



October 30, 2013

Mrs. Jenny Herman
Maryland Department of the Environment
Oil Control Program
1800 Washington Boulevard
Baltimore, Maryland 21230-1719

**Re: Additional Monitoring Well Installation – Report of Results
Gasoline Fueling Station – Royal Farms #64
7950 Pulaski Highway, Baltimore, Maryland 21237
MDE Case No. 10-0339-BA
MDE Facility No. 3975**

Dear Mrs. Herman,

In response to Maryland Department of the Environment (MDE) letter titled “Corrective Action Plan Addendum Response”, dated May 29, 2013, Advantage Environmental Consultants, LLC (AEC) has completed the installation, development, and sampling of soil and groundwater for six monitoring wells MW-25 through MW-30 at the above referenced site. Two existing monitoring wells (CMW-1 and CMW-2) were also sampled for groundwater. An overview of the work performed is as follows:

Soil Boring Advancement and Soil Sampling

On October 10 and 11, 2013, six additional monitoring wells were installed on the 1209 and 1211 Chesaco Avenue properties located north of the site. The locations of the wells (identified as MW-25 through MW-30) are depicted on Figure 1 in Attachment A. Installation was performed by Allied Well Drilling. Monitoring well borings were advanced using a combination of Geoprobe/hollow stem auger (HSA) methods. The Geoprobe system was used to collect the soil samples using a macro-core approach. The borings were then expanded using a 6-inch diameter HSA string. Boring logs taken during installation are included as Attachment B. Well construction diagrams are included as Attachment C.

An AEC Field Geologist logged the geologic conditions of the borings and field screened soil cores for volatile organic compounds (VOCs) using a photoionization detector (PID). The field screening consisted of collecting a small portion of soil at 12-inch intervals. The material was transferred to a zip-lock bag which was punctured by the PID tip and the reading recorded. The PID was calibrated prior to use using fresh air (0.0 parts per million [ppm] VOCs) and a known concentration of isobutylene prior to use and the calibration verified daily. The criteria for selecting the soil samples were based on elevated PID readings or evidence of impact in

soil. Since no PID readings were encountered, samples were collected immediately above the observed groundwater interface between approximately 8 and 15 feet below ground surface (bgs). Observations are summarized on boring logs included as Attachment B.

VOC samples were collected and prepared using U.S. Environmental Protection Agency (EPA) Method 5035 via Terracore sampling. The Terracore sampler was inserted directly into the soil core using a reusable T-handle until the sample chamber was full (approximately 5 to 10 grams of soil). The outside of the sampler was then wiped clean of any soil or debris. The soil plugs were flush with the mouth of the sampler and any excess soil that extended beyond the mouth of the sampler was removed. The plunger was seated in the handle top 90° until it was aligned with the slots in the body. The sample cores were then extruded into one methanol (5 milliliters) preserved 40 milliliter vial, two sodium bisulphate (5 milliliters) preserved 40 milliliter vials and a dry weight jar with a lid. The top and/or threads of the vials were then wiped clean and the lids quickly replaced on the vials.

The soil samples were submitted for analysis for VOCs, including fuel oxygenates, via EPA Method 8260 and total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) via EPA Method 8015B.

Sample labels were firmly attached to the container side, and the following information was legibly and indelibly written on the label: facility name; sample identification; sampling date and time; preservatives added; and, sample collector's initials. After the samples were sealed and labeled, they were packaged for transport to the analytical laboratory. All soil samples were hand-delivered to Maryland Spectral Services, Inc. (MSS) of Baltimore, Maryland under standard chain-of-custody procedures. MSS participates in the National Environmental Laboratory Accreditation Program (NELAP). The following packaging procedures were followed: samples were packaged to prevent leakage or vaporization from the containers; samples were cushioned to avoid breakage; and, ice was added to the cooler to keep the samples cool.

Monitoring Well Installation and Development

The monitoring wells were constructed using 2-inch diameter PVC slotted screen and riser. Based on water levels observed during drilling activities (6 to 12 feet bgs), the screen length for the monitoring wells was ranged from 17 to 20 feet and the riser length was approximately three feet. A sand filter pack was placed to 1.5 feet above the top of the screen, and a one foot thick bentonite seal was placed above the sand and hydrated in place. The remainder of the annular space above the bentonite seal was grouted to the surface. The wells were installed with a flush-mounted, bolt-down, steel manhole set in concrete. The PVC well heads were secured with a locking cap. The relative elevation of the top-of-casing for the new wells was determined to within 0.01-feet using a rod and transit. An existing monitoring well was used for the elevation reference point. Well construction diagrams are included as Attachment C.

Prior to arriving at the Site and between each soil boring, all hand augers, core barrels, cutting shoes, probe rods, tips, sleeves, pushrods, samplers, tools, and other down hole equipment was washed using a water rinse. Fuel, lubricants, and other similar substances were handled in a

manner consistent with accepted safety procedures and standard operating practices. All drilling and well development work was performed by a State of Maryland-licensed well driller and appropriate well permits were obtained from Baltimore County.

The wells were developed using surge block and aggressive bailing techniques by Allied Well Drilling on October 15, 2013. Between 5 and 20 gallons of water was removed from each well. Purging was discontinued in each well when the water was free of sediment (i.e., clear). All development water was containerized and processed through the existing treatment system.

Groundwater Sampling

Groundwater sampling was performed on October 22 and 28, 2013. Samples were collected using disposable high-density polyethylene (HDPE) bailers. New sections of nylon rope were used for the bailers at each sample location. A clean pair of new, disposable nitrile gloves was worn each time a groundwater sample was collected. Prior to the collection of groundwater samples, AEC purged at least three well volumes from each monitoring well. Purge water was handled in the same manner as the development water, as discussed above.

Groundwater levels within each monitoring well were measured using an electronic water level meter accurate to 0.01-feet. The electronic water level meter was cleaned (Liquinox and water rinse) prior to use in each well. Static groundwater was measured at depths ranging from 6.29 in MW-28 to 11.74 feet bgs in MW-26. Measurable LPH or petroleum odor was not detected in any wells during the gauging event. Table 1 in Attachment D provides groundwater elevation data. Groundwater elevations are based on an arbitrary benchmark of 100 feet.

The analytical laboratory provided pre-preserved sample containers, where appropriate. The selected groundwater samples were placed in laboratory grade 40-milliliter glass vials with Teflon-lined septa which were pre-preserved with hydrochloric acid (VOCs and TPH GRO) or one-liter amber jars pre-preserved with hydrochloric acid (TPH DRO). No head-space was present in any of the VOC vials collected. The groundwater samples were analyzed for TPH DRO and GRO using EPA Analytical Method 8015B, and VOCs, including fuel oxygenates, via EPA Analytical Method 8260.

Investigation Derived Waste

Investigation derived soil was containerized in 55-gallon drums, labeled (date of generation, site name/address, source, and contents), and staged on the Site. All development and purge water from the monitoring wells was treated by the on-site remediation system. The 16 soil drums were transported and disposed of according to applicable U.S. Department of Transportation, EPA, and MDE regulations on October 14, 2013. A copy of disposal manifest is provided in Attachment E.

Results

A groundwater gradient map was developed using the October 16, 2013 data and is provided as Figure 2 in Attachment A. Only the northern portion of the site area was contoured. A fully contoured map showing all on- and off-site wells will be provided in the upcoming quarterly status report due to the MDE on November 15, 2013. Groundwater flow is shown to be generally towards the northwest. There is a groundwater depression near the recovery system due to active pumping. The hydraulic gradient (change in head per unit distance (dh/dl)) for the northwestern flow component between MW-28 and MW-29 was 0.096 feet per foot during this monitoring event.

Results from soil samples reported that all compounds were below residential soil cleanup standards for TPH DRO, TPH GRO, and VOCs. The compounds found in MW-27, MW-28 and MW-30 may be more reflective of groundwater conditions since the samples were collected below the stabilized water table. Table 2 in Attachment D summarizes the soil sample data.

