM	Odor
	11/25/2008	6.01	NM	NM	Odor
	12/5/2008	6.03	NM	NM	Odor
	12/10/2008	6.36	NM	NM	Odor
	12/16/2008	5.61	NM	NM	Sheen/Odor
	12/24/2008	5.42	NM	NM	Odor
	1/2/2009	5.74	NM	NM	Odor
	1/8/2009	5.45	NM	NM	Odor
	1/14/2009	5.77	NM	NM	Odor
	1/23/2009	5.71	NM	NM	Odor
	1/30/2009	5.86	NM	NM	Odor
	2/5/2009	5.83	NM	NM	Odor
	2/9/2009	5.91	NM	NM	
	2/16/2009	6.03	NM	NM	
	2/23/2009	6.21	NM	NM	
	3/3/2009	6.34	NM	NM	
	3/11/2009	6.36	NM	NM	
	3/17/2009	6.33	NM	NM	
	3/25/2009	6.52	NM	NM	Slight Sheen
	4/3/2009	6.02	NM	NM	Odor
	4/10/2009	5.03	NM	NM	Odor
	4/23/2009	4.42	NM	NM	Odor
	5/1/2009	4.60	NM	NM	
	5/6/2009	4.15	NM	NM	
	5/14/2009	4.23	NM	NM	
	5/21/2009	4.21	NM	NM	
	5/27/2009	4.37	NM	NM	
	6/3/2009	6.09	NM	NM	
	6/8/2009	6.04	NM	NM	
	6/18/2009	4.08	NM	NM	
	6/26/2009	4.01	NM	NM	
	7/2/2009	3.99	NM	NM	
	7/7/2009	4.13	NM	NM	
	7/17/2009	4.45	NM	NM	Slight Odor
	7/21/2009	3.98	NM	NM	
	8/27/2009	5.27	NM	NM	
	9/28/2009	3.40	NM	NM	Sheen/Odor
	10/30/2009	2.78	NM	NM	Sheen/Odor
	11/30/2009	2.85	NM	NM	Slight Odor
	12/29/2009	NG	NM	NM	
	1/26/2010	2.59	NM	NM	Slight Sheen
	2/26/2010	1.28	NM	NM	Slight Odor
	3/31/2010	1.25	NM	NM	
	4/27/2010	1.61	NM	NM	
	5/25/2010	2.29	NM	NM	
	6/29/2010	3.02	NM	NM	
	7/29/2010	3.42	NM	NM	
	8/31/2010	4.68	NM	NM	
	9/28/2010	3.07	NM	NM	
	10/28/2010	3.83	NM	NM	
	11/30/2010	4.75	NM	NM	Strong Odor
	12/21/2010	4.70	NM	NM	Mod. Odor

Well No.	Date	Depth to Water	TOC Elevation	Water Elevation	Comments
	1/4/2011	5.32	NM	NM	
	2/28/2011	3.65	NM	NM	Slight Sheen
	3/28/2011	3.02	NM	NM	Slight Odor
	4/26/2011	2.81	NM	NM	Slight Odor
	5/25/2011	2.98	NM	NM	Slight Odor
	6/30/2011	4.12	NM	NM	
	7/26/2011	5.03	NM	NM	
	8/8/2011	5.26	NM	NM	Slight Odor
	8/12/2011	12.13	NM	NM	Surfactant Odor
	8/13/2011	11.81	NM	NM	Surfactant Odor
	8/14/2011	11.05	NM	NM	Surfactant Odor
	8/15/2011	10.61	NM	NM	Surfactant Odor
	8/16/2011	10.27	NM	NM	Surfactant Odor
	9/8/2011	4.06	NM	NM	Slight sheen
	10/31/2011	3.81	NM	NM	
	11/21/2011	4.50	NM	NM	
	12/22/2011	3.83	NM	NM	Sheen
	1/26/2012	3.58	NM	NM	Slight Odor
	2/24/2012	3.58	NM	NM	Slight Odor
	3/21/2012	4.20	NM	NM	Moderate odor
	4/19/2012	4.65	NM	NM	Moderate odor
	5/24/2012	4.70	NM	NM	Slight Odor
	6/12/2012	4.62	NM	NM	Moderate odor
	7/12/2012	4.94	NM	NM	Moderate odor/Slight sheen
	8/9/2012	4.97	NM	NM	Moderate odor
	9/28/2012	5.34	NM	NM	Slight Odor
	10/22/2012	4.81	NM	NM	
	11/20/2012	4.26	NM	NM	
	12/27/2012	3.78	NM	NM	
	1/14/2013	4.31	NM	NM	Slight Odor
	2/7/2013	4.22	NM	NM	Slight Odor
	3/14/2013	3.85	NM	NM	Moderate odor
	4/30/2013	3.97	NM	NM	Slight Odor
	5/17/2013	3.89	NM	NM	Slight Odor
	6/17/2013	3.09	NM	NM	Moderate odor
	9/10/2013	4.89	NM	NM	Moderate odor
	12/3/2013	4.31	NM	NM	Moderate Odor
	3/11/2014	3.01	NM	NM	Slight Sheen
	6/10/2014	3.21	NM	NM	
	9/16/2014	5.30	NM	NM	
	12/4/2014	4.63	NM	NM	Slight Odor
	3/3/2015	4.02	NM	NM	
TFMP-2	9/16/2015	2.78	NM	NM	
	12/14/2015	2.62	NM	NM	PID=0.0
	3/8/2016	2.39	NM	NM	PID=0.5
	6/14/2016	3.14	NM	NM	PID=0.6
TFMP-3	9/16/2015	3.86	NM	NM	
	12/14/2015	1.70	NM	NM	PID=0.0
	3/8/2016	1.54	NM	NM	PID=0.0
	6/14/2016	2.75	NM	NM	PID=0.6
TFMP-4	9/16/2015	2.76	NM	NM	
	12/14/2015	2.68	NM	NM	PID=36.2
	3/8/2016	2.44	NM	NM	PID=0.6
	6/14/2016	2.37	NM	NM	PID=0.0

All measurements in feet

TOC = Top of Casing

NM = Not Measured

NG = Not Gauged

LPH = Liquid Phase Hydrocarbon

** = Change in the recorded elevation reflects a re-survey of all onsite wells using elevation from a *Site & Stormwater Plan* dated May 22, 1995. The southwestern corner of the dispenser island was used as a benchmark.

* = TOC Elevation change due to SVE Install

**Table 2 - Historical Groundwater Analytical Results
Gasoline Fueling Station – Royal Farms #1
2620 Mountain Road, Joppa, Maryland 21085**

Well No.	Date	B	T	E	X	Total BTEX	MTBE	TPH GRO	TPH DRO	
MW-1	7/9/2005	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS	
	2/6/2006	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS	
	6/29/2006	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS	
	1/25/2007	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
	7/25/2007	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
	10/30/2007	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
	1/29/2008	BDL	BDL	BDL	BDL	BDL	BDL	5.1	BDL	BDL
	3/19/2008	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	6/19/2008	BDL	BDL	BDL	BDL	BDL	BDL	500	BDL	BDL
	9/30/2008	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	12/16/2008	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	3/25/2009	BDL	BDL	BDL	BDL	BDL	BDL	25	BDL	BDL
	6/26/2009	BDL	BDL	BDL	BDL	BDL	BDL	24	BDL	BDL
	9/28/2009	BDL	14	BDL	20	34	9	BDL	BDL	BDL
	12/29/2009	BDL	BDL	BDL	BDL	BDL	BDL	70	BDL	BDL
	3/31/2010	BDL	BDL	BDL	BDL	BDL	BDL	160	BDL	BDL
	6/29/2010	BDL	BDL	BDL	BDL	BDL	BDL	38	BDL	BDL
	9/28/2010	BDL	BDL	BDL	BDL	BDL	BDL	25	BDL	BDL
	12/21/2010	BDL	BDL	BDL	BDL	BDL	BDL	110	BDL	BDL
	3/28/2011	BDL	BDL	BDL	BDL	BDL	BDL	86	BDL	BDL
	6/30/2011	BDL	BDL	BDL	BDL	BDL	BDL	16	BDL	BDL
	9/8/2011	BDL	BDL	BDL	11	11	71	BDL	BDL	BDL
	12/22/2011	BDL	BDL	BDL	BDL	BDL	BDL	34	BDL	BDL
	3/21/2012	BDL	BDL	BDL	BDL	BDL	BDL	46	BDL	BDL
	6/12/2012	BDL	BDL	BDL	BDL	BDL	BDL	54	BDL	BDL
	9/28/2012	BDL	BDL	BDL	BDL	BDL	BDL	39	BDL	BDL
	12/27/2012	BDL	BDL	BDL	BDL	BDL	BDL	8.2	BDL	BDL
3/14/2013	BDL	BDL	BDL	BDL	BDL	BDL	41.5	BDL	BDL	
6/17/2013	BDL	BDL	3.1 J	2.3 J	5.4 J	85.4	BDL	BDL	BDL	
9/10/2013	2.4 J	BDL	30.5	25.7	58.6 J	27.0	0.161	BDL	BDL	
12/3/2013	BDL	BDL	9.9	6.8 J	16.7 J	15.7	BDL	BDL	BDL	
3/11/2014	2.8 J	BDL	24.2	4.7 J	31.7 J	26.0	BDL	BDL	BDL	
6/10/2014	7.7	BDL	75.6	18.5	101.8	139	0.362	0.41	BDL	
9/18/2014	5.2	BDL	54.0	4.4 J	63.6	21.6	0.143	BDL	BDL	
12/4/2014	2.3 J	BDL	11.9	BDL	14.2 J	16.0	BDL	BDL	BDL	
3/3/2015	BDL	BDL	10.2	BDL	10.2	16.6	BDL	BDL	BDL	
MW-1R	9/16/2015	BDL	BDL	BDL	BDL	BDL	8.2	BDL	0.54	
	12/14/2015	BDL	BDL	BDL	BDL	BDL	9.2	BDL	0.67	
	3/8/2016	BDL	BDL	BDL	BDL	BDL	15.0	BDL	0.33	
6/14/2016	BDL	BDL	BDL	BDL	BDL	9.8	BDL	0.36		
MW-2	7/9/2005	BDL	BDL	BDL	BDL	BDL	740	NS	NS	
	2/6/2006	BDL	BDL	BDL	BDL	BDL	560	NS	NS	
	6/29/2006	BDL	BDL	BDL	BDL	BDL	960	NS	NS	
	1/25/2007	74	BDL	25	11	110	15,000	BDL	BDL	
	7/25/2007	59	BDL	BDL	BDL	59	21,000	BDL	BDL	
	10/30/2007	12	BDL	BDL	BDL	12	4,800	BDL	BDL	
	1/29/2008	65	BDL	51	150	266	22,300	BDL	0.8	
	3/19/2008	23	BDL	93	89	205	25,000	BDL	BDL	
	6/19/2008	700	200	1,700	1,080	3,680	19,000	7.9	9.0	
	9/30/2008	720	19	1,300	261	2,300	11,300	5.0	3.9	
	12/16/2008	34	BDL	48	24	106	5,100	9.0	7.9	
3/25/2009	214	18	400	56	688	2,900	1.7	BDL		

Well No.	Date	B	T	E	X	Total BTEX	MTBE	TPH GRO	TPH DRO
	6/26/2009	320	1100	800	1500	3,720	3000	6.0	3.4
	9/28/2009	19	BDL	110	44	173	160	0.5	BDL
	12/29/2009	350	14	920	950	2234	3,800	6.8	2.4
	3/31/2010	250	10	1100	334	1694	3,800	3.2	2.6
	6/29/2010	200	6.6	620	357	1,184	720	2.5	1.9
	9/28/2010	220	14	840	453	1,527	800	4.2	1.5
	12/21/2010	160	7.5	2800	970	3,938	1100	3.6	2.0
	3/28/2011	120	BDL	800	BDL	920	620	1.6	1.2
	6/30/2011	80	BDL	500	84	664	250	2.5	0.8
	9/8/2011	80	7.5	370	51	508.5	440	2.6	0.5
	12/22/2011	150	BDL	720	588	1,458.0	1300	2.0	1.2
	3/21/2012	53	BDL	130	6.4	189.4	430	1.3	BDL
	6/12/2012	80	BDL	350	260	690	610	2.8	0.5
	9/28/2012	37	BDL	26	BDL	63	630	0.7	BDL
	12/27/2012	58.2	BDL	54.1	43.6	155.9	534	BDL	BDL
	3/14/2013	34.5J	BDL	BDL	BDL	34.5	266	0.550	2.56
	6/17/2013	42.2	BDL	2.4 J	BDL	44.6	178	0.305	1.47
	9/10/2013	37.9 J	BDL	BDL	BDL	37.9 J	177	0.363	2.29
	12/3/2013	34.4	BDL	18.5 J	19.8 J	72.7	262	0.972	2.77
	3/11/2014	BDL	BDL	BDL	BDL	BDL	116	0.259	2.45
	6/10/2014	41.3	BDL	15.7 J	BDL	57 J	237	0.463	3.01
	9/18/2014	30.8 J	BDL	BDL	BDL	30.8 J	265	0.446	2.30
	12/4/2014	27.8 J	BDL	BDL	BDL	27.8 J	391	1.00	2.30
	3/3/2015	25.0	BDL	BDL	2.1 J	27.1 J	176	0.359	2.33
MW-2R	9/16/2015	BDL	BDL	BDL	BDL	BDL	4.6 J	BDL	0.40
	12/14/2015	BDL	BDL	BDL	BDL	BDL	6.9	BDL	0.36
	3/8/2016	BDL	BDL	BDL	BDL	BDL	10.9	BDL	0.50
	6/14/2016	BDL	BDL	BDL	BDL	BDL	4.4 J	BDL	0.71
MW-3	7/9/2005	BDL	BDL	BDL	BDL	BDL	9.7	NS	NS
	2/6/2006	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	6/29/2006	BDL	BDL	BDL	BDL	BDL	5.4	NS	NS
	1/25/2007	BDL	BDL	BDL	BDL	BDL	91	BDL	BDL
	7/25/2007	BDL	BDL	BDL	BDL	BDL	220	BDL	BDL
	10/30/2007	9.6	21	34	169	233.6	74	BDL	BDL
	1/29/2008	BDL	BDL	BDL	BDL	0	66	BDL	BDL
	3/19/2008	BDL	BDL	BDL	BDL	0	63	BDL	BDL
	6/19/2008	BDL	BDL	6.2	BDL	6.2	66	BDL	BDL
	9/30/2008	BDL	BDL	12	8.6	20.6	100	BDL	BDL
	12/16/2008	BDL	BDL	BDL	BDL	BDL	80	BDL	BDL
	3/25/2009	BDL	BDL	BDL	BDL	BDL	56	BDL	BDL
	6/26/2009	BDL	BDL	BDL	BDL	BDL	32	BDL	BDL
	9/28/2009	BDL	BDL	BDL	BDL	BDL	26	BDL	BDL
	12/29/2009	BDL	7.8	BDL	BDL	7.8	33	BDL	BDL
	3/31/2010	BDL	BDL	12	12	24	150	BDL	BDL
	6/29/2010	BDL	BDL	7.5	BDL	7.5	61	BDL	BDL
	9/28/2010	BDL	BDL	BDL	BDL	BDL	32	BDL	BDL
	12/21/2010	BDL	BDL	BDL	BDL	BDL	28	BDL	BDL
	3/28/2011	BDL	BDL	BDL	BDL	BDL	16	BDL	BDL
	6/30/2011	BDL	BDL	BDL	BDL	BDL	8.8	BDL	BDL
	9/8/2011	BDL	100	43	237	380	28	BDL	BDL
	12/22/2011	BDL	BDL	5.4	BDL	5.4	17	BDL	BDL
	3/21/2012	BDL	BDL	12	BDL	12	19	BDL	BDL
	6/12/2012	BDL	BDL	BDL	BDL	BDL	26	BDL	BDL
	9/28/2012	BDL	BDL	BDL	BDL	BDL	31	BDL	BDL
	12/27/2012	BDL	BDL	BDL	BDL	BDL	14.4	BDL	0.78

Well No.	Date	B	T	E	X	Total BTEX	MTBE	TPH GRO	TPH DRO
	3/8/2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	6/14/2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MW-9	9/16/2015	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	12/14/2015	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	3/8/2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	6/14/2016	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
TP-1	7/9/2005	NS	NS	NS	NS	NS	NS	NS	NS
	2/6/2006	NS	NS	NS	NS	NS	NS	NS	NS
	6/29/2006	NS	NS	NS	NS	NS	NS	NS	NS
	1/25/2007	NS	NS	NS	NS	NS	NS	NS	NS
	7/25/2007	2,700	43,500	7,300	21,500	75,000	100,000	24.0	21.0
	10/30/2007	2,300	28,000	6,400	24,100	60,800	29,000	28.0	330.0
	1/29/2008	1,400	25,000	5,500	19,400	51,300	27,000	23.0	100.0
	3/19/2008	1,100	29,600	6,600	28,000	65,300	12,100	27.0	110.0
	6/19/2008	1,500	30,000	6,400	19,000	56,900	14,500	29.0	57.0
	9/30/2008	970	22,000	2,000	2,120	27,090	13,000	60.0	35.0
	12/16/2008	420	19,500	5,500	17,400	42,820	4,900	110.0	78.0
	3/25/2009	830	21,000	6,900	24,400	53,130	17,000	130.0	28.0
	6/26/2009	450	12,000	2,600	4,500	19,550	2,300	50.0	22.0
	9/28/2009	44	1,600	900	2,600	5144	190	11.0	75.0
	12/29/2009	200	10,000	4,900	15,300	30400	570	27.0	3.0
	3/31/2010	97	2,900	2,400	6,700	12097	730	3.9	2.8
	6/29/2010	44	1,700	1,300	4,000	7,044	114	6.2	5.5
	9/28/2010	BDL	70	85	490	645	BDL	1.2	BDL
	12/21/2010	46	1,000	1,900	5,200	8,100	BDL	12.0	2.0
	3/28/2011	50	610	740	1,380	2,730	BDL	4.2	1.1
	6/30/2011	24	630	800	1,660	3,114	52	4.7	0.9
	9/8/2011	20	340	700	2,320	3,380	BDL	14.0	2.8
	12/22/2011	70	1,500	3,400	10,200	15,170	BDL	19.0	19.0
	3/21/2012	280	1,000	1,100	3,000	5,380	150	11.0	8.7
	6/12/2012	130	1,300	2,300	7,400	11,130	230	29.0	10.0
	9/28/2012	90	2,500	4,600	12,900	20,090	BDL	19	12
	12/27/2012	165	1,360	1,940	7,170	10,635	BDL	16.2	10.2
	3/14/2013	192	863	1,260	4,340	6,655	BDL	11.00	8.17
	6/17/2013	86.1 J	986	1,560	4,460	7,006	140	11.100	5.24
	9/10/2013	48.2 J	128	1,090	2,880	4,146	25.3 J	9.210	7.92
	12/3/2013	102	188	950	3,070	4,310	BDL	11.50	8.20
	3/11/2014	180	484	1,030	2,950	4,644	40.8 J	9.130	5.05
	6/10/2014	88.0 J	232	1,260	3,530	5,110 J	63.6 J	11.2	5.39
	9/18/2014	26.3 J	BDL	1,050	1,744	2,820.3 J	BDL	6.770	5.70
	12/4/2014	42.2 J	56.8	819	1,942	2,860 J	BDL	3.490	4.01
	3/3/2015	117	142	1,580	4,350	6,189	85.4 J	11.600	6.01
TFMP-1	9/16/2015	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2015	NS	NS	NS	NS	NS	NS	NS	NS
	6/14/2016	NS	NS	NS	NS	NS	NS	NS	NS
TP-2	7/9/2005	NS	NS	NS	NS	NS	NS	NS	NS
	2/6/2006	NS	NS	NS	NS	NS	NS	NS	NS
	6/29/2006	NS	NS	NS	NS	NS	NS	NS	NS
	1/25/2007	NS	NS	NS	NS	NS	NS	NS	NS
	7/25/2007	3,400	41,400	6,300	21,800	72,900	128,000	22.0	22.0
	10/30/2007	2,400	32,200	7,500	21,700	63,800	38,000	29.0	160.0
	1/29/2008	1,800	28,000	6,800	20,400	57,000	48,000	17.0	125.0
	3/19/2008	1,600	31,000	7,700	25,200	65,500	44,000	6.8	120.0
	6/19/2008	700	28,000	6,500	19,700	54,900	3,000	3.1	54.0
	9/30/2008	860	20,000	7,000	23,500	51,360	14,000	48.0	35.0

Well No.	Date	B	T	E	X	Total BTEX	MTBE	TPH GRO	TPH DRO
	12/16/2008	950	23,400	8,000	27,200	59,550	11,300	80.0	46.0
	3/25/2009	1,100	21,000	7,100	23,700	52,900	6,100	91.0	38.0
	6/26/2009	470	10,000	3,500	5,800	19,770	1,100	17.0	17.0
	9/28/2009	70	5,100	5,800	21,000	31,970	180	3.8	125.0
	12/29/2009	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2010	67	2,600	1,000	2,140	5,807	600	2.4	3.4
	6/29/2010	61	1,700	1,900	5,800	9,461	230	5.5	1.9
	9/28/2010	37	1,400	620	3,600	5,657	53	5.0	1.1
	12/21/2010	130	5,800	5,200	19,700	30,830	BDL	11.0	7.5
	3/28/2011	26	340	520	1,604	2,490	BDL	3.0	0.6
	6/30/2011	100	1,400	3,300	7,700	12,500	BDL	27.0	6.9
	9/8/2011	21	330	660	2,170	3,181	BDL	18.0	5.1
	12/22/2011	140	1,800	3,300	11,100	16,340	210	28.0	14.0
	3/21/2012	580	3,300	2,700	9,800	16,380	160	19.0	7.3
	6/12/2012	100	1,100	1,900	7,600	10,700	BDL	33.0	6.3
	9/28/2012	150	2,300	4,700	15,000	22,150	210	19	9.0
	12/27/2012	BDL	677	1,450	5,580	7,707	BDL	13.6	6.02
	3/14/2013	BDL	555	2,490	9,040	12,085	BDL	23.20	6.86
	6/17/2013	136	570	894	3,270	4,870	BDL	8.970	2.58
	9/10/2013	41.4 J	550	2,110	5,670	8,371 J	BDL	15.500	7.17
	12/3/2013	BDL	53 J	747	2,709	3,509 J	BDL	8.89	7.30
	3/11/2014	87 J	256	1,920	5,940	8,203 J	52.4 J	13.800	7.55
	6/10/2014	101	94.2	1,460	4,410	6,065.20	37.2 J	7.12	2.63
	9/18/2014	30.9 J	31.2 J	1,130	2,160	3352.1 J	BDL	8.970	7.30
	12/4/2014	5.3 J	BDL	130	352	487.3 J	BDL	1.280	3.17
	3/3/2015	29.4 J	25.7 J	876	1,852	2,783.1 J	BDL	7.680	2.93
TFMP-2	9/16/2015	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2015	NS	NS	NS	NS	NS	NS	NS	NS
	6/14/2016	NS	NS	NS	NS	NS	NS	NS	NS
TFMP-3	9/16/2015	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2015	NS	NS	NS	NS	NS	NS	NS	NS
	6/14/2016	NS	NS	NS	NS	NS	NS	NS	NS
TFMP-4	9/16/2015	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2015	NS	NS	NS	NS	NS	NS	NS	NS
	6/14/2016	NS	NS	NS	NS	NS	NS	NS	NS
Type I and II Aquifers		5	1000	700	10000	NRS	20	0.047	0.047

*MW-4 was buried in ice on 3/3/2015 and thus could not be located or sampled

TPH GRO and DRO results in parts per million or mg/l

BTEX and MTBE results in parts per billion or ug/l

B = Benzene; T = Toluene; E = Ethylbenzene; X = Xylene

MTBE = Methyl-tert-butyl-ether

TPH GRO = Total Petroleum Hydrocarbons Gasoline Range Organics

TPH DRO = Total Petroleum Hydrocarbons Diesel Range Organics

BDL = Below Detection Limits

J = Estimated Value

NRS = No Regulatory Standard

NS = Not Sampled

Some compounds may have been detected but are not tabulated on this spreadsheet.

MDE Standards (Generic Numeric Cleanup Standards for Groundwater and Soil - Interim Final Guidance Update No. 2.1 - June 2008)

Well No.	Date	B	T	E	X	Total BTEX	MTBE	TPH GRO	TPH DRO
	12/29/2009	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	3/31/2010	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	6/29/2010	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	9/28/2010	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	12/21/2010	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	3/28/2011	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	6/30/2011	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	9/8/2011	BDL	9.8	4	19	32.8	BDL	NS	NS
	3/3/2015	BDL	BDL	BDL	BDL	BDL	10.2	BDL	0.7
	12/22/2011	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	3/21/2012	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	6/12/2012	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	9/28/2012	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	12/27/2012	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	3/14/2013	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	6/17/2013	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	9/10/2013	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	12/3/2013	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	3/11/2014	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	4/30/2014	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	9/18/2014	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	12/4/2014	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	9/16/2015	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	12/14/2015	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	3/8/2016	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
	6/14/2016	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS
Type I and II Aquifers		5	1000	700	10000	NRS	20	0.047	0.047

BTEX and MTBE results in parts per billion or ug/l

B = Benzene; T = Toluene; E = Ethylbenzene; X = Xylene

MTBE = Methyl-tert-butyl-ether

TPH GRO = Total Petroleum Hydrocarbons Gasoline Range Organics

TPH DRO = Total Petroleum Hydrocarbons Diesel Range Organics

BDL = Below Detection Limits

J = Estimated Value

NRS = No Regulatory Standard

NS = Not Sampled

Some compounds may have been detected but are not tabulated on this spreadsheet.

MDE Standards (Generic Numeric Cleanup Standards for Groundwater and Soil - Interim Final Guidance Update No. 2.1 - June 2008)

Attachment C

Laboratory Analytical Report and Chain of Custody Form

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
VELAP ID 460040

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Report Issued: 06/15/16 14:30

Advantage Environmental Consultants, LLC

8610 Baltimore Washington Blvd, Suite 217

Jessup MD, 20794

CLIENT SAMPLE ID:	PW-1	PW-2B	PW-3
LAB SAMPLE ID:	6061405-01	6061405-02	6061405-03
SAMPLE DATE:	06/14/16	06/14/16	06/14/16
RECEIVED DATE:	06/14/16	06/14/16	06/14/16
MATRIX	Units Drinking Water	Drinking Water	Drinking Water

VOLATILE ORGANICS BY EPA METHOD 524.2 (GC/MS) (Water)

	ug/L	<10.0	<10.0	<10.0
tert-Amyl alcohol (TAA)	ug/L	<10.0	<10.0	<10.0
tert-Amyl methyl ether (TAME)	ug/L	<0.50	<0.50	<0.50
Benzene	ug/L	<0.50	<0.50	<0.50
Bromobenzene	ug/L	<0.50	<0.50	<0.50
Bromochloromethane	ug/L	<0.50	<0.50	<0.50
Bromodichloromethane	ug/L	<0.50	<0.50	<0.50
Bromoform	ug/L	<0.50	<0.50	<0.50
Bromomethane	ug/L	<0.50	<0.50	<0.50
tert-Butanol (TBA)	ug/L	<10.0	<10.0	<10.0
n-Butylbenzene	ug/L	<0.50	<0.50	<0.50
sec-Butylbenzene	ug/L	<0.50	<0.50	<0.50
tert-Butylbenzene	ug/L	<0.50	<0.50	<0.50
Carbon tetrachloride	ug/L	<0.50	<0.50	<0.50
Chlorobenzene	ug/L	<0.50	<0.50	<0.50
Chloroethane	ug/L	<0.50	<0.50	<0.50
Chloroform	ug/L	<0.50	<0.50	<0.50
Chloromethane	ug/L	<0.50	<0.50	<0.50
2-Chlorotoluene	ug/L	<0.50	<0.50	<0.50
4-Chlorotoluene	ug/L	<0.50	<0.50	<0.50
Dibromochloromethane	ug/L	<0.50	<0.50	<0.50
1,2-Dibromo-3-chloropropane	ug/L	<0.50	<0.50	<0.50
1,2-Dibromoethane (EDB)	ug/L	<0.50	<0.50	<0.50
Dibromomethane	ug/L	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50
Dichlorodifluoromethane	ug/L	<0.50	<0.50	<0.50
1,1-Dichloroethane	ug/L	<0.50	<0.50	<0.50
1,2-Dichloroethane	ug/L	<0.50	<0.50	<0.50
1,1-Dichloroethene	ug/L	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene	ug/L	<0.50	<0.50	<0.50
trans-1,2-Dichloroethene	ug/L	<0.50	<0.50	<0.50
1,2-Dichloropropane	ug/L	<0.50	<0.50	<0.50
1,3-Dichloropropane	ug/L	<0.50	<0.50	<0.50
2,2-Dichloropropane	ug/L	<0.50	<0.50	<0.50
1,1-Dichloropropene	ug/L	<0.50	<0.50	<0.50

Analytical Results

1500 Caton Center Dr Suite G
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VELAP ID 460040

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Report Issued: 06/15/16 14:30

Advantage Environmental Consultants, LLC

8610 Baltimore Washington Blvd, Suite 217

Jessup MD, 20794

CLIENT SAMPLE ID:	PW-1	PW-2B	PW-3
LAB SAMPLE ID:	6061405-01	6061405-02	6061405-03
SAMPLE DATE:	06/14/16	06/14/16	06/14/16
RECEIVED DATE:	06/14/16	06/14/16	06/14/16
MATRIX	Units Drinking Water	Drinking Water	Drinking Water

VOLATILE ORGANICS BY EPA METHOD 524.2 (GC/MS) (continued)

cis-1,3-Dichloropropene	ug/L	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	ug/L	<0.50	<0.50	<0.50
Diisopropyl ether (DIPE)	ug/L	<0.50	<0.50	<0.50
Ethyl tert-butyl ether (ETBE)	ug/L	<0.50	<0.50	<0.50
Ethylbenzene	ug/L	<0.50	<0.50	<0.50
Hexachlorobutadiene	ug/L	<0.50	<0.50	<0.50
Isopropylbenzene (Cumene)	ug/L	<0.50	<0.50	<0.50
4-Isopropyltoluene	ug/L	<0.50	<0.50	<0.50
Methyl tert-butyl ether (MTBE)	ug/L	0.97	<0.50	<0.50
Methylene chloride	ug/L	<0.50	<0.50	<0.50
Naphthalene	ug/L	<0.50	<0.50	<0.50
n-Propylbenzene	ug/L	<0.50	<0.50	<0.50
Styrene	ug/L	<0.50	<0.50	<0.50
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50
Tetrachloroethene	ug/L	<0.50	<0.50	<0.50
Toluene	ug/L	<0.50	<0.50	<0.50
1,2,3-Trichlorobenzene	ug/L	<0.50	<0.50	<0.50
1,2,4-Trichlorobenzene	ug/L	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	ug/L	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	<0.50
Trichloroethene	ug/L	<0.50	<0.50	<0.50
Trichlorofluoromethane (Freon 11)	ug/L	<0.50	<0.50	<0.50
1,2,3-Trichloropropane	ug/L	<0.50	<0.50	<0.50
1,2,4-Trimethylbenzene	ug/L	<0.50	<0.50	<0.50
1,3,5-Trimethylbenzene	ug/L	<0.50	<0.50	<0.50
Vinyl chloride	ug/L	<0.50	<0.50	<0.50
o-Xylene	ug/L	<0.50	<0.50	<0.50
m- & p-Xylenes	ug/L	<0.50	<0.50	<0.50
4-Bromofluorobenzene	[surr]	<u>84.0%</u>	<u>88.0%</u>	<u>86.0%</u>
1,2-Dichlorobenzene-d4	[surr]	<u>106%</u>	<u>106%</u>	<u>108%</u>

20 June 2016

Jeffery Stein
Advantage Environmental Consultants
8610 Baltimore Washington Blvd, Suite 217
Jessup, MD 20794
RE: RF-001

Enclosed are the results of analyses for samples received by the laboratory on 06/14/16 13:00.

A more detailed report format is available upon request, which lists the accreditation status for all analytical methods performed.

Please visit our website at www.mdspectral.com for a complete listing of our accreditations.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Will Brewington
Staff Chemist

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-9		6061406-01	Nonpotable Water	06/14/16 11:15	06/14/16 13:00
MW-8		6061406-02	Nonpotable Water	06/14/16 11:25	06/14/16 13:00
MW-5R		6061406-03	Nonpotable Water	06/14/16 11:35	06/14/16 13:00
MW-2R		6061406-04	Nonpotable Water	06/14/16 11:45	06/14/16 13:00
MW-6		6061406-05	Nonpotable Water	06/14/16 12:00	06/14/16 13:00
MW-1R		6061406-06	Nonpotable Water	06/14/16 12:15	06/14/16 13:00
MW-7		6061406-07	Nonpotable Water	06/14/16 12:30	06/14/16 13:00



Will Brewington, Staff Chemist

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.

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01
Project Manager: Jeffery Stein

Reported:
06/20/16 16:48

MW-9

6061406-01 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:10	WB
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	06/16/16	06/16/16 11:10	WB
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Benzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Bromobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Bromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Bromodichloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Bromoform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Bromomethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 11:10	WB
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	06/16/16	06/16/16 11:10	WB
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:10	WB
n-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Carbon disulfide	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Chlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Chloroethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 11:10	WB
Chloroform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Chloromethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 11:10	WB
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Dibromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,2-Dibromoethane (EDB)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Dibromomethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
cis-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB

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Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-9

6061406-01 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,1-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Ethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
2-Hexanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:10	WB
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Methyl tert-butyl ether (MTBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:10	WB
Methylene chloride	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:10	WB
Naphthalene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
n-Propylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Styrene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Tetrachloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Toluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Trichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,2,4-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
1,3,5-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB

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Will Brewington, Staff Chemist

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: RF-001

Project Number: 05-056 RF-01
Project Manager: Jeffery Stein

Reported:
06/20/16 16:48

MW-9

6061406-01 (Nonpotable Water)
Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
o-Xylene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
m- & p-Xylenes	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:10	WB
<i>Surrogate: 1,2-Dichloroethane-d4</i>		75-120		98 %	06/16/16		06/16/16 11:10		
<i>Surrogate: Toluene-d8</i>		84-110		99 %	06/16/16		06/16/16 11:10		
<i>Surrogate: 4-Bromofluorobenzene</i>		78-110		99 %	06/16/16		06/16/16 11:10		
GASOLINE RANGE ORGANICS BY EPA 8015B									
Gasoline-Range Organics	ND		ug/L	100	100	1	06/17/16	06/17/16 14:58	GM
<i>Surrogate: a,a,a-Trifluorotoluene</i>		85-115		100 %	06/17/16		06/17/16 14:58		
DIESEL RANGE ORGANICS BY EPA 3510/8015B									
Diesel-Range Organics	ND		mg/L	0.19	0.19	1	06/15/16	06/16/16 23:09	CMK
<i>Surrogate: o-Terphenyl</i>		60-120		84 %	06/15/16		06/16/16 23:09		

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Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-8

6061406-02 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:40	WB
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	06/16/16	06/16/16 11:40	WB
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Benzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Bromobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Bromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Bromodichloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Bromoform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Bromomethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 11:40	WB
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	06/16/16	06/16/16 11:40	WB
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:40	WB
n-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Carbon disulfide	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Chlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Chloroethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 11:40	WB
Chloroform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Chloromethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 11:40	WB
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Dibromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,2-Dibromoethane (EDB)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Dibromomethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
cis-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB

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Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-8

6061406-02 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,1-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Ethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
2-Hexanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:40	WB
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Methyl tert-butyl ether (MTBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:40	WB
Methylene chloride	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 11:40	WB
Naphthalene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
n-Propylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Styrene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Tetrachloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Toluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Trichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,2,4-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
1,3,5-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB

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Will Brewington, Staff Chemist

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-8

6061406-02 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
o-Xylene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
m- & p-Xylenes	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 11:40	WB
<i>Surrogate: 1,2-Dichloroethane-d4</i>				75-120	98 %		06/16/16	06/16/16 11:40	
<i>Surrogate: Toluene-d8</i>				84-110	101 %		06/16/16	06/16/16 11:40	
<i>Surrogate: 4-Bromofluorobenzene</i>				78-110	95 %		06/16/16	06/16/16 11:40	
GASOLINE RANGE ORGANICS BY EPA 8015B									
Gasoline-Range Organics	ND		ug/L	100	100	1	06/16/16	06/16/16 17:03	GM
<i>Surrogate: a,a,a-Trifluorotoluene</i>				85-115	100 %		06/16/16	06/16/16 17:03	
DIESEL RANGE ORGANICS BY EPA 3510/8015B									
Diesel-Range Organics	ND		mg/L	0.22	0.22	1	06/15/16	06/16/16 23:36	CMK
<i>Surrogate: o-Terphenyl</i>				60-120	81 %		06/15/16	06/16/16 23:36	

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.



Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-5R

6061406-03 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:11	WB
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	06/16/16	06/16/16 12:11	WB
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Benzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Bromobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Bromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Bromodichloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Bromoform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Bromomethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 12:11	WB
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	06/16/16	06/16/16 12:11	WB
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:11	WB
n-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Carbon disulfide	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Chlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Chloroethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 12:11	WB
Chloroform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Chloromethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 12:11	WB
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Dibromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,2-Dibromoethane (EDB)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Dibromomethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
cis-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB

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Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-5R

6061406-03 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,1-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Ethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
2-Hexanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:11	WB
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Methyl tert-butyl ether (MTBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:11	WB
Methylene chloride	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:11	WB
Naphthalene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
n-Propylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Styrene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Tetrachloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Toluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Trichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,2,4-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
1,3,5-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB

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Will Brewington, Staff Chemist

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-5R

6061406-03 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
o-Xylene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
m- & p-Xylenes	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:11	WB
<i>Surrogate: 1,2-Dichloroethane-d4</i>		75-120		96 %	06/16/16		06/16/16 12:11		
<i>Surrogate: Toluene-d8</i>		84-110		100 %	06/16/16		06/16/16 12:11		
<i>Surrogate: 4-Bromofluorobenzene</i>		78-110		98 %	06/16/16		06/16/16 12:11		
GASOLINE RANGE ORGANICS BY EPA 8015B									
Gasoline-Range Organics	ND		ug/L	100	100	1	06/16/16	06/16/16 17:41	GM
<i>Surrogate: a,a,a-Trifluorotoluene</i>		85-115		100 %	06/16/16		06/16/16 17:41		
DIESEL RANGE ORGANICS BY EPA 3510/8015B									
Diesel-Range Organics	0.46		mg/L	0.19	0.19	1	06/15/16	06/17/16 00:04	CMK
<i>Surrogate: o-Terphenyl</i>		60-120		86 %	06/15/16		06/17/16 00:04		

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Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-2R

6061406-04 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:41	WB
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	06/16/16	06/16/16 12:41	WB
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Benzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Bromobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Bromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Bromodichloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Bromoform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Bromomethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 12:41	WB
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	06/16/16	06/16/16 12:41	WB
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:41	WB
n-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Carbon disulfide	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Chlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Chloroethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 12:41	WB
Chloroform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Chloromethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 12:41	WB
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Dibromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,2-Dibromoethane (EDB)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Dibromomethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
cis-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB

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Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-2R

6061406-04 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,1-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Ethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
2-Hexanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:41	WB
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Methyl tert-butyl ether (MTBE)	4.4	J	ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:41	WB
Methylene chloride	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 12:41	WB
Naphthalene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
n-Propylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Styrene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Tetrachloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Toluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Trichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,2,4-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
1,3,5-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB

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Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-2R

6061406-04 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
o-Xylene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
m- & p-Xylenes	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 12:41	WB
Surrogate: 1,2-Dichloroethane-d4		75-120		96 %	06/16/16		06/16/16 12:41		
Surrogate: Toluene-d8		84-110		100 %	06/16/16		06/16/16 12:41		
Surrogate: 4-Bromofluorobenzene		78-110		99 %	06/16/16		06/16/16 12:41		
GASOLINE RANGE ORGANICS BY EPA 8015B									
Gasoline-Range Organics	ND		ug/L	100	100	1	06/16/16	06/16/16 18:20	GM
Surrogate: a,a,a-Trifluorotoluene		85-115		100 %	06/16/16		06/16/16 18:20		
DIESEL RANGE ORGANICS BY EPA 3510/8015B									
Diesel-Range Organics	0.71		mg/L	0.19	0.19	1	06/15/16	06/17/16 00:31	CMK
Surrogate: o-Terphenyl		60-120		95 %	06/15/16		06/17/16 00:31		

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.



Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-6

6061406-05 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	10.2		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:12	WB
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	06/16/16	06/16/16 13:12	WB
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Benzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Bromobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Bromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Bromodichloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Bromoform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Bromomethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 13:12	WB
tert-Butanol (TBA)	74.7		ug/L	15.0	15.0	1	06/16/16	06/16/16 13:12	WB
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:12	WB
n-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Carbon disulfide	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Chlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Chloroethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 13:12	WB
Chloroform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Chloromethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 13:12	WB
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Dibromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,2-Dibromoethane (EDB)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Dibromomethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
cis-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB

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Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-6

6061406-05 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,1-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Ethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
2-Hexanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:12	WB
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Methyl tert-butyl ether (MTBE)	2.6	J	ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:12	WB
Methylene chloride	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:12	WB
Naphthalene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
n-Propylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Styrene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Tetrachloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Toluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Trichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,2,4-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
1,3,5-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: RF-001

Project Number: 05-056 RF-01
Project Manager: Jeffery Stein

Reported:
06/20/16 16:48

MW-6

6061406-05 (Nonpotable Water)
Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
o-Xylene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
m- & p-Xylenes	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:12	WB
<i>Surrogate: 1,2-Dichloroethane-d4</i>				75-120	97 %		06/16/16	06/16/16 13:12	
<i>Surrogate: Toluene-d8</i>				84-110	99 %		06/16/16	06/16/16 13:12	
<i>Surrogate: 4-Bromofluorobenzene</i>				78-110	98 %		06/16/16	06/16/16 13:12	
GASOLINE RANGE ORGANICS BY EPA 8015B									
Gasoline-Range Organics	ND		ug/L	100	100	1	06/16/16	06/16/16 18:59	GM
<i>Surrogate: a,a,a-Trifluorotoluene</i>				85-115	100 %		06/16/16	06/16/16 18:59	
DIESEL RANGE ORGANICS BY EPA 3510/8015B									
Diesel-Range Organics	0.67		mg/L	0.20	0.20	1	06/15/16	06/17/16 00:59	CMK
<i>Surrogate: o-Terphenyl</i>				60-120	100 %		06/15/16	06/17/16 00:59	

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Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-1R

6061406-06 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:42	WB
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	06/16/16	06/16/16 13:42	WB
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Benzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Bromobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Bromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Bromodichloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Bromoform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Bromomethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 13:42	WB
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	06/16/16	06/16/16 13:42	WB
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:42	WB
n-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Carbon disulfide	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Chlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Chloroethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 13:42	WB
Chloroform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Chloromethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 13:42	WB
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Dibromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,2-Dibromoethane (EDB)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Dibromomethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
cis-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB

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Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-1R

6061406-06 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,1-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Ethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
2-Hexanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:42	WB
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Methyl tert-butyl ether (MTBE)	9.8		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:42	WB
Methylene chloride	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 13:42	WB
Naphthalene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
n-Propylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Styrene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Tetrachloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Toluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Trichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,2,4-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
1,3,5-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-1R

6061406-06 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
o-Xylene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
m- & p-Xylenes	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 13:42	WB
Surrogate: 1,2-Dichloroethane-d4		75-120		97 %	06/16/16		06/16/16 13:42		
Surrogate: Toluene-d8		84-110		100 %	06/16/16		06/16/16 13:42		
Surrogate: 4-Bromofluorobenzene		78-110		98 %	06/16/16		06/16/16 13:42		
GASOLINE RANGE ORGANICS BY EPA 8015B									
Gasoline-Range Organics	ND		ug/L	100	100	1	06/16/16	06/16/16 19:38	GM
Surrogate: a,a,a-Trifluorotoluene		85-115		100 %	06/16/16		06/16/16 19:38		
DIESEL RANGE ORGANICS BY EPA 3510/8015B									
Diesel-Range Organics	0.36		mg/L	0.20	0.20	1	06/15/16	06/17/16 01:27	CMK
Surrogate: o-Terphenyl		60-120		78 %	06/15/16		06/17/16 01:27		

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Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-7

6061406-07 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 14:13	WB
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	06/16/16	06/16/16 14:13	WB
tert-Amyl methyl ether (TAME)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Benzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Bromobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Bromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Bromodichloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Bromoform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Bromomethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 14:13	WB
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	06/16/16	06/16/16 14:13	WB
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 14:13	WB
n-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
sec-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
tert-Butylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Carbon disulfide	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Carbon tetrachloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Chlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Chloroethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 14:13	WB
Chloroform	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Chloromethane	ND		ug/L	5.0	5.0	1	06/16/16	06/16/16 14:13	WB
2-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
4-Chlorotoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Dibromochloromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,2-Dibromo-3-chloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,2-Dibromoethane (EDB)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Dibromomethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,2-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,3-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,4-Dichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Dichlorodifluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,1-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,2-Dichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,1-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
cis-1,2-Dichloroethene	2.9	J	ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB

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Will Brewington, Staff Chemist

Analytical Results

Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

MW-7

6061406-07 (Nonpotable Water)

Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Dichlorofluoromethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,3-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
2,2-Dichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,1-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
cis-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
trans-1,3-Dichloropropene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Diisopropyl ether (DIPE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Ethyl tert-butyl ether (ETBE)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Ethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Hexachlorobutadiene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
2-Hexanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 14:13	WB
Isopropylbenzene (Cumene)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
4-Isopropyltoluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Methyl tert-butyl ether (MTBE)	26.4		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 14:13	WB
Methylene chloride	ND		ug/L	10.0	10.0	1	06/16/16	06/16/16 14:13	WB
Naphthalene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
n-Propylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Styrene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Tetrachloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Toluene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,2,3-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,2,4-Trichlorobenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,1,1-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,1,2-Trichloroethane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Trichloroethene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
Trichlorofluoromethane (Freon 11)	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,2,3-Trichloropropane	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,2,4-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
1,3,5-Trimethylbenzene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: RF-001

Project Number: 05-056 RF-01
Project Manager: Jeffery Stein

Reported:
06/20/16 16:48

MW-7

6061406-07 (Nonpotable Water)
Sample Date: 06/14/16

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
o-Xylene	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
m- & p-Xylenes	ND		ug/L	5.0	2.0	1	06/16/16	06/16/16 14:13	WB
<i>Surrogate: 1,2-Dichloroethane-d4</i>		75-120		99 %	06/16/16		06/16/16 14:13		
<i>Surrogate: Toluene-d8</i>		84-110		100 %	06/16/16		06/16/16 14:13		
<i>Surrogate: 4-Bromofluorobenzene</i>		78-110		99 %	06/16/16		06/16/16 14:13		
GASOLINE RANGE ORGANICS BY EPA 8015B									
Gasoline-Range Organics	ND		ug/L	100	100	1	06/16/16	06/16/16 20:16	GM
<i>Surrogate: a,a,a-Trifluorotoluene</i>		85-115		100 %	06/16/16		06/16/16 20:16		
DIESEL RANGE ORGANICS BY EPA 3510/8015B									
Diesel-Range Organics	0.47		mg/L	0.20	0.20	1	06/15/16	06/17/16 01:54	CMK
<i>Surrogate: o-Terphenyl</i>		60-120		93 %	06/15/16		06/17/16 01:54		

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Analytical Results

1500 Caton Center Dr Suite G
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Project: RF-001

Project Number: 05-056 RF-01

Project Manager: Jeffery Stein

Reported:

06/20/16 16:48

Notes and Definitions

J	Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



Will Brewington, Staff Chemist

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