Rebound Evaluation Soil Investigation
Gasoline Fueling Station – Royal Farms #64
7950 Pulaski Highway
Baltimore, Maryland 21237

MDE Case No. 10-0339-BA
MDE Facility No. 3975

AEC Project Number: 05-056 RF64

Prepared for:

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Land Management Administration
Oil Control Program
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And

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Rebound Evaluation Soil Investigation

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INTRODUCTION

This Soil Investigation was performed for the Royal Farms Gasoline Fueling Station No. 64 located at 7950 Pulaski Highway in Rosedale, Maryland 21237(herein referred to as the "Site") and the adjoining 1205 Chesaco Avenue property. It should be noted that Royal Farms/Two Farms, Inc. has acquired the 1205 Chesaco Avenue property and the former residential structure has been razed.

Upon discovery of the release at this Site, a subsurface investigation was performed by AEC between January 22 and January 28, 2010. The effort described herein focuses on the area of greatest impact observed during the January 2010 investigation.

This investigation was performed to satisfy certain requirements set forth in the AEC's Revised Corrective Action Plan (CAP) Addendum, dated March 28, 2013, and revised June 27, 2013; AEC's Rebound Study Soil Investigation Work Plan, dated August 28, 2015; AECs Rebound Evaluation Soil Investigation Work Plan, dated April 3, 2017; and, the Maryland Department of the Environment (MDE) Work Plan Approval letter, dated July 18, 2017. The purpose of this investigation was to characterize post-remediation subsurface conditions at the Site with respect to pre-remediation soil conditions.

DESCRIPTION OF INVESTIGATIVE METHODS

Soil Boring Advancement

On September 11 and 12, 2017 AEC and drilling subcontractor Ground Zero Environmental Field Services of Fredericksburg, Virginia mobilized to the Site to perform soil borings in locations where samples from AEC's January 2010 Emergency Investigation showed concentrations of fuel constituents above MDE Soil Standards (B-2, B-5, B-6, B-8, and B-13, as well as three additional borings selected by the MDE (MDE-1, MDE-2, and MDE-3). It should be noted that B-13 and all three of the borings selected by the MDE were located on the 1205 Chesaco Avenue portion of the Site. Figure 1 of Attachment A shows the locations of the 24 borings advanced as part of the January 2010 Emergency Investigation and the additional MDE borings.

The borings were advanced using a truck-mounted hydraulic direct-push drilling rig to depths of approximately 20-feet below ground surface (bgs). 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 were 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. A private utility locator was contracted to clear all boring locations.

An AEC Field Geologist logged the geologic conditions of each borings and field screened soil cores for volatile organic compounds (VOCs) using a photoionization detector (PID). Soil samples were collected from each boring for laboratory analysis. A grab soil sample was collected from the areas exhibiting the highest PID reading and the same depths of the 2010 investigation (with the exception of boring B-2). Following

the collection of the grab samples, a composite sample was collected from the smear zone at each boring location. The smear zone for each boring location was determined based on the gauging results taken from the nearest monitoring well since the shutdown of the DPE remediation system. In the MDE borings, soil samples were collected only from the depth of the highest PID reading and from within the smear zone.

The soil samples were transported under standard chain of custody procedures to Maryland Spectral Services of Baltimore, Maryland for analysis for total petroleum hydrocarbons (TPH) diesel range organics (DRO) and TPH gasoline range organics (GRO) using Environmental Protection Agency (EPA) Analytical Method 8015B, and VOCs plus oxygenates via EPA Analytical Method 8260/5035.

Installation of Temporary Piezometers

AEC converted all of the soil borings into temporary piezometers. The depths of the piezometers ranged from approximately 12.5 feet bgs on the 1205 Chesaco Avenue portion of the Site to approximately 19 feet bgs on the 7950 Pulaski Highway portion of the Site. All borings were advanced using two-inch diameter geoprobe sampling rods.

The temporary piezometers were constructed of one-inch diameter, PVC screen and riser. Screen and riser lengths varied based on the depth of the boring and the estimated water table depth. A sand filter pack was placed to approximately two feet above the screened interval. An approximate two-feet-thick bentonite seal was installed above the sand pack and the well was then grouted to the surface. The PVC well heads were then secured with a bolt-down manhole cover. The piezometers were developed by Ground Zero Environmental Field Services, a Maryland-licensed Master Well Driller one week after installation. The piezometer construction details are included on the boring logs included in Attachment C.

Investigation Derived Waste Management

Soil generated from this investigation was containerized at the Site. Groundwater generated during development of the temporary piezometers was treated with a mobile granular activated carbon (GAC) unit and discharged to the ground surface. Upon completion of the groundwater gauging activities, the piezometers were abandoned on October 25, 2017 by Carl Hugo, a Maryland-licensed Master Well Driller.

RESULTS AND FINDINGS

Soil Screening Results

PID response above 0.0 parts per million (PPM) was observed in seven of the eight borings performed. The greatest PID response was observed in borings B-2 and B-8. The greatest PID reading in B-2 was 1,088 PPM at 20 feet bgs. The greatest PID reading in B-8 was 1,324 PPM at 13 feet bgs. PID response in B-8 was limited to the 12 to 17 feet bgs depth interval. PID response logged from the soil borings are shown in the borings logs included as Attachment C.

Groundwater Gauging Results

Static groundwater was measured at depths within the temporary piezometers ranging from approximately 5 feet bgs in boring B-13 to approximately 13 feet bgs in boring B-5. The temporary piezometers were gauged on a weekly basis for four weeks (September 19, September 26, October 3, and October 10, 2017) following installation. No liquid petroleum hydrocarbons (LPH) were detected in any of the piezometers.

Laboratory Analytical Results

The results of the soil sample laboratory analyses identified no BTEX, MTBE, naphthalene, TPH DRO, or TPH GRO concentrations above their respective laboratory detection limits in 5 of the 19 samples submitted for laboratory analysis (B-2 @ 14', B-5 @ 12', MDE-2 @ 15', MDE-2 @ 5-7', and MDE-3 @ 6-9').

Detectable concentrations of total benzene, ethylbenzene, toluene, and xylenes (BTEX), methyl tert-butyl ether (MTBE), naphthalene, TPH DRO, and/or TPH GRO were identified in the remaining samples. Detectable concentrations of benzene ranged from an estimated concentration of 2.0 micrograms per kilogram (ug/kg) to 79.1 ug/kg. Detectable concentrations of toluene ranged from 4.5 ug/kg to 8,460 ug/kg. Detectable concentrations of ethylbenzene ranged from 10 ug/kg to 15,100 ug/kg. Detectable concentrations of total xylenes ranged from 8.5 ug/kg to 51,500 ug/kg. Detectable concentrations of MTBE ranged from an estimated concentration of 2.5 ug/kg to 6.8 ug/kg. Detectable concentrations of naphthalene ranged from 2.75 ug/kg to 8,030 ug/kg. Detectable concentrations of TPH GRO were identified and ranged from 0.10 milligram per kilogram (mg/kg) to 397 mg/kg. Detectable concentrations of TPH DRO were identified and ranged from 11.8 mg/kg to 157 mg/kg.

BTEX, MTBE, naphthalene, TPH DRO and TPH GRO concentrations from B-2, B-5, B-6, B-8, and B-13, as well as three additional borings selected by the MDE (MDE-1, MDE-2, and MDE-3), for both the 2010 and 2017 investigations are illustrated on Figure 2 in Attachment A. Table 1 in Attachment B summarizes the results of both the 2010 and 2017 investigations compared to their associated soil remediation goals (i.e. Non-Residential Soil Standards from MDE's Generic Numeric Cleanup Standards for Groundwater and Soil - Interim Final Guidance Update No. 2.1 - June 2008). All of the detected BTEX, MTBE, naphthalene, TPH GRO, and TPH DRO concentrations were less than their respective soil remediation goals.

Full laboratory analytical results and chain of custody documentation is included as Attachment D.

Discussion of Findings

Based on the laboratory analytical results for this Subsurface Investigation, some residual petroleum impact remains at the Site; however, the soil remediation goals set forth for soil in AEC's CAP Addendum, dated March 28, 2013, and revised June 27,

2013; AEC's Rebound Study Soil Investigation Work Plan, dated August 28, 2015; AECs Rebound Evaluation Soil Investigation Work Plan, dated April 3, 2017; and, the MDE Work Plan Approval letter dated July 18, 2017 have been met.

Extensive groundwater quality testing at the Site has shown that neither concentration spikes nor migration of petroleum constituents is occurring. Results from the February 17, 2017 Rebound Evaluation Completion Report show that the rebound evaluation has met the criteria set in the Rebound Evaluation Work Plan – Revised, dated March 28, 2013 and revised June 27, 2013.

MARYLAND ENVIRONMENTAL ASSESSMENT TECHNOLOGY ASSESSMENT

The MDE OCP produced the Maryland Environmental Assessment Technology (MEAT) for Leaking Underground Storage Tanks (LUSTs) document (2010) to provide guidance in the event of a release of a hazardous substance from regulated UST systems. According to the MEAT document, the OCP requires the potential risk be measured at every facility that has a reported release in order to establish cleanup goals and to determine if remediation is necessary. The OCP evaluates risk by a "Seven Risk Factor" process. The seven factors that require consideration include LPH, Current and Future Use of Impacted Groundwater, Migration of Contamination, Human Exposure, Environmental Ecological Exposure, Impact to Utilities and Other Buried Services, and Other Sensitive Receptors. The following sections of this report state each of the seven risk factors, and presents AEC's evaluation of each factor as it pertains to the Site.

Liquid Phase Hydrocarbons

"LPH refers to a regulated substance that is present as a non-aqueous phase liquid. When LPH is found on-site, the liquid product must be removed to the maximum extent possible. OCP has determined this to be sheen. (MEAT for LUSTs, 2010)."

Measurable LPH has not been detected within any of the monitoring or recovery wells since December 6, 2013.

Current and Future Use of Impacted Groundwater

"If the groundwater impacted by the release is used for direct consumption within a half mile of the site or the site is located within an approved wellhead protection zone, a site assessment and CAP must be designed. Other uses of groundwater that would warrant remediation include industrial, agricultural, and surface water augmentation. If known, future use of the groundwater must be taken into consideration. If site-specific future use is unsure, regional trends must be considered. Generally, if future use is not clear, a more conservative approach to cleanup is applied (MEAT for LUSTs, 2010)."

A potable well survey has not been completed for the Site and vicinity; however, based on the heavily developed nature of the Site and vicinity, as well as direct observation of

properties adjoining the Site, no potable wells are anticipated to exist within ½ mile of the Site. Furthermore, the Site and surrounding area are served by municipal water.

Migration of Contamination

"The ability of contamination to migrate off-site or to migrate to a receptor is a critical measure. If it can be demonstrated that the contamination is stationary and site conditions restrict the potential for migration, the need for cleanup may be reduced (MEAT for LUSTs, 2010)."

Initial subsurface investigations following the release indicated that petroleum constituents migrated away from the release point across the northern and eastern boundaries of the 7950 Pulaski Highway portion of the Site. This was demonstrated by the existence of LPH and dissolved phase petroleum constituents detected in several wells and piezometers on the adjoining parcels (e.g., 1205 Chesaco Avenue).

Extensive groundwater quality testing since the release, summarized in quarterly progress reports and AECs Rebound Evaluation Completion Report, dated February 17, 2017, has shown that neither concentration spikes nor migration of petroleum constituents is occurring.

Human Exposure

"Any exposure to the public warrants site corrective action. There are several exposure pathways that must be considered. These pathways include but are not limited to inhalation, ingestion, and dermal contact (MEAT for LUSTs, 2003)."

Soil

Direct dermal contact with or ingestion of impacted soil is improbable due the depth of the impacted soil and extensive impervious cover at the 7950 Pulaski Highway portion of the Site and the controlled access to the 1205 Chesaco Avenue portion of the Site.

Groundwater

Ingestion of impacted groundwater is improbable as discussed above. Extensive groundwater quality testing at the Site has shown that neither concentration spikes nor migration of petroleum constituents is occurring. Results from the February 17, 2017 Rebound Evaluation Completion Report show that the rebound evaluation has met the criteria set in the Rebound Evaluation Work Plan – Revised, dated March 28, 2013 and revised June 27, 2013.

In addition, results from the sump sampling at adjoining properties do not indicate a complete pathway between impacts from the release at the Site and occupants of the residences investigated (1207, 1209, and 1209.5 Chesaco Avenue). Sump sampling results for each of these properties is summarized below.

1207 Chesaco Avenue - In 18 sampling events between December 2009 and December 2016, TPH DRO was detected twice at a concentration of 0.23 milligrams per liter (mg/L) in July and December of 2013. Naphthalene was detected once at a concentration of 13 micrograms per liter (µg/L) in June of 2010.These results do not support the existence of a pathway between the impacts of the release at the Site and occupants of this residence.

1209 Chesaco Avenue – In 18 sampling events between December 2009 and December 2016, TPH DRO was detected once at a concentrations of 0.25 mg/L in December of 2015. MTBE was detected once at a concentration of 32 µg/L in June of 2010.These results do not support the existence of a pathway between the impacts of the release at the Site and occupants of this residence.

1209.5 Chesaco Avenue – In 19 sampling events between December 2009 and December 2016, TPH DRO was detected 14 times at concentrations ranging from below detection limits to 1,970 mg/L. Detectable concentrations of TPH DRO have shown a decreasing trend over this time period. TPH DRO was most recently detected at a concentrations of 0.27 mg/L in November 2016. Mann-Kendall trend analysis for TPH DRO in samples from the 1209.5 Chesaco Avenue is included as Attachment B. Furthermore, this structure has not been occupied since 2013. Based on this, a pathway between the impacts of the release at the Site and human exposure is not complete.

Indoor Air Quality

Results from indoor air quality sampling do not indicate a complete pathway between impacts from the release at the Site and occupants of the 1207 Chesaco Avenue residence.

In the second floor apartment, benzene and naphthalene concentrations were regularly reported
above residential MDE Standards due to frequent tobacco use. Significantly lower concentrations were reported in samples from the first floor and basement The basement level has been sampled on 24 occasions between August 2010 and December 2016.

Over that time benzene was detected above MDE standards once in July of 2011. Naphthalene has been detected above MDE standards twice since March 2012 and most recently in June 2015. No other analytes have been detected above the regulatory standard in the basement of the 1207 Chesaco Avenue residence. Indoor air sampling has been terminated at this residence as per MDEs Approval To Discontinue Sump and Indoor Air Sampling correspondence, dated September 26, 2017.

Environmental Ecological Exposure

“The need to protect the natural resources of the State is mandated by Maryland law. If there is exposure to animal or plant life from the petroleum release or the degradation of a natural resource, corrective action is warranted (MEAT for LUSTs, 2003).”