Analytical results for groundwater samples reported concentrations of VOCs and/or TPH GRO or DRO above regulatory standards in MW-26 through MW-30 and CMW-1. The regulatory standards pertain to drinking water. It should be noted that no potable drinking water wells are present in the area. A groundwater quality map is provided as Figure 3 in Attachment A. Table 3 in Attachment D summarizes the groundwater sample data. The laboratory analytical reports are presented in Attachment F.

If there are any questions regarding this letter, please contact AEC at (301) 776-0500.

Sincerely, **Advantage Environmental Consultants, LLC**



Jeffery Stein
Principal

cc: T. Ruszin

Attachment A



Legend

- Groundwater Monitoring Well
- Groundwater Recovery Well

Larger font indicates recently installed monitoring wells.

Gradient based on liquid levels taken on October 16, 2013

North

Scale in Feet

Advantage Environmental Consultants, LLC

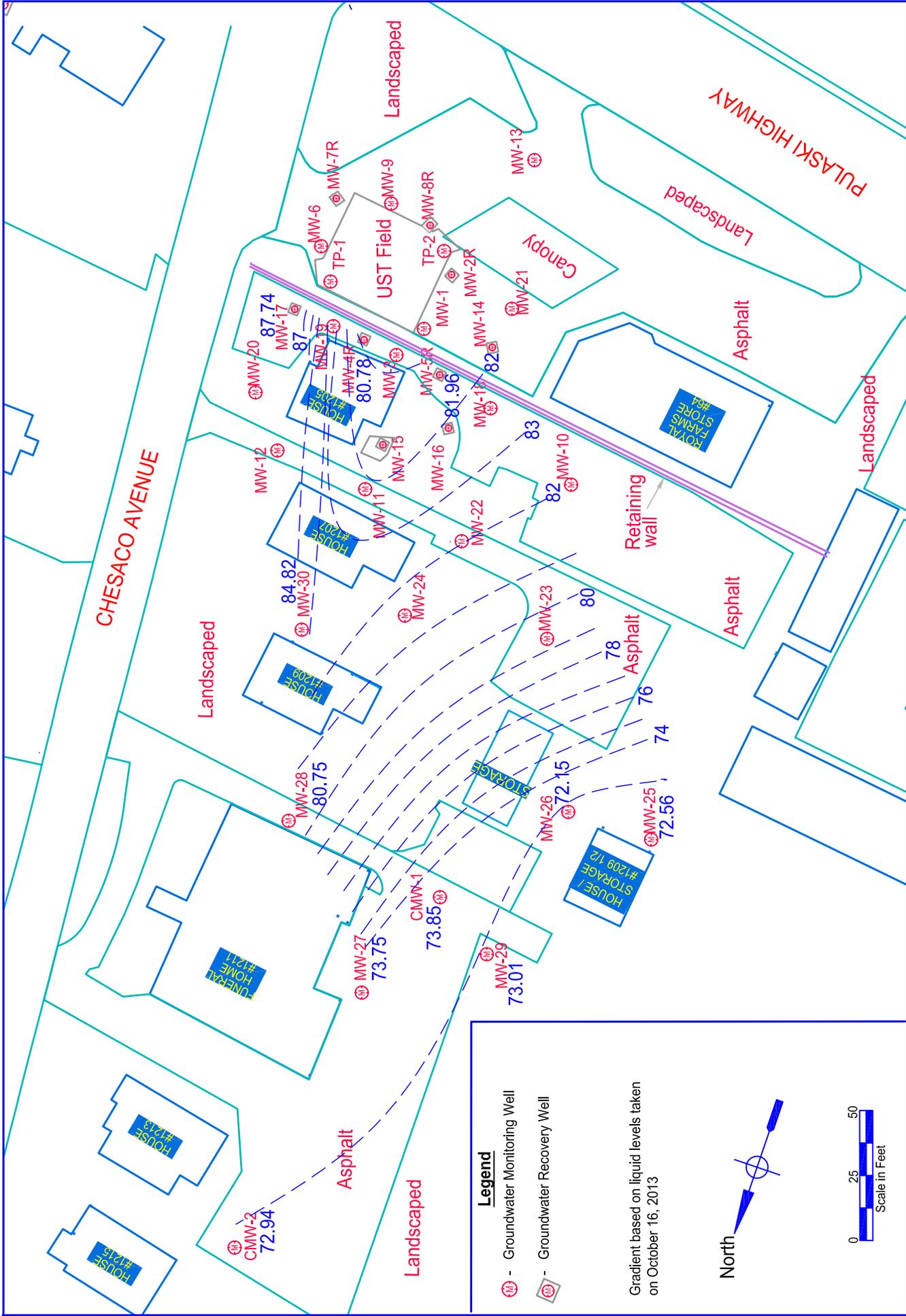
8610 Washington Blvd., Suite 217
 Jessup, MD 20794
 Phone 301-776-0500
 Fax 301-776-1123

Drawn by: JSS

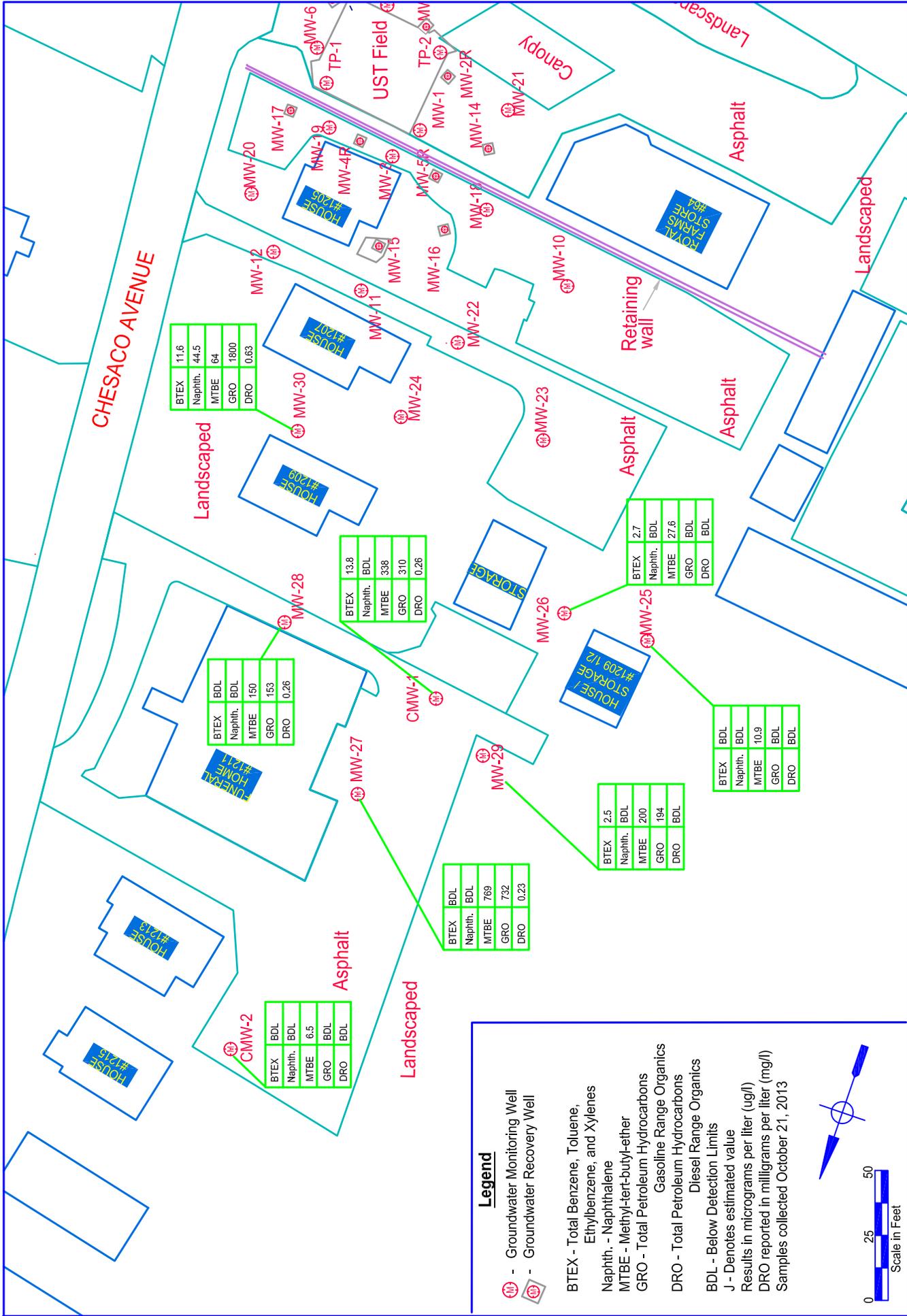
Project No. 05-056-RF064

Date: October 2013

Figure 1 - Site Features Map
 Royal Farms No. 64
 7950 Pulaski Highway
 Baltimore, MD 21237



	8610 Washington Blvd., Suite 217 Jessup, MD 20794 Phone 301-776-0500 Fax 301-776-1123	
	Drawn by: JSS	Project No. 05-056-RF064
Figure 2 - Groundwater Gradient Map Royal Farms No. 64 7950 Pulaski Highway Baltimore, MD 21237		Date: September 2013



Legend

- ⊕ - Groundwater Monitoring Well
- ⊖ - Groundwater Recovery Well

BTEX - Total Benzene, Toluene, Ethylbenzene, and Xylenes
 Naphth. - Naphthalene
 MTBE - Methyl-tert-butyl-ether
 GRO - Total Petroleum Hydrocarbons Gasoline Range Organics
 DRO - Total Petroleum Hydrocarbons Diesel Range Organics
 BDL - Below Detection Limits
 J - Denotes estimated value
 Results in micrograms per liter (ug/l)
 DRO reported in milligrams per liter (mg/l)
 Samples collected October 21, 2013

Figure 3 - Groundwater Quality Map
 Royal Farms No. 64
 7950 Pulaski Highway
 Baltimore, MD 21237

Drawn by: JSS
 Project No. 05-056-RF064
 Date: October 2013

8610 Washington Blvd, Suite 217
 Jessup, MD 20794
 Phone 301-776-0500
 Fax 301-776-1123



Attachment B

Project: 05-056RF-64	Sheet: 1 of 6	Boring Number: MW-25	Advantage Environmental Consultants, LLC
Site Location: 7950 Pulaski Highway 1205,1207,1207.5,1209	Location: MW-25	Elevation:	Job Number: 05-056-RF-64
Drill Contractor: Allied Well Drilling	Engineer/Geologist: R. Swaninger	Date Begun: 10/10/2013	Date Finished: 10/10/2013
Drill Rig/Driller Allied Well Drilling	Weather: Heavy Rain	Groundwater (Depth/Elevation): 11.4 Ft.	
Hole Size: 2'	Drill Method: Geoprobe	Drill Fluid: N/A	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0-0.5'	Top Soil, Organics					No PID response
0.5-1'	Organics, orange/ Lt. brown CLAY loose					No PID response
1-3'	Orange/ Lt. brown CLAY, dense					No PID response
3-3.5'	Reddish, Brown, CLAY w/ fine sand					No PID response
3.5-5'	Dense, brown CLAY w/ silt					No PID response
5-7'	Lt. Brown, dense, CLAY					No PID response
7-10'	Reddish, CLAY, dense					No PID response
10-12'	Wet, orange/red, CLAY w/ fine sand					No PID response
12-17'	Brown, stiff, CLAY	12'				No PID response
17-19'	Lt. brown/tan SAND, SC, with fines					No PID response
19-20'	Red, orangish, tan, dense SAND w/ fines					No PID response
	Sample @12' @ 10:45					

Unified Soil Classification (USC) System (from ASTM D 2487)	
CL	Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays
SC	Clayey sands, sand-clay mixtures
SM	Silty sands, sand-silt mixtures

Project: 05-056RF-64	Sheet: 3 of 6	Boring Number: MW-27	Advantage Environmental Consultants, LLC
Site Location: 7950 Pulaski Highway	Location: MW-27	Elevation:	Job Number: 05-056-RF-64
Drill Contractor: Allied Well Drilling	Engineer/Geologist: R. Swaninger	Date Begun: 10/10/2013	Date Finished: 10/10/2013
Drill Rig/Driller	Weather: Heavy Rain	Groundwater (Depth/Elevation): 5.8Ft.	
Hole Size: 2'	Drill Method: Geoprobe	Drill Fluid: N/A	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0-1'	Empty					
1-3'	White/Grey gravel					No PID response
3-4'	Orange/ Lt. brown CLAY, dense					No PID response
4-5'	Brown/ Orange, CLAY, dense					No PID response
6-8'	Wet, Brown/Grey, SC, w/ pebbles					No PID response
8-10'	Red/orange SAND, SC	8'				No PID response
10-12'	Lt. Brown/Red orange CLAY, dense					No PID response
12-15'	Lt. Brown/Red orange CLAY, SC					No PID response
15-20'	Brown, stiff, CLAY					No PID response
	Sample @ 8' @ 14:22					

Unified Soil Classification (USC) System (from ASTM D 2487)	
CL	Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays
SC	Clayey sands, sand-clay mixtures
SM	Silty sands, sand-silt mixtures

Attachment C

Monitoring Well Installation Report

PROJECT #: 05-056
RF-64

Advantage
Environmental
Consultants, LLC

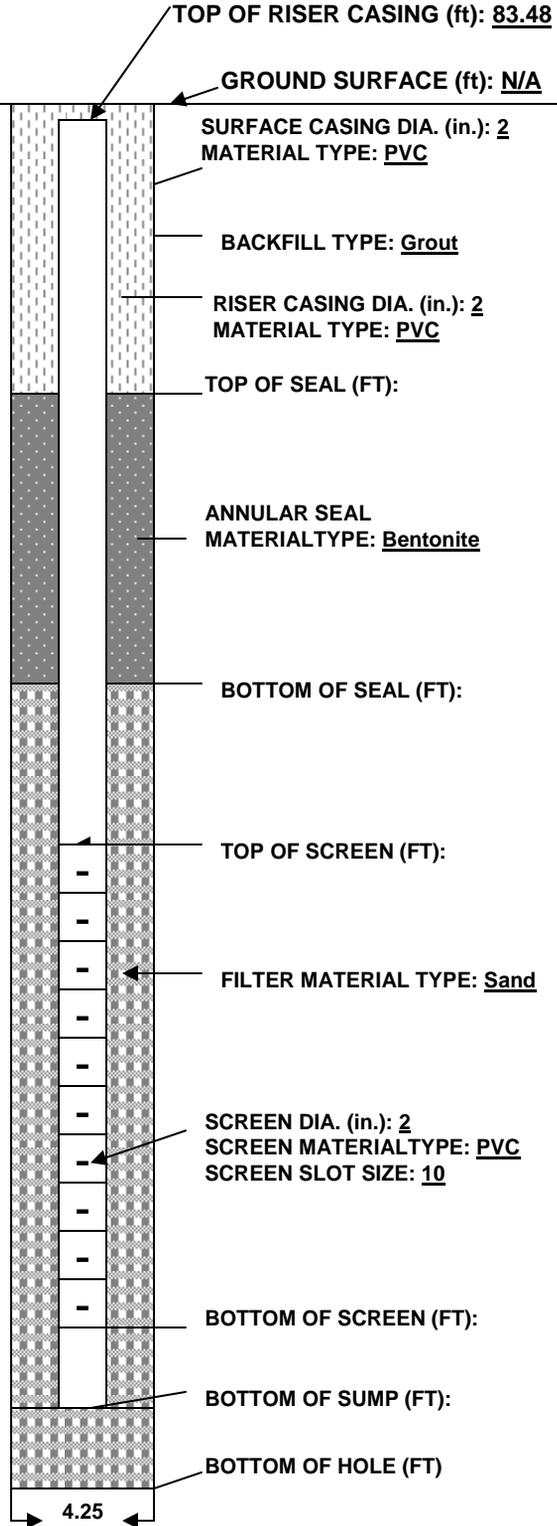
DRILLING CONTRACTOR: Allied Well Drilling
AEC SUPERVISOR: Robert Swaninger

WELL ID: MW-25

DATE BEGUN: 10.10.13
DATE FINISHED: 10.10.13

Reference Points & Elevations

WATER LEVEL (ft): 11.01
DEPTH OF WELL (ft): 21.00
DRILLING METHOD: HSA



DEPTH (ft)	ELEV. (ft)
0.50	82.98
1.5	81.98
3.0	80.48
21.00	62.48
N/A	N/A
21.00	62.48

DATE DEVELOPED: 10/16/13

METHOD DEVELOPED: Surge Blocker

Monitoring Well Installation Report

PROJECT #: 05-056
RF-64

Advantage
Environmental
Consultants, LLC

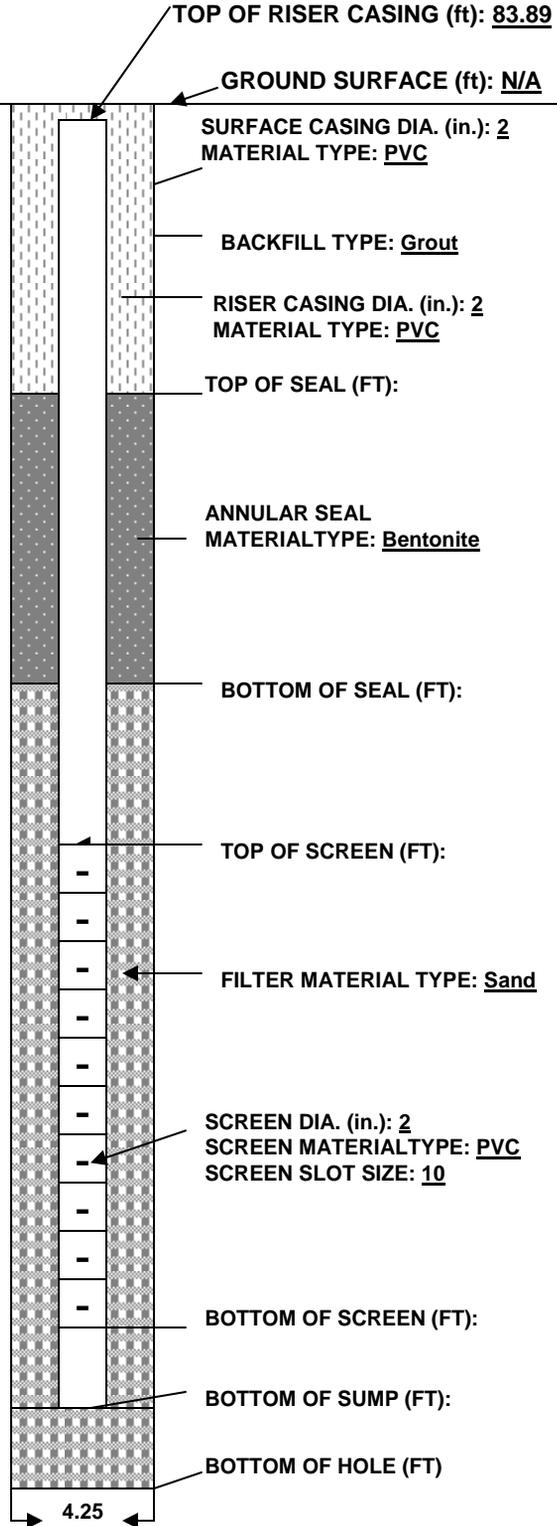
DRILLING CONTRACTOR: Allied Well Drilling
AEC SUPERVISOR: Robert Swaninger

WELL ID: MW-26

DATE BEGUN: 10.10.13
DATE FINISHED: 10.10.13

Reference Points & Elevations

WATER LEVEL (ft): 11.74
DEPTH OF WELL (ft): 21.00
DRILLING METHOD: HSA



DEPTH (ft)	ELEV. (ft)
0.50	83.39
1.5	82.39
3.0	80.89
21.00	62.89
N/A	N/A
21.00	62.89

DATE DEVELOPED: 10/16/13

METHOD DEVELOPED: Surge Blocker

Monitoring Well Installation Report

PROJECT #: 05-056
RF-64

Advantage
Environmental
Consultants, LLC

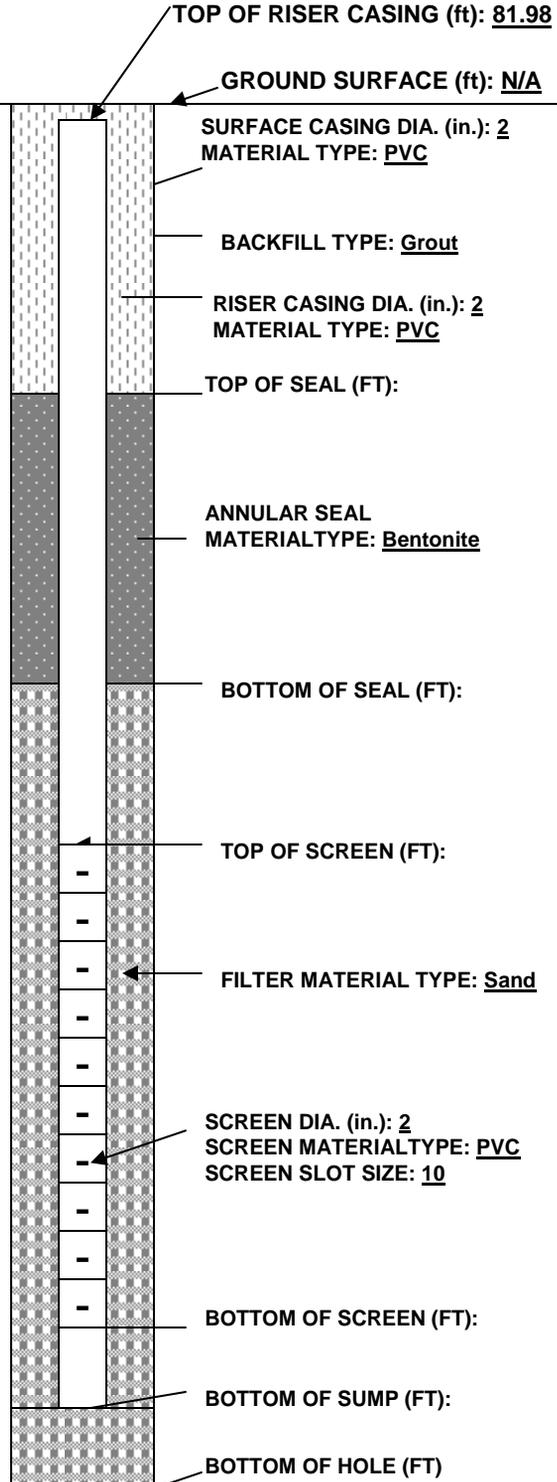
DRILLING CONTRACTOR: Allied Well Drilling
AEC SUPERVISOR: Robert Swaninger

WELL ID: MW-27

DATE BEGUN: 10.10.13
DATE FINISHED: 10.10.13

Reference Points & Elevations

WATER LEVEL (ft): 8.23
DEPTH OF WELL (ft): 20.00
DRILLING METHOD: HSA



DEPTH (ft)	ELEV. (ft)
0.50	81.48
1.5	80.48
3.0	78.98
20.00	61.98
N/A	N/A
20.00	61.98

DATE DEVELOPED: 10/16/13

METHOD DEVELOPED: Surge Blocker

4.25
BOREHOLE DIAMETER (in)

Monitoring Well Installation Report

PROJECT #: 05-056
RF-64

Advantage
Environmental
Consultants, LLC

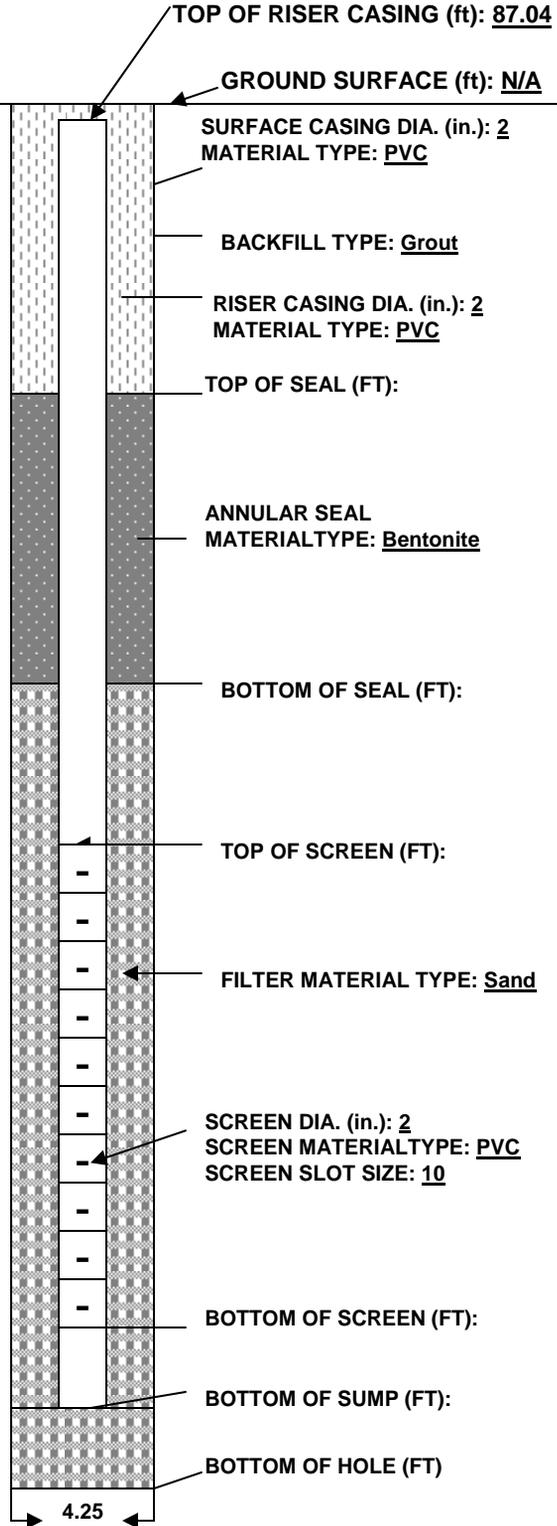
DRILLING CONTRACTOR: Allied Well Drilling
AEC SUPERVISOR: Robert Swaninger

WELL ID: MW-28

DATE BEGUN: 10.11.13
DATE FINISHED: 10.11.13

Reference Points & Elevations

WATER LEVEL (ft): 6.29
DEPTH OF WELL (ft): 20.00
DRILLING METHOD: HSA



DEPTH (ft)	ELEV. (ft)
0.50	86.54
1.5	85.54
3.0	84.04
20.00	67.04
N/A	N/A
20.00	67.04

DATE DEVELOPED: 10/16/13

METHOD DEVELOPED: Surge Blocker

Monitoring Well Installation Report

PROJECT #: 05-056
RF-64

Advantage
Environmental
Consultants, LLC

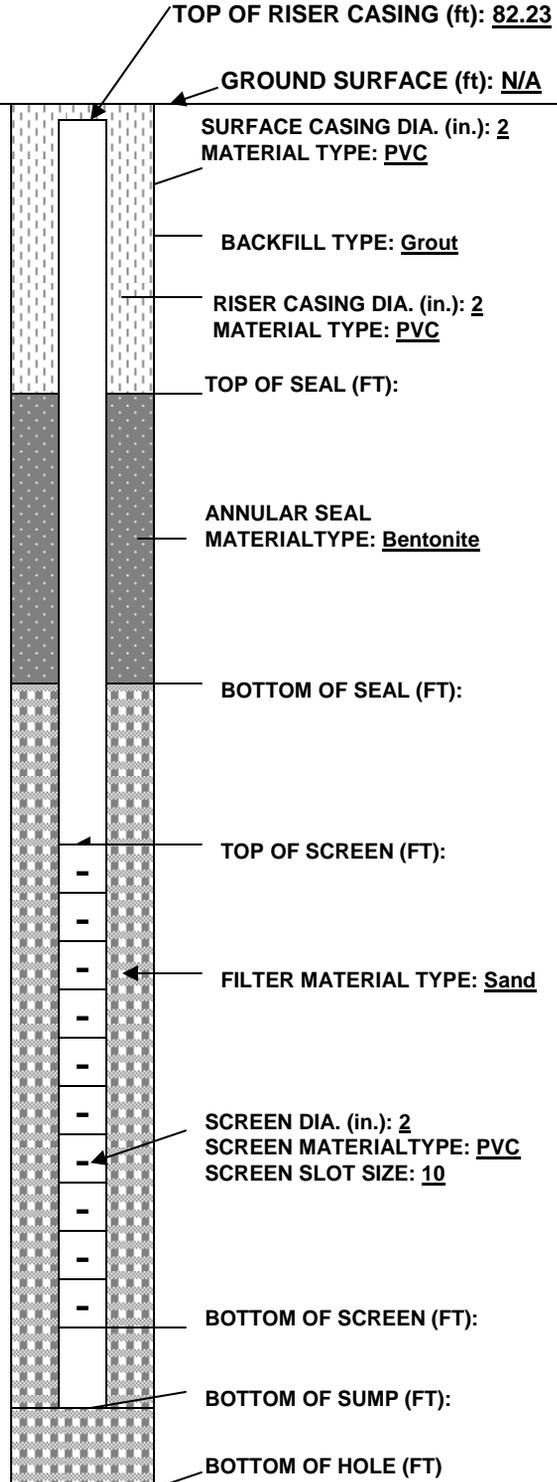
DRILLING CONTRACTOR: Allied Well Drilling
AEC SUPERVISOR: Robert Swaninger

WELL ID: MW-29

DATE BEGUN: 10.11.13
DATE FINISHED: 10.11.13

Reference Points & Elevations

WATER LEVEL (ft): 9.22
DEPTH OF WELL (ft): 20.00
DRILLING METHOD: HSA



DEPTH (ft)	ELEV. (ft)
0.50	81.73
1.5	80.73
3.0	79.23
20.00	62.23
N/A	N/A
20.00	62.23

DATE DEVELOPED: 10/16/13

METHOD DEVELOPED: Surge Blocker

4.25
BOREHOLE DIAMETER (in)

Monitoring Well Installation Report

PROJECT #: 05-056
RF-64

Advantage
Environmental
Consultants, LLC

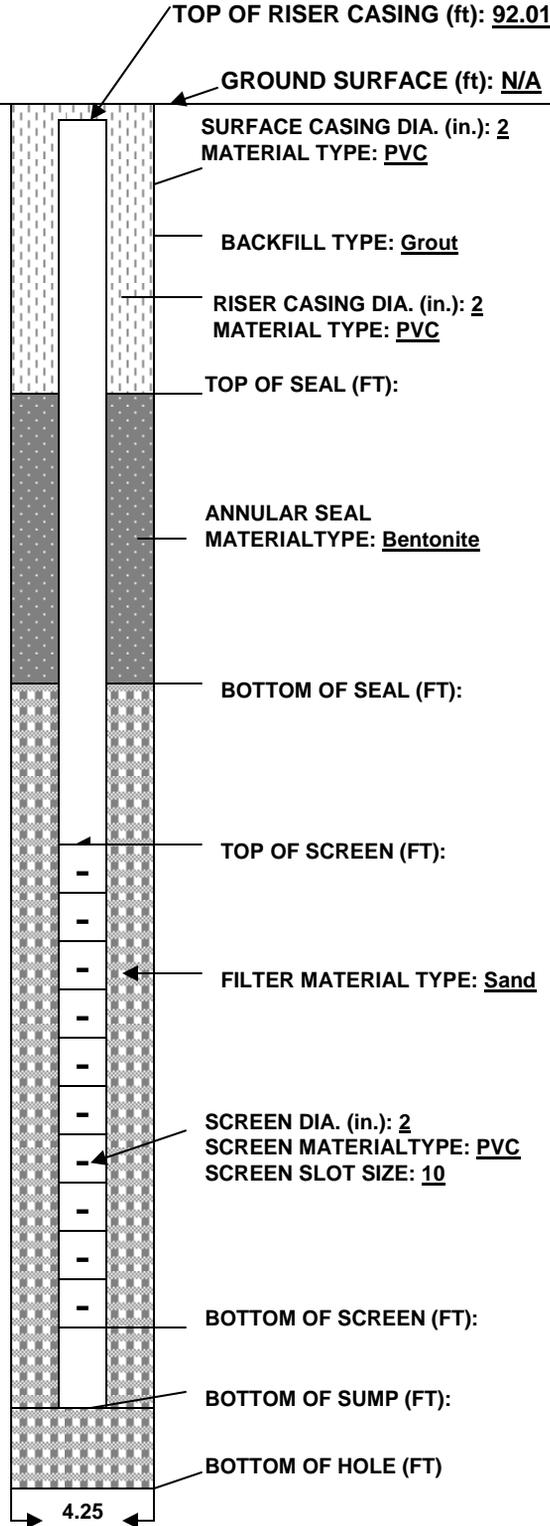
DRILLING CONTRACTOR: Allied Well Drilling
AEC SUPERVISOR: Robert Swaninger

WELL ID: MW-30

DATE BEGUN: 10.11.13
DATE FINISHED: 10.11.13

Reference Points & Elevations

WATER LEVEL (ft): 7.19
DEPTH OF WELL (ft): 23.00
DRILLING METHOD: HSA



DEPTH (ft)	ELEV. (ft)
0.50	91.51
1.5	90.51
3.0	89.01
23.00	69.01
N/A	N/A
23.00	69.01

DATE DEVELOPED: 10/16/13

METHOD DEVELOPED: Surge Blocker

Attachment D

**Table 1 - Monitoring Well Gauging Data
Gasoline Fueling Station – Royal Farms No. 64
7950 Pulaski Hwy, Rosedale, MD**

Well ID	Date	Depth to Water	Depth to LPH	TOC Elevation	Water Elevation	LPH Elevation	Comments
MW-25	10/16/2013	10.92	ND	83.48	72.56	NA	
MW-26	10/16/2013	11.74	ND	83.89	72.15	NA	
MW-27	10/16/2013	8.23	ND	81.98	73.75	NA	
MW-28	10/16/2013	6.29	ND	87.04	80.75	NA	
MW-29	10/16/2013	9.22	ND	82.23	73.01	NA	
MW-30	10/16/2013	7.19	ND	92.01	84.82	NA	
CMW-1	10/16/2013	8.71	ND	82.56	73.85	NA	
CMW-2	10/16/2013	8.08	ND	81.02	72.94	NA	

LPH = Liquid Phase Hydrocarbon

TOC = Top of Casing Elevation

ND = None Detected

NA = Not Applicable

**Table 2 - Soil Sample Analytical Results
Gasoline Fueling Station – Royal Farms #64
7950 Pulaski Highway, Rosedale, MD 21237
Samples Collected October 10 and 11, 2013**

Well No.	Depth (ft.)	B	T	E	X	Total BTEX	MTBE	Naphthalene	TPH GRO	TPH DRO
MW-25	12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MW-26	12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MW-27	8	BDL	BDL	BDL	9.60	BDL	BDL	BDL	0.19	155.00
MW-28	10	BDL	BDL	BDL	BDL	BDL	25.50	BDL	153.00	0.26
MW-29	8	40.50	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MW-30	15	BDL	BDL	BDL	BDL	BDL	3.90	BDL	BDL	BDL
Res. Soil Standard		12,000	NS	780,000	1,600,000	NS	160,000	160,000	230	230

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

BTEX, MTBE, and Naphthalene results in parts per billion or ug/kg

BDL = Below Detection Limits

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

LPH = Not sampled due to presence of liquid phase hydrocarbon

NS = Not Sampled

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

See laboratory analytical results reports for full results.

Bold Denotes Regulatory Exceedance

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

NRS = No Regulatory Standard

**Table 3 - Monitoring Well Groundwater Analytical Results
Gasoline Fueling Station – Royal Farms #64
7950 Pulaski Highway, Rosedale, MD 21237**

Well No.	Date	B	T	E	X	Total BTEX	MTBE	Naphthalene	TPH GRO	TPH DRO
MW-25	10/20/2013	BDL	BDL	BDL	BDL	BDL	10.90	BDL	BDL	BDL
MW-26	10/20/2013	2.70	BDL	BDL	BDL	2.70	27.60	BDL	BDL	BDL
MW-27	10/20/2013	BDL	BDL	BDL	BDL	BDL	769.00	BDL	732.00	0.23
MW-28	10/20/2013	BDL	BDL	BDL	BDL	BDL	150.00	BDL	153.00	0.26
MW-29	10/20/2013	2.50	BDL	BDL	BDL	2.50	200.00	BDL	194.00	BDL
MW-30	10/20/2013	11.60	BDL	BDL	BDL	11.60	64.00	BDL	1800.00	0.63
CMW-1	10/28/2013	13.80	BDL	BDL	BDL	13.80	338.00	BDL	310.00	0.26
CMW-2	10/28/2013	BDL	BDL	BDL	BDL	BDL	6.50	BDL	BDL	BDL
Type I and II Aquifers		5	1000	700	10000	NRS	20	0.65	0.047	0.047

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

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

BDL = Below Detection Limits

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

LPH = Not sampled due to presence of liquid phase hydrocarbon

NS = Not Sampled

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

See laboratory analytical results reports for full results.

Bold Denotes Regulatory Exceedance

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

NRS = No Regulatory Standard

Attachment E

RF64 file

Petroleum Management, Inc. Soil Drums

MD. Oil Operations No: 2008-OPT-29545
MD. Oil Operations No: 2011-OPT-38311
EPA Identification No: MDR-000518975
EPA Identification No: MDR-000525278
Federal ID No: 52-2014536

5218 Curtis Avenue ♦ Baltimore, Maryland 21226 ♦ Phone 410-354-0200 ♦ Fax 410-354-0201

Bill of Lading/Manifest

No 7361

Generator/Shipper: <i>Loyal Farms</i>		Billing Name: <i>Advantage Environment</i>	
Site Address: <i>Poleski Hwy</i>		Address:	
City: <i>Rosedale</i>	State: <i>MD</i> Zip:	City:	State: Zip:
Phone: ()	Contact:	Phone: ()	Contact:

Purchase Order NO:

MATERIAL CHARACTERIZATION (CHECK ALL THAT APPLY):

Description:	Gallons	Description:	Gallons	Description:	Gallons
Gasoline, 3, UN1203, PGI		Hazardous Waste, Liquid, 9 NA3082, PGIII		JP#4	
#2 Fuel Oil, 3, NA1993, PGIII		Hazardous Waste, Solid, 9 NA3077, PGIII		JP#5	
#4 Fuel Oil, 3 NA1993, PGIII		Paint Thinners, 3, UN1263, PGI		Jet A	
#6 Fuel Oil, 3, NA1993, PGIII		Ethylene Glycol, 9, UN3082, PGIII		Sludge	
Diesel, 3, NA1993, PGI		Lube Oil		Petroleum Contaminated Water	
Flammable Liquids, NOS, 3, UN1993, PGI		Waste Oil		Other: <i>soil drums</i> 16	
Corrosive Liquids, NOS, 8, UN1760, PGI		Kerosene		Other: <i>cardinal filters</i> 3	
No. of Drums		No. of Tanks:		Other:	
Scale Weights (Soil): Total: (Tons)		Tare: (Tons)		Net: (Tons)	

Service Description: *Removed from site (16) single 55 gallon drums and (3) fiberglass carbon units*

PLACARDS TENDERED: YES NO EMERGENCY CONTACT (301) 860-0300

Generator/Shipper Certification Statement

As the generator or shipper, I hereby certify that this material is properly classified and does not contain Polychlorinated Biphenyls (PCB'S). To the best of my knowledge it has not been mixed, combined or blended in any amount with any other material defined as hazardous waste under applicable law. Generator/Shipper agrees to indemnify and hold Petroleum Management, Inc. harmless for any damages arising from or in any way relating to a breach of this Certification Statement.

Generator/Shipper Authorized Agent (Print) *James Tg Bell* Date of Service *10-14-13*
 Generator/Shipper Authorized Agent Signature *[Signature]*

HAULER/CARRIER INFORMATION

Co. Name: **Petroleum Management, Inc.** Driver Name (print): *Walden Torres*
 Street: **5218 Curtis Avenue** Driver Signature: *[Signature]*
 City: **Baltimore** State: **MD** Zip: **21226** Phone:

The above mentioned materials have been received by this facility and will be handled in accordance with all applicable rules and regulations. All quantities are subject to final verification by this facility and are indicated in far right box.

RECEIVING FACILITY ACCEPTANCE
 Facility Name: **Petroleum Management Inc.**
 Acceptance Signature: *[Signature]* **5218 Curtis Avenue**
Baltimore, MD 21226
 Phone: Total Quantity Received: **16**

Attachment F

Analytical Results

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

Project: RF-64

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Advantage Environmental Consultants, LLC

8610 Baltimore Washington Blvd, Suite 217

Report Issued: 10/24/13 15:10

Jessup MD, 20794

CLIENT SAMPLE ID:	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30
LAB SAMPLE ID:	3102206-01	3102206-02	3102206-03	3102206-04	3102206-05	3102206-06
SAMPLE DATE:	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13
RECEIVED DATE:	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13
MATRIX	Units	Water	Water	Water	Water	Water

GASOLINE RANGE ORGANICS BY EPA 8015B (Water)

Organic	Unit	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30
Gasoline-Range Organics	ug/L	<100	<100	732	153	194	1800
a,a,a-Trifluorotoluene	[surr]	<u>100%</u>	<u>101%</u>	<u>100%</u>	<u>99.7%</u>	<u>100%</u>	<u>100%</u>

DIESEL RANGE ORGANICS BY EPA 3510/8015B (Water)

Organic	Unit	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30
Diesel-Range Organics	mg/L	<0.31	<0.29	0.23	0.26	<0.21	0.63
o-Terphenyl	[surr]	<u>83.1%</u>	<u>83.3%</u>	<u>83.5%</u>	<u>80.5%</u>	<u>80.5%</u>	<u>82.6%</u>

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (Water)

Organic	Unit	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30
Acetone	ug/L	<10.0	<10.0	<50.0	<10.0	<10.0	<100
tert-Amyl alcohol (TAA)	ug/L	<20.0	<20.0	<100	35.1	46.9	<200
tert-Amyl methyl ether (TAME)	ug/L	<5.0	<5.0	38.9	7.0	12.6	<50.0
Benzene	ug/L	<5.0	2.7 [1]	<25.0	<5.0	2.5 [1]	1160
Bromobenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Bromochloromethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Bromodichloromethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Bromoform	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Bromomethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
tert-Butanol (TBA)	ug/L	<15.0	<15.0	838	878	348	222
2-Butanone (MEK)	ug/L	<10.0	<10.0	<50.0	<10.0	<10.0	<100
n-Butylbenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
sec-Butylbenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
tert-Butylbenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Carbon disulfide	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Carbon tetrachloride	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Chlorobenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Chloroethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Chloroform	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Chloromethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
2-Chlorotoluene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
4-Chlorotoluene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Dibromochloromethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,2-Dibromo-3-chloropropane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,2-Dibromoethane (EDB)	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Dibromomethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,2-Dichlorobenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,3-Dichlorobenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,4-Dichlorobenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Dichlorodifluoromethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0

1 = Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).

Analytical Results

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

Project: RF-64

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Report Issued: 10/24/13 15:10

Advantage Environmental Consultants, LLC

8610 Baltimore Washington Blvd, Suite 217

Jessup MD, 20794

CLIENT SAMPLE ID:	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30
LAB SAMPLE ID:	3102206-01	3102206-02	3102206-03	3102206-04	3102206-05	3102206-06
SAMPLE DATE:	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13
RECEIVED DATE:	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13
MATRIX	Units	Water	Water	Water	Water	Water

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)

Compound	Units	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30
1,1-Dichloroethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,2-Dichloroethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,1-Dichloroethene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
cis-1,2-Dichloroethene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
trans-1,2-Dichloroethene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Dichlorofluoromethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,2-Dichloropropane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,3-Dichloropropane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
2,2-Dichloropropane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,1-Dichloropropene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
cis-1,3-Dichloropropene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
trans-1,3-Dichloropropene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Diisopropyl ether (DIPE)	ug/L	<5.0	2.8 [1]	<25.0	7.5	25.1	53.7
Ethyl tert-butyl ether (ETBE)	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Ethylbenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Hexachlorobutadiene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
2-Hexanone	ug/L	<10.0	<10.0	<50.0	<10.0	<10.0	<100
Isopropylbenzene (Cumene)	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
4-Isopropyltoluene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Methyl tert-butyl ether (MTBE)	ug/L	10.9	27.6	769	150	200	64.0
4-Methyl-2-pentanone	ug/L	<10.0	<10.0	<50.0	<10.0	<10.0	<100
Methylene chloride	ug/L	<10.0	<10.0	<50.0	<10.0	<10.0	<100
Naphthalene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	44.5 [1]
n-Propylbenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Styrene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,1,1,2-Tetrachloroethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,1,2,2-Tetrachloroethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Tetrachloroethene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Toluene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	28.7 [1]
1,2,3-Trichlorobenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,2,4-Trichlorobenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,1,1-Trichloroethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,1,2-Trichloroethane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Trichloroethene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Trichlorofluoromethane (Freon 11)	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,2,3-Trichloropropane	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0

1 = Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).

Analytical Results

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

Project: RF-64

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Report Issued: 10/24/13 15:10

Advantage Environmental Consultants, LLC

8610 Baltimore Washington Blvd, Suite 217

Jessup MD, 20794

CLIENT SAMPLE ID:	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30
LAB SAMPLE ID:	3102206-01	3102206-02	3102206-03	3102206-04	3102206-05	3102206-06
SAMPLE DATE:	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13
RECEIVED DATE:	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13	10/22/13
MATRIX	Units	Water	Water	Water	Water	Water

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)

1,2,4-Trimethylbenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,3,5-Trimethylbenzene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
Vinyl chloride	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
o-Xylene	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	83.4
m- & p-Xylenes	ug/L	<5.0	<5.0	<25.0	<5.0	<5.0	<50.0
1,2-Dichloroethane-d4	[surr]	<u>98.6%</u>	<u>99.0%</u>	<u>99.1%</u>	<u>102%</u>	<u>106%</u>	<u>104%</u>
Toluene-d8	[surr]	<u>98.8%</u>	<u>101%</u>	<u>101%</u>	<u>98.7%</u>	<u>102%</u>	<u>102%</u>
4-Bromofluorobenzene	[surr]	<u>90.3%</u>	<u>92.3%</u>	<u>92.0%</u>	<u>92.2%</u>	<u>90.9%</u>	<u>95.0%</u>

1 = Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).

Analytical Results

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

Project: RF-64

Project Number: 05-056 RF-64

Project Manager: James Wolf

Advantage Environmental Consultants, LLC

8610 Baltimore Washington Blvd, Suite 217

Report Issued: 10/30/13 11:40

Jessup MD, 20794

CLIENT SAMPLE ID:	MW-1	MW-2
LAB SAMPLE ID:	3102802-01	3102802-02
SAMPLE DATE:	10/28/13	10/28/13
RECEIVED DATE:	10/28/13	10/28/13
MATRIX	Units	Water

GASOLINE RANGE ORGANICS BY EPA 8015B (Water)

Gasoline-Range Organics	ug/L	310	<100
a,a,a-Trifluorotoluene	[surr]	<u>99.5%</u>	<u>102%</u>

DIESEL RANGE ORGANICS BY EPA 3510/8015B (Water)

Diesel-Range Organics	mg/L	0.26	<0.22
o-Terphenyl	[surr]	<u>82.1%</u>	<u>81.4%</u>

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (Water)

Acetone	ug/L	<20.0	<10.0
tert-Amyl alcohol (TAA)	ug/L	103	<20.0
tert-Amyl methyl ether (TAME)	ug/L	19.8	<5.0
Benzene	ug/L	13.8	<5.0
Bromobenzene	ug/L	<10.0	<5.0
Bromochloromethane	ug/L	<10.0	<5.0
Bromodichloromethane	ug/L	<10.0	<5.0
Bromoform	ug/L	<10.0	<5.0
Bromomethane	ug/L	<10.0	<5.0
tert-Butanol (TBA)	ug/L	1050	<15.0
2-Butanone (MEK)	ug/L	<20.0	<10.0
n-Butylbenzene	ug/L	<10.0	<5.0
sec-Butylbenzene	ug/L	<10.0	<5.0
tert-Butylbenzene	ug/L	<10.0	<5.0
Carbon disulfide	ug/L	<10.0	<5.0
Carbon tetrachloride	ug/L	<10.0	<5.0
Chlorobenzene	ug/L	<10.0	<5.0
Chloroethane	ug/L	<10.0	<5.0
Chloroform	ug/L	<10.0	<5.0
Chloromethane	ug/L	<10.0	<5.0
2-Chlorotoluene	ug/L	<10.0	<5.0
4-Chlorotoluene	ug/L	<10.0	<5.0
Dibromochloromethane	ug/L	<10.0	<5.0
1,2-Dibromo-3-chloropropane	ug/L	<10.0	<5.0
1,2-Dibromoethane (EDB)	ug/L	<10.0	<5.0
Dibromomethane	ug/L	<10.0	<5.0
1,2-Dichlorobenzene	ug/L	<10.0	<5.0
1,3-Dichlorobenzene	ug/L	<10.0	<5.0
1,4-Dichlorobenzene	ug/L	<10.0	<5.0
Dichlorodifluoromethane	ug/L	<10.0	<5.0

Analytical Results

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

Project: RF-64

Project Number: 05-056 RF-64

Project Manager: James Wolf

Report Issued: 10/30/13 11:40

Advantage Environmental Consultants, LLC

8610 Baltimore Washington Blvd, Suite 217

Jessup MD, 20794

CLIENT SAMPLE ID:	MW-1	MW-2
LAB SAMPLE ID:	3102802-01	3102802-02
SAMPLE DATE:	10/28/13	10/28/13
RECEIVED DATE:	10/28/13	10/28/13
MATRIX	Units Water	Water

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)

Compound	Units	MW-1	MW-2
1,1-Dichloroethane	ug/L	<10.0	<5.0
1,2-Dichloroethane	ug/L	<10.0	<5.0
1,1-Dichloroethene	ug/L	<10.0	<5.0
cis-1,2-Dichloroethene	ug/L	<10.0	<5.0
trans-1,2-Dichloroethene	ug/L	<10.0	<5.0
Dichlorofluoromethane	ug/L	<10.0	<5.0
1,2-Dichloropropane	ug/L	<10.0	<5.0
1,3-Dichloropropane	ug/L	<10.0	<5.0
2,2-Dichloropropane	ug/L	<10.0	<5.0
1,1-Dichloropropene	ug/L	<10.0	<5.0
cis-1,3-Dichloropropene	ug/L	<10.0	<5.0
trans-1,3-Dichloropropene	ug/L	<10.0	<5.0
Diisopropyl ether (DIPE)	ug/L	<10.0	<5.0
Ethyl tert-butyl ether (ETBE)	ug/L	<10.0	<5.0
Ethylbenzene	ug/L	<10.0	<5.0
Hexachlorobutadiene	ug/L	<10.0	<5.0
2-Hexanone	ug/L	<20.0	<10.0
Isopropylbenzene (Cumene)	ug/L	<10.0	<5.0
4-Isopropyltoluene	ug/L	<10.0	<5.0
Methyl tert-butyl ether (MTBE)	ug/L	338	6.5
4-Methyl-2-pentanone	ug/L	<20.0	<10.0
Methylene chloride	ug/L	<20.0	<10.0
Naphthalene	ug/L	<10.0	<5.0
n-Propylbenzene	ug/L	<10.0	<5.0
Styrene	ug/L	<10.0	<5.0
1,1,1,2-Tetrachloroethane	ug/L	<10.0	<5.0
1,1,2,2-Tetrachloroethane	ug/L	<10.0	<5.0
Tetrachloroethene	ug/L	<10.0	<5.0
Toluene	ug/L	<10.0	<5.0
1,2,3-Trichlorobenzene	ug/L	<10.0	<5.0
1,2,4-Trichlorobenzene	ug/L	<10.0	<5.0
1,1,1-Trichloroethane	ug/L	<10.0	<5.0
1,1,2-Trichloroethane	ug/L	<10.0	<5.0
Trichloroethene	ug/L	<10.0	<5.0
Trichlorofluoromethane (Freon 11)	ug/L	<10.0	<5.0
1,2,3-Trichloropropane	ug/L	<10.0	<5.0

Analytical Results

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

Project: RF-64

Project Number: 05-056 RF-64

Project Manager: James Wolf

Report Issued: 10/30/13 11:40

Advantage Environmental Consultants, LLC

8610 Baltimore Washington Blvd, Suite 217

Jessup MD, 20794

CLIENT SAMPLE ID:		MW-1	MW-2
LAB SAMPLE ID:		3102802-01	3102802-02
SAMPLE DATE:		10/28/13	10/28/13
RECEIVED DATE:		10/28/13	10/28/13
MATRIX	Units	Water	Water

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)

1,2,4-Trimethylbenzene	ug/L	<10.0	<5.0
1,3,5-Trimethylbenzene	ug/L	<10.0	<5.0
Vinyl chloride	ug/L	<10.0	<5.0
o-Xylene	ug/L	<10.0	<5.0
m- & p-Xylenes	ug/L	<10.0	<5.0
1,2-Dichloroethane-d4	[surr]	<u>94.6%</u>	<u>98.0%</u>
Toluene-d8	[surr]	<u>100%</u>	<u>99.3%</u>
4-Bromofluorobenzene	[surr]	<u>92.6%</u>	<u>93.8%</u>