AEC did not observe any signs of staining or vegetative stress in the grass-covered areas surrounding the Site or off-site properties. The most proximal natural surface body of water to the Site, an unnamed tributary of Back River located approximately 800 feet northwest of the Site at its closest point, is not expected to be impacted by the Site's release. AEC does not consider this release to represent a threat to animals or plant life in the vicinity of the Site.

Impact to Utilities and Other Buried Services

"The responsible party must correct adverse effects to utilities. Utility materials have been known to degrade from contact with petroleum products. Utilities may also act as conduits that lead to the migration of contamination. Migration along utilities may cause vapor impacts or other issues at nearby structures (MEAT for LUSTs, 2003)."

Electricity and communications service is supplied to the Site via overhead utilities located along Chesaco Avenue and Pulaski Highway. Based on observations made during Site investigation activities (miss utility markings and water meter/sewer manholes), the Site and vicinity are connected to the municipal water and sewer systems. Municipal water and sewer services are provided to the Site and vicinity by the Baltimore City/County Department of Public Works. Electric and natural gas utilities are provided to the Site and vicinity by Baltimore Gas & Electric (BGE). Stormwater drains via sheet-flow into trench drains located near the Chesaco Avenue entrance to the Site, which connects to the stormwater system along Chesaco Avenue.

Depth to groundwater at the Site in the vicinity of the subsurface utilities is approximately 11 to 13 feet bgs. Depth to groundwater at the 1205 Chesaco Avenue residence is approximately 5 to 6 feet bgs. Utility trenches on the Site are not expected to be affected by the petroleum impact due to the fact that they are unlikely to be located at a depth greater than 3 to 4 feet bgs.

Other Sensitive Receptors

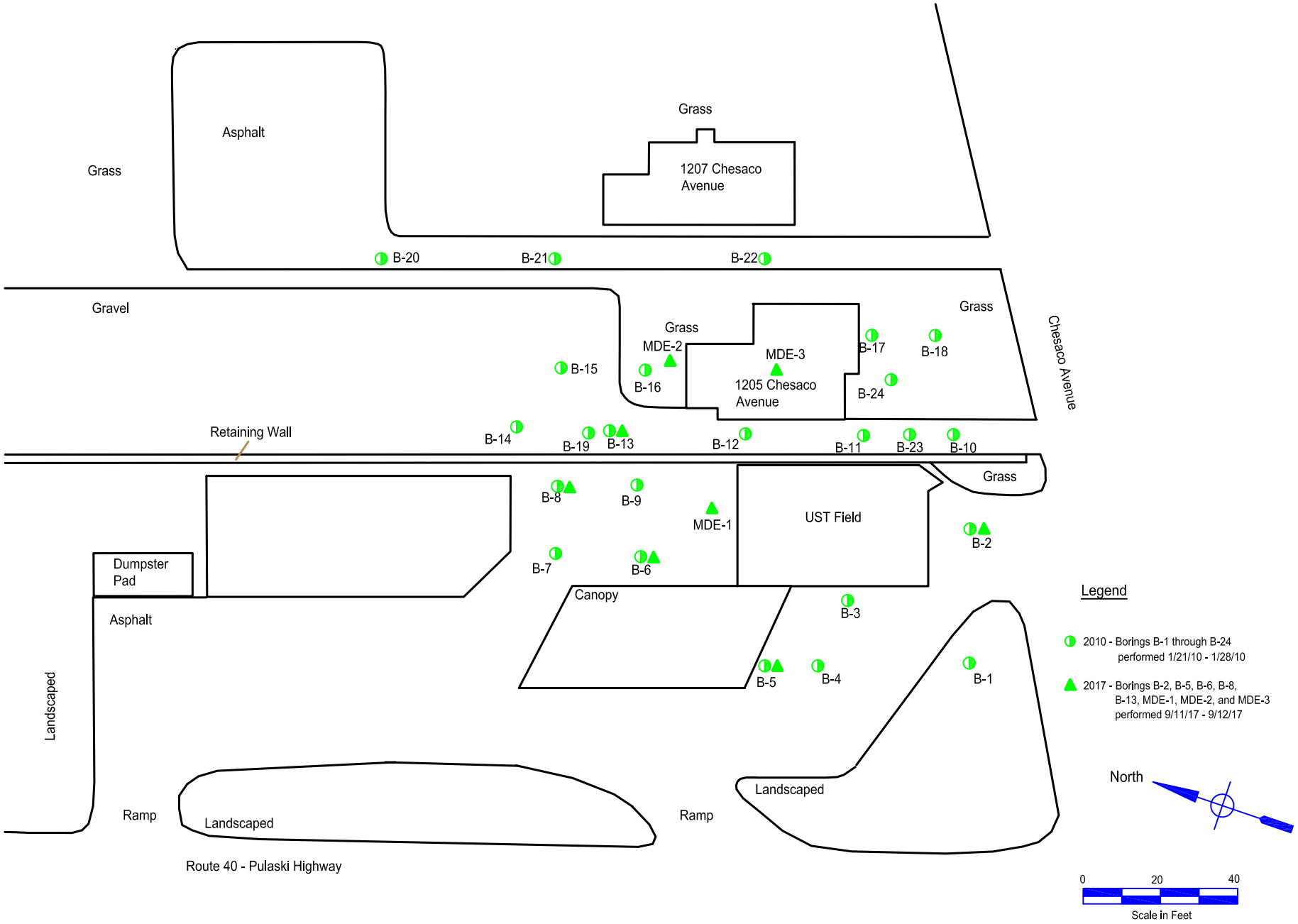
"Sensitive receptors such as surface water, historic structures, and subways are an indication that a site may warrant corrective action (MEAT for LUSTs, 2003)."

Natural surface bodies of water, historic structures, and subways are not located at the Site; as such, these receptors are not a concern. Additional sensitive receptors in the vicinity of the Site location were not observed during the site assessment. Based on the lack of these types of sensitive receptors in the Site vicinity, no risks to these types of receptors due to constituents detected at the Site are expected to exist.

CONCLUSIONS

Based on the results of the comprehensive data collected to date, and the evaluation of the seven risk factors, it is AEC's opinion that the Site has met all of the designated remediation criteria and is a candidate for case closure.

Attachment A



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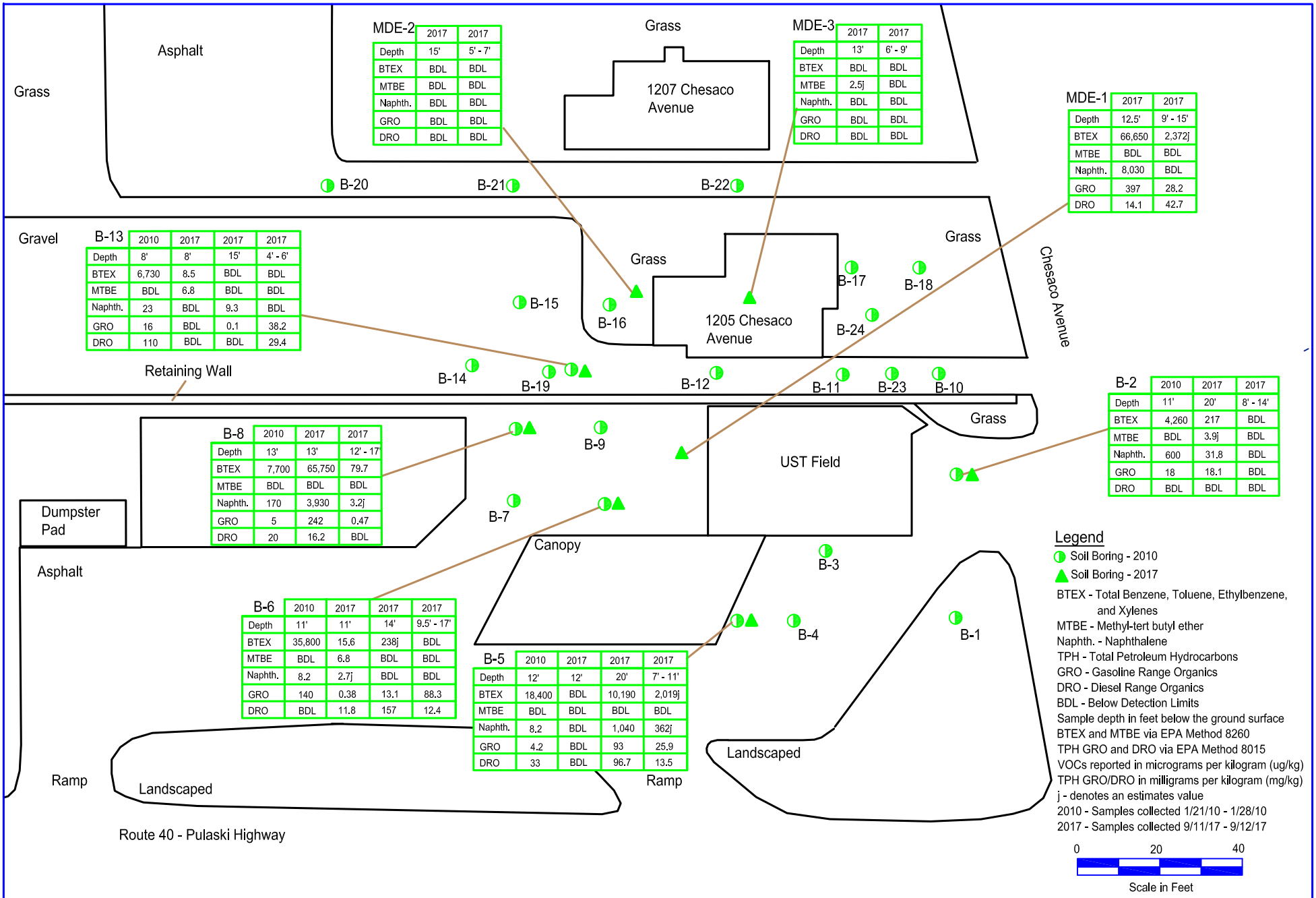
Project No. 05-056-RF064

Date: November 2017

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



MDE-2	2017	2017
Depth	15'	5' - 7'
BTEX	BDL	BDL
MTBE	BDL	BDL
Naphth.	BDL	BDL
GRO	BDL	BDL
DRO	BDL	BDL

MDE-3	2017	2017
Depth	13'	6' - 9'
BTEX	BDL	BDL
MTBE	2.5j	BDL
Naphth.	BDL	BDL
GRO	BDL	BDL
DRO	BDL	BDL

MDE-1	2017	2017
Depth	12.5'	9' - 15'
BTEX	66,650	2,372j
MTBE	BDL	BDL
Naphth.	8,030	BDL
GRO	397	28.2
DRO	14.1	42.7

B-13	2010	2017	2017	2017
Depth	8'	8'	15'	4' - 6'
BTEX	6,730	8.5	BDL	BDL
MTBE	BDL	6.8	BDL	BDL
Naphth.	23	BDL	9.3	BDL
GRO	16	BDL	0.1	38.2
DRO	110	BDL	BDL	29.4

B-2	2010	2017	2017
Depth	11'	20'	8' - 14'
BTEX	4,260	217	BDL
MTBE	BDL	3.9j	BDL
Naphth.	600	31.8	BDL
GRO	18	18.1	BDL
DRO	BDL	BDL	BDL

B-8	2010	2017	2017
Depth	13'	13'	12' - 17
BTEX	7,700	65,750	79.7
MTBE	BDL	BDL	BDL
Naphth.	170	3,930	3.2j
GRO	5	242	0.47
DRO	20	16.2	BDL

B-6	2010	2017	2017	2017
Depth	11'	11'	14'	9.5' - 17'
BTEX	35,800	15.6	238j	BDL
MTBE	BDL	6.8	BDL	BDL
Naphth.	8.2	2.7j	BDL	BDL
GRO	140	0.38	13.1	88.3
DRO	BDL	11.8	157	12.4

B-5	2010	2017	2017	2017
Depth	12'	12'	20'	7' - 11'
BTEX	18,400	BDL	10,190	2,019j
MTBE	BDL	BDL	BDL	BDL
Naphth.	8.2	BDL	1,040	362j
GRO	4.2	BDL	93	25.9
DRO	33	BDL	96.7	13.5

Legend

- Soil Boring - 2010
- Soil Boring - 2017

BTEX - Total Benzene, Toluene, Ethylbenzene, and Xylenes
MTBE - Methyl-tert butyl ether
Naphth. - Naphthalene
TPH - Total Petroleum Hydrocarbons
GRO - Gasoline Range Organics
DRO - Diesel Range Organics
BDL - Below Detection Limits
Sample depth in feet below the ground surface
BTEX and MTBE via EPA Method 8260
TPH GRO and DRO via EPA Method 8015
VOCs reported in micrograms per kilogram (ug/kg)
TPH GRO/DRO in milligrams per kilogram (mg/kg)
j - denotes an estimates value
2010 - Samples collected 1/21/10 - 1/28/10
2017 - Samples collected 9/11/17 - 9/12/17

0 20 40
Scale in Feet

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Figure 2 - Soil Quality Map
Royal Farms No. 64
7950 Pulaski Highway
Baltimore, MD 21237

Attachment B

Table 1 - Summary of Soil Quality Data
Gasoline Fueling Station – Royal Farms #64
7950 Pulaski Highway and 1205 Chesaco Avenue
Baltimore, Maryland 21237

Sample ID - Depth	Date	B	T	E	X	Total BTEX	MTBE	Naphthalene	TPH GRO	TPH DRO
B-2-11'	1/21/2010	300	750	910	2300	4260	BDL	600	18	BDL
B-2 @ 20'	9/11/2017	79.1	15.9	64.7	57.4	217.1	3.9 J	31.8	1.81	BDL
B-2 @ 8'-14'	9/11/2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-5-12'	1/25/2010	900	6100	2400	9000	18400	BDL	8.2	4.2	33
B-5 @ 12'	9/12/2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
B-5 @ 20'	9/12/2017	BDL	BDL	840	9350	10190	BDL	1040	93	96.7
B-5 @ 7'-11'	9/12/2017	BDL	BDL	242 J	1777	2019 J	BDL	362 J	25.9	13.5
B-6-11'	1/27/2010	**4100**	9900	3800	18000	35800	BDL	8.2	140	BDL
B-6 @ 11'	9/11/2017	2.0 J	4.5	BDL	9.1	15.6	6.8	2.7 J	0.38	11.8
B-6 @14'	9/11/2017	BDL	BDL	BDL	238 J	238 J	BDL	BDL	13.1	157
B-6 @ 9.5'-17'	9/11/2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	88.3	12.4
B-8-13'	1/28/2010	**1300**	2000	800	3600	7700	BDL	170	5	20
B-8 @ 13'	9/11/2017	BDL	8460	9490	47800	65750	BDL	3930	**242**	16.2
B-8 @ 12'-17'	9/11/2017	12.3	7.9	10	49.5	79.7	BDL	3.2 J	0.47	BDL
B-13-8'	1/25/2010	580	2300	670	3180	6730	BDL	23	16	110
B-13 @ 8'	9/12/2017	BDL	BDL	BDL	8.5	8.5	BDL	BDL	BDL	BDL
B-13 @ 15'	9/12/2017	BDL	BDL	BDL	BDL	BDL	BDL	9.3	0.1	BDL
B-13 @ 4'-6'	9/12/2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	38.2	29.4
MDE-1 @ 12.5'	9/11/2017	BDL	BDL	15100	51550	66650	BDL	8030	**397**	14.1
MDE-1 @ 9'-15'	9/11/2017	BDL	BDL	431 J	1941 J	2372 J	BDL	BDL	28.2	42.7
MDE-2 @ 15'	9/12/2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MDE-2 @ 5'-7'	9/12/2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
MDE-3 @ 13'	9/12/2017	BDL	BDL	BDL	BDL	BDL	2.5 J	BDL	BDL	BDL
MDE-3 @ 6'-9'	9/12/2017	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Non-Residential Cleanup Standard*		**5.2E+04**	**8.2E+06**	**1.0E+07**	**2.0E+07**	**NRS**	**7.2E+05**	**2.0E+06**	**620**	**620**

TPH GRO and DRO results in milligrams per kilogram (mg/kg)

BTEX, MTBE and Naphthalene results in micrograms per kilogram (ug/kg)

BDL = Below Detection Limits

J = Estimated Concentration

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

Some compounds may have been detected but are not tabulated on this spreadsheet. See laboratory analytical results reports for full results.

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

NRS = No Regulatory Standard

Depth in feet

Bold Values Exceed Residential Cleanup Standard

* The MDE Non-Residential Cleanup Standards are the soil remidial goals for the Site.

Attachment C

Project: RF-064	Sheet: 1 of 1	Boring Number: B-2	
Site Location: 7950 Pulaski Hwy Rosedale, MD 21237	Location: See Map	Elevation: NA	Job Number: 05-056-064
Drill Contractor: Ground Zero	Engineer/Geologist: S. Dessel	Date Begun: 9/11/2017	Date Finished: 9/11/2017
Drill Rig/Driller George/Jeff	Weather: Overcast - 70 F	Groundwater (Depth/Elevation):	
Hole Size: 2- inch	Drill Method: Geoprobe	Drill Fluid: None	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0'-0.5'	Asphalt and gravel subbase				0.0	No Odor
0.5'-12.5'	Light brown sandy CLAY	8'-14'	composite		5@8'	slight odor
12.5-17.5'	light brown sandy clay, moist				260@12.5'	strong odor
17.5'-25'	Red CLAY, dry, very dense	20'	grab		1,088@20'	Strong Odor
	terminate @ 25'					
	backfill 5' Screen 20'-5'					
	Riser 5'-0'					

Project: RF-064	Sheet: 1 of 1	Boring Number: B-8	
Site Location: 7950 Pulaski Hwy Rosedale, MD 21237	Location: See Map	Elevation:	Job Number: 05-056-064
Drill Contractor: Ground Zero	Engineer/Geologist: S. Dessel	Date Begun: 9/11/2017	Date Finished: 9/11/2017
Drill Rig/Driller George/Jeff	Weather: Overcast - 70 F	Groundwater (Depth/Elevation):	
Hole Size: 2- inch	Drill Method: Geoprobe	Drill Fluid: None	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0'-0.5'	Asphalt and gravel subbase				0.0	No Odor
0.5'-5'	Light brown sandy CLAY				0.0	No Odor
5'-11'	Dark grey CLAY, soft, wet	12'-17'	Composite		0.0	No odor
11'-20'	Red CLAY, very dense, wet	13'	grab		1,324@13'	Strong Odor
15'-20'	Red SAND, wet				0.0@20'	Strong Odor
	PVC refusal @ 18'					
	Screen 18'-5'					
	Riser 5'-0'					

Project: RF-064	Sheet: 1 of 1	Boring Number: B-6	
Site Location: 7950 Pulaski Hwy Rosedale, MD 21237	Location: See Map	Elevation:	Job Number: 05-056-064
Drill Contractor: Ground Zero	Engineer/Geologist: S. Dessel	Date Begun: 9/11/2017	Date Finished: 9/11/2017
Drill Rig/Driller George/Jeff	Weather: Overcast - 70 F	Groundwater (Depth/Elevation):	
Hole Size: 2- inch	Drill Method: Geoprobe	Drill Fluid: None	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0'-0.5'	Asphalt and gravel subbase				0.0	No Odor
0.5'-8.5'	Light brown sandy CLAY				0.0	No Odor
8.5'-10.5'	Dark grey sandy CLAY	11'	grab		22.5@10'	Moderate odor
10.5'-13.5'	Light brown sandy CLAY, wet	9.5'-17'	Composite		120@13'	Strong Odor
13.5'-20'	Very dense red CLAY, wet	14'	grab		125@14	Strong Odor
	Terminate @ 20'					
	Screen 20'-5' Riser 5'-0'					

Project: RF-064	Sheet: 1 of 1	Boring Number: B-5	
Site Location: 7950 Pulaski Hwy Rosedale, MD 21237	Location: See Map	Elevation:	Job Number: 05-056-064
Drill Contractor: Ground Zero	Engineer/Geologist: S. Dessel	Date Begun: 9/11/2017	Date Finished: 9/12/2017
Drill Rig/Driller George/Jeff	Weather: Overcast - 70 F	Groundwater (Depth/Elevation):	
Hole Size: 2- inch	Drill Method: Geoprobe	Drill Fluid: None	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0'-0.5'	Asphalt and gravel subbase				0.0	No Odor
0.5'-5'	Very little recovery, light brown sandy CL				0.0	No Odor
5'-12'	Very little recovery, reddish brown sandy	8'-12'	Composite		0.0	No Odor
12'-15'	Light brown Clay w/ sand	12'	grab		89@12'	Moderate odor
15'-20'	Red medium SAND, very wet	20'	grab		686@20'	Strong Odor
14'-20'	Reddish brown SAND w/ clay, wet	15'	grab		0.0	No Odor
	Terminate @ 20'					
	Screen 20'-5' Riser 5'-0'					

Project: RF-064	Sheet: 1 of 1	Boring Number: B-13	
Site Location: 7950 Pulaski Hwy Rosedale, MD 21237	Location: See Map	Elevation:	Job Number: 05-056-064
Drill Contractor: Ground Zero	Engineer/Geologist: S. Dessel	Date Begun: 9/12/2017	Date Finished: 9/12/2017
Drill Rig/Driller George/Jeff	Weather: Overcast - 70 F	Groundwater (Depth/Elevation):	
Hole Size: 2- inch	Drill Method: Geoprobe	Drill Fluid: None	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0'-0.5'	Man-made gravel				0.0	No Odor
0.5'-5'	Light brown sandy CLAY	4'-6'	Composite		0.0	No Odor
5'-10'	Reddish brown SAND w/clay, moist	8'	grab		10.6@8'	Slight Odor
10'-13'	Reddish brown SAND w/clay, moist				11.2@8'	Slight Odor
13'-20'	Reddish brown SAND w/clay, dry	15'	grab		11.8@15'	Slight Odor
	Terminate @ 20' PVC refusal @ 15'					
	Screen 15'-2' Riser 2'-0'					

Project: RF-064	Sheet: 1 of 1	Boring Number: MDE-1	
Site Location: 7950 Pulaski Hwy Rosedale, MD 21237	Location: See Map	Elevation:	Job Number: 05-056-064
Drill Contractor: Ground Zero	Engineer/Geologist: S. Dessel	Date Begun: 9/11/2017	Date Finished: 9/11/2017
Drill Rig/Driller George/Jeff	Weather: Overcast - 70 F	Groundwater (Depth/Elevation):	
Hole Size: 2- inch	Drill Method: Geoprobe	Drill Fluid: None	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0'-0.5'	Asphalt and gravel subbase				0.0	No Odor
0.5'-8'	Dark grey sandy CLAY	9'-15'	composite		1.5@8'	No Odor
8'-13'	Light brown CLAY w/ some sand, dry	12.5	grab		788@12.5	Strong Odor
13'-15'	Brown/red CLAY, dense				76.6@15	moderate odor
15'-20-	Red SAND, wet				296@17.5	Strong Odor
	Terminate @ 20' PVC refusal @ 13'					
	Screen 20'-5' Riser 5'-0'					

Project: RF-064	Sheet: 1 of 1	Boring Number: MDE-2	
Site Location: 7950 Pulaski Hwy Rosedale, MD 21237	Location: See Map	Elevation:	Job Number: 05-056-064
Drill Contractor: Ground Zero	Engineer/Geologist: S. Dessel	Date Begun: 9/12/2017	Date 9/12/2017
Drill Rig/Driller George/Jeff	Weather: Overcast - 70 F	Groundwater (Depth/Elevation):	
Hole Size: 2- inch	Drill Method: Geoprobe	Drill Fluid: None	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0'-0.5'	Man-made gravel				0.0	No Odor
0.5'-4'	Red sandy CLAY				0.0	No Odor
4'-5'	Concrete				0.0	No Odor
5'-10'	Light brown CLAY, dense, dry	5'-7'	Composite		0.0	No Odor
10'-14'	Light brown SAND w/clay, wet				0.0	No Odor
14'-20'	Reddish brown SAND w/ clay, wet	15'	grab		0.0	No Odor
	Terminate @ 20' PVC refusal @ 15'					
	Screen 15'-2' Riser 2'-0'					
	Two samples taken since this had no 2010 location and PID was all 0.0 ppm					

Project: RF-064	Sheet: 1 of 1	Boring Number: MDE-3	
Site Location: 7950 Pulaski Hwy Rosedale, MD 21237	Location: See Map	Elevation:	Job Number: 05-056-064
Drill Contractor: Ground Zero	Engineer/Geologist: S. Dessel	Date Begun: 9/12/2017	Date 9/12/2017
Drill Rig/Driller George/Jeff	Weather: Overcast - 70 F	Groundwater (Depth/Elevation):	
Hole Size: 2- inch	Drill Method: Geoprobe	Drill Fluid: None	

Depth (feet)	Soil Classification	Depth of Sample	Sample Type	Groundwater depth	PID Reading (ppm)	Comments
0'-5'	No Recovery				0.0	No Odor
5'-7'	Light/Dark brown sandy Clay, moist				0.0	No Odor
7'-8'	Concrete	6'-9'	Composite		0.0	No Odor
8'-13.5'	Light brown/light grey SAND w/ clay, moist	13'	grab		5.8@13'	No Odor
13.5'-18.5'	Reddish brown CLAY w/sand, moist				0.0	No Odor
18.5'-20'	Red SAND, very wet				0.0	No Odor
	Terminate @ 20' PVC refusal @ 15'					
	Screen 15'-5' Riser 5'-0'					
	Two samples taken since this had no 2010 location and PID was all 0.0 ppm					

Attachment D

Maryland spectral Services

Analytical Chemistry Services

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

21 September 2017

Jeffery Stein
Advantage Environmental Consultants
8610 Baltimore Washington Blvd, Suite 217
Jessup, MD 20794
RE: RF-064

Enclosed are the results of analyses for samples received by the laboratory on 09/12/17 12:46.

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,

Rabecka Koons
Quality Assurance Specialist

Maryland spectral Services

Analytical Chemistry Services

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

Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-5 @ 20'		7091202-01	Soil	09/12/17 07:32	09/12/17 12:46
MDE-3 @ 6'-9'		7091202-02	Soil	09/12/17 10:40	09/12/17 12:46
MDE-3 @ 13'		7091202-03	Soil	09/12/17 10:30	09/12/17 12:46
MDE-2 @ 5'-7'		7091202-04	Soil	09/12/17 09:50	09/12/17 12:46
B-13 @ 8'		7091202-05	Soil	09/12/17 08:04	09/12/17 12:46
MDE-2 @ 15'		7091202-06	Soil	09/12/17 09:40	09/12/17 12:46
B-13 @ 15'		7091202-07	Soil	09/12/17 08:10	09/12/17 12:46
B-5 @ 7'-11'		7091202-08	Soil	09/12/17 07:40	09/12/17 12:46
B-5 @ 12'		7091202-09	Soil	09/12/17 07:29	09/12/17 12:46
B-13 @ 4'-6'		7091202-10	Soil	09/12/17 08:40	09/12/17 12:46

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Analytical Chemistry Services

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-5 @ 20'

7091202-01 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	980	980	83.3	09/15/17	09/15/17 21:44	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	4900	4900	83.3	09/15/17	09/15/17 21:44	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Benzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Bromobenzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Bromochloromethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Bromodichloromethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Bromoform	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Bromomethane	ND		ug/kg dry	490	490	83.3	09/15/17	09/15/17 21:44	GM
tert-Butanol (TBA)	ND		ug/kg dry	4900	4900	83.3	09/15/17	09/15/17 21:44	GM
2-Butanone (MEK)	ND		ug/kg dry	980	980	83.3	09/15/17	09/15/17 21:44	GM
n-Butylbenzene	**451**	J	ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
sec-Butylbenzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
tert-Butylbenzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Carbon disulfide	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Carbon tetrachloride	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Chlorobenzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Chloroethane	ND		ug/kg dry	490	490	83.3	09/15/17	09/15/17 21:44	GM
Chloroform	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Chloromethane	ND		ug/kg dry	490	490	83.3	09/15/17	09/15/17 21:44	GM
2-Chlorotoluene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
4-Chlorotoluene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Dibromochloromethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Dibromomethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,2-Dichlorobenzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,3-Dichlorobenzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,4-Dichlorobenzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Dichlorodifluoromethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,1-Dichloroethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,2-Dichloroethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,1-Dichloroethene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-5 @ 20'

7091202-01 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Dichlorofluoromethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,2-Dichloropropane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,3-Dichloropropane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
2,2-Dichloropropane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,1-Dichloropropene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Ethylbenzene	**840**		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Hexachlorobutadiene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
2-Hexanone	ND		ug/kg dry	980	980	83.3	09/15/17	09/15/17 21:44	GM
Isopropylbenzene (Cumene)	**654**		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
4-Isopropyltoluene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
4-Methyl-2-pentanone	ND		ug/kg dry	980	980	83.3	09/15/17	09/15/17 21:44	GM
Methylene chloride	ND		ug/kg dry	980	980	83.3	09/15/17	09/15/17 21:44	GM
Naphthalene	**1040**		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
n-Propylbenzene	**1780**		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Styrene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Tetrachloroethene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Toluene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,1,1-Trichloroethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,1,2-Trichloroethane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Trichloroethene	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,2,3-Trichloropropane	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,2,4-Trimethylbenzene	**11400**		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
1,3,5-Trimethylbenzene	**3280**		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM

Rabecka Koons, Quality Assurance Specialist

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-5 @ 20'

7091202-01 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
o-Xylene	**1530**		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
m- & p-Xylenes	**7820**		ug/kg dry	490	196	83.3	09/15/17	09/15/17 21:44	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*105 %*		*09/15/17*		*09/15/17 21:44*	
Surrogate: Toluene-d8			*75-120*	*105 %*		*09/15/17*		*09/15/17 21:44*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*101 %*		*09/15/17*		*09/15/17 21:44*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**93.0**		mg/kg dry	9.80	2.94	83.3	09/14/17	09/14/17 17:06	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	**96.7**		mg/kg dry	15.7	15.7	1	09/18/17	09/19/17 22:13	CMK
Surrogate: o-Terphenyl			*70-130*	*88 %*		*09/18/17*		*09/19/17 22:13*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**85**		%			1	09/18/17	09/19/17 10:26	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-3 @ 6'-9'

7091202-02 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	8.5	8.5	1	09/13/17	09/13/17 18:38	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	42.4	42.4	1	09/13/17	09/13/17 18:38	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Benzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Bromobenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Bromochloromethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Bromodichloromethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Bromoform	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Bromomethane	ND		ug/kg dry	4.2	4.2	1	09/13/17	09/13/17 18:38	GM
tert-Butanol (TBA)	ND		ug/kg dry	42.4	42.4	1	09/13/17	09/13/17 18:38	GM
2-Butanone (MEK)	ND		ug/kg dry	8.5	8.5	1	09/13/17	09/13/17 18:38	GM
n-Butylbenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
sec-Butylbenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
tert-Butylbenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Carbon disulfide	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Carbon tetrachloride	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Chlorobenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Chloroethane	ND		ug/kg dry	4.2	4.2	1	09/13/17	09/13/17 18:38	GM
Chloroform	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Chloromethane	ND		ug/kg dry	4.2	4.2	1	09/13/17	09/13/17 18:38	GM
2-Chlorotoluene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
4-Chlorotoluene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Dibromochloromethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Dibromomethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,1-Dichloroethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,2-Dichloroethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,1-Dichloroethene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM

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Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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

Analytical Results

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-3 @ 6'-9'

7091202-02 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Dichlorofluoromethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,2-Dichloropropane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,3-Dichloropropane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
2,2-Dichloropropane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,1-Dichloropropene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Ethylbenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Hexachlorobutadiene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
2-Hexanone	ND		ug/kg dry	8.5	8.5	1	09/13/17	09/13/17 18:38	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
4-Isopropyltoluene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
4-Methyl-2-pentanone	ND		ug/kg dry	8.5	8.5	1	09/13/17	09/13/17 18:38	GM
Methylene chloride	ND		ug/kg dry	8.5	8.5	1	09/13/17	09/13/17 18:38	GM
Naphthalene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
n-Propylbenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Styrene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Tetrachloroethene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Toluene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Trichloroethene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,2,4-Trimethylbenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
1,3,5-Trimethylbenzene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM

Rabecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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Baltimore MD 21227
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Analytical Results

Project: RF-064
Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-3 @ 6'-9'

7091202-02 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
o-Xylene	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
m- & p-Xylenes	ND		ug/kg dry	4.2	1.7	1	09/13/17	09/13/17 18:38	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*106 %*		*09/13/17*		*09/13/17 18:38*	
Surrogate: Toluene-d8			*75-120*	*103 %*		*09/13/17*		*09/13/17 18:38*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*102 %*		*09/13/17*		*09/13/17 18:38*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	ND		mg/kg dry	0.09	0.03	1	09/13/17	09/13/17 20:19	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.1	9.1	1	09/18/17	09/19/17 22:40	CMK
Surrogate: o-Terphenyl			*70-130*	*87 %*		*09/18/17*		*09/19/17 22:40*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**88**		%			1	09/18/17	09/19/17 10:26	GM

Rabecka Koons, Quality Assurance Specialist

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-3 @ 13'

7091202-03 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	**16.0**		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 19:02	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	49.0	49.0	1	09/13/17	09/13/17 19:02	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Benzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Bromobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Bromochloromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Bromodichloromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Bromoform	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Bromomethane	ND		ug/kg dry	4.9	4.9	1	09/13/17	09/13/17 19:02	GM
tert-Butanol (TBA)	ND		ug/kg dry	49.0	49.0	1	09/13/17	09/13/17 19:02	GM
2-Butanone (MEK)	ND		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 19:02	GM
n-Butylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
sec-Butylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
tert-Butylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Carbon disulfide	**3.0**	J	ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Carbon tetrachloride	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Chlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Chloroethane	ND		ug/kg dry	4.9	4.9	1	09/13/17	09/13/17 19:02	GM
Chloroform	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Chloromethane	ND		ug/kg dry	4.9	4.9	1	09/13/17	09/13/17 19:02	GM
2-Chlorotoluene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
4-Chlorotoluene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Dibromochloromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Dibromomethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,1-Dichloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,2-Dichloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,1-Dichloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM

Rabecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-3 @ 13'

7091202-03 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Dichlorofluoromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,2-Dichloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,3-Dichloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
2,2-Dichloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,1-Dichloropropene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Ethylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Hexachlorobutadiene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
2-Hexanone	ND		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 19:02	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
4-Isopropyltoluene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Methyl tert-butyl ether (MTBE)	**2.5**	J	ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
4-Methyl-2-pentanone	ND		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 19:02	GM
Methylene chloride	ND		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 19:02	GM
Naphthalene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
n-Propylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Styrene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Tetrachloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Toluene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Trichloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,2,4-Trimethylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
1,3,5-Trimethylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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Analytical Results

Project: RF-064
Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-3 @ 13'

7091202-03 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
o-Xylene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
m- & p-Xylenes	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 19:02	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*109 %*		*09/13/17*		*09/13/17 19:02*	
Surrogate: Toluene-d8			*75-120*	*102 %*		*09/13/17*		*09/13/17 19:02*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*102 %*		*09/13/17*		*09/13/17 19:02*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	ND		mg/kg dry	0.09	0.03	1	09/13/17	09/13/17 20:50	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.4	9.4	1	09/18/17	09/19/17 23:07	CMK
Surrogate: o-Terphenyl			*70-130*	*93 %*		*09/18/17*		*09/19/17 23:07*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**85**		%			1	09/18/17	09/19/17 10:26	GM

Rabecka Koons

Rabecka Koons, Quality Assurance Specialist

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-2 @ 5'-7'

7091202-04 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	8.2	8.2	1	09/13/17	09/13/17 19:27	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	40.9	40.9	1	09/13/17	09/13/17 19:27	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Benzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Bromobenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Bromochloromethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Bromodichloromethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Bromoform	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Bromomethane	ND		ug/kg dry	4.1	4.1	1	09/13/17	09/13/17 19:27	GM
tert-Butanol (TBA)	ND		ug/kg dry	40.9	40.9	1	09/13/17	09/13/17 19:27	GM
2-Butanone (MEK)	ND		ug/kg dry	8.2	8.2	1	09/13/17	09/13/17 19:27	GM
n-Butylbenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
sec-Butylbenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
tert-Butylbenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Carbon disulfide	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Carbon tetrachloride	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Chlorobenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Chloroethane	ND		ug/kg dry	4.1	4.1	1	09/13/17	09/13/17 19:27	GM
Chloroform	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Chloromethane	ND		ug/kg dry	4.1	4.1	1	09/13/17	09/13/17 19:27	GM
2-Chlorotoluene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
4-Chlorotoluene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Dibromochloromethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Dibromomethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,1-Dichloroethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,2-Dichloroethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,1-Dichloroethene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM

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Maryland spectral Services

Analytical Chemistry Services

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410-247-7600
www.mdspectral.com

Analytical Results

Project: RF-064
Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-2 @ 5'-7'

7091202-04 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Dichlorofluoromethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,2-Dichloropropane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,3-Dichloropropane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
2,2-Dichloropropane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,1-Dichloropropene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Ethylbenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Hexachlorobutadiene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
2-Hexanone	ND		ug/kg dry	8.2	8.2	1	09/13/17	09/13/17 19:27	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
4-Isopropyltoluene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
4-Methyl-2-pentanone	ND		ug/kg dry	8.2	8.2	1	09/13/17	09/13/17 19:27	GM
Methylene chloride	ND		ug/kg dry	8.2	8.2	1	09/13/17	09/13/17 19:27	GM
Naphthalene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
n-Propylbenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Styrene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Tetrachloroethene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Toluene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Trichloroethene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,2,4-Trimethylbenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
1,3,5-Trimethylbenzene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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Baltimore MD 21227
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www.mdspectral.com

Analytical Results

Project: RF-064
Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-2 @ 5'-7'

7091202-04 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
o-Xylene	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
m- & p-Xylenes	ND		ug/kg dry	4.1	1.6	1	09/13/17	09/13/17 19:27	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*106 %*		*09/13/17*		*09/13/17 19:27*	
Surrogate: Toluene-d8			*75-120*	*103 %*		*09/13/17*		*09/13/17 19:27*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*102 %*		*09/13/17*		*09/13/17 19:27*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	ND		mg/kg dry	0.08	0.02	1	09/13/17	09/13/17 21:20	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.3	9.3	1	09/18/17	09/19/17 23:33	CMK
Surrogate: o-Terphenyl			*70-130*	*88 %*		*09/18/17*		*09/19/17 23:33*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**86**		%			1	09/18/17	09/19/17 10:26	GM

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 8'

7091202-05 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	9.4	9.4	1	09/13/17	09/13/17 19:52	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	47.2	47.2	1	09/13/17	09/13/17 19:52	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Benzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Bromobenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Bromochloromethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Bromodichloromethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Bromoform	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Bromomethane	ND		ug/kg dry	4.7	4.7	1	09/13/17	09/13/17 19:52	GM
tert-Butanol (TBA)	ND		ug/kg dry	47.2	47.2	1	09/13/17	09/13/17 19:52	GM
2-Butanone (MEK)	ND		ug/kg dry	9.4	9.4	1	09/13/17	09/13/17 19:52	GM
n-Butylbenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
sec-Butylbenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
tert-Butylbenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Carbon disulfide	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Carbon tetrachloride	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Chlorobenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Chloroethane	ND		ug/kg dry	4.7	4.7	1	09/13/17	09/13/17 19:52	GM
Chloroform	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Chloromethane	ND		ug/kg dry	4.7	4.7	1	09/13/17	09/13/17 19:52	GM
2-Chlorotoluene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
4-Chlorotoluene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Dibromochloromethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Dibromomethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,1-Dichloroethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,2-Dichloroethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,1-Dichloroethene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM

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Maryland spectral Services

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Analytical Results

Project: RF-064
Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 8'

7091202-05 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Dichlorofluoromethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,2-Dichloropropane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,3-Dichloropropane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
2,2-Dichloropropane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,1-Dichloropropene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Ethylbenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Hexachlorobutadiene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
2-Hexanone	ND		ug/kg dry	9.4	9.4	1	09/13/17	09/13/17 19:52	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
4-Isopropyltoluene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
4-Methyl-2-pentanone	ND		ug/kg dry	9.4	9.4	1	09/13/17	09/13/17 19:52	GM
Methylene chloride	ND		ug/kg dry	9.4	9.4	1	09/13/17	09/13/17 19:52	GM
Naphthalene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
n-Propylbenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Styrene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Tetrachloroethene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Toluene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Trichloroethene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,2,4-Trimethylbenzene	**1.9**	J	ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
1,3,5-Trimethylbenzene	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 8'

7091202-05 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
o-Xylene	**8.5**		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
m- & p-Xylenes	ND		ug/kg dry	4.7	1.9	1	09/13/17	09/13/17 19:52	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*109 %*		*09/13/17*		*09/13/17 19:52*	
Surrogate: Toluene-d8			*75-120*	*103 %*		*09/13/17*		*09/13/17 19:52*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*103 %*		*09/13/17*		*09/13/17 19:52*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	ND		mg/kg dry	0.09	0.03	1	09/13/17	09/13/17 21:50	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.5	9.5	1	09/18/17	09/20/17 00:00	CMK
Surrogate: o-Terphenyl			*70-130*	*88 %*		*09/18/17*		*09/20/17 00:00*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**84**		%			1	09/18/17	09/19/17 10:26	GM

Rabecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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www.mdspectral.com

Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-2 @ 15'

7091202-06 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 20:17	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	49.0	49.0	1	09/13/17	09/13/17 20:17	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Benzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Bromobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Bromochloromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Bromodichloromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Bromoform	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Bromomethane	ND		ug/kg dry	4.9	4.9	1	09/13/17	09/13/17 20:17	GM
tert-Butanol (TBA)	ND		ug/kg dry	49.0	49.0	1	09/13/17	09/13/17 20:17	GM
2-Butanone (MEK)	ND		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 20:17	GM
n-Butylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
sec-Butylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
tert-Butylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Carbon disulfide	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Carbon tetrachloride	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Chlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Chloroethane	ND		ug/kg dry	4.9	4.9	1	09/13/17	09/13/17 20:17	GM
Chloroform	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Chloromethane	ND		ug/kg dry	4.9	4.9	1	09/13/17	09/13/17 20:17	GM
2-Chlorotoluene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
4-Chlorotoluene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Dibromochloromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Dibromomethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,1-Dichloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,2-Dichloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,1-Dichloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-2 @ 15'

7091202-06 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Dichlorofluoromethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,2-Dichloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,3-Dichloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
2,2-Dichloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,1-Dichloropropene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Ethylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Hexachlorobutadiene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
2-Hexanone	ND		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 20:17	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
4-Isopropyltoluene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
4-Methyl-2-pentanone	ND		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 20:17	GM
Methylene chloride	ND		ug/kg dry	9.8	9.8	1	09/13/17	09/13/17 20:17	GM
Naphthalene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
n-Propylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Styrene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Tetrachloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Toluene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Trichloroethene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,2,4-Trimethylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
1,3,5-Trimethylbenzene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM

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Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

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410-247-7600
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Analytical Results

Project: RF-064
Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

MDE-2 @ 15'

7091202-06 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
o-Xylene	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
m- & p-Xylenes	ND		ug/kg dry	4.9	2.0	1	09/13/17	09/13/17 20:17	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*110 %*		*09/13/17*		*09/13/17 20:17*	
Surrogate: Toluene-d8			*75-120*	*103 %*		*09/13/17*		*09/13/17 20:17*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*102 %*		*09/13/17*		*09/13/17 20:17*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	ND		mg/kg dry	0.08	0.02	1	09/13/17	09/13/17 22:20	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.4	9.4	1	09/18/17	09/20/17 00:27	CMK
Surrogate: o-Terphenyl			*70-130*	*97 %*		*09/18/17*		*09/20/17 00:27*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**85**		%			1	09/18/17	09/19/17 10:26	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 15'

7091202-07 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	9.6	9.6	1	09/15/17	09/15/17 17:04	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	48.0	48.0	1	09/15/17	09/15/17 17:04	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Benzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Bromobenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Bromochloromethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Bromodichloromethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Bromoform	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Bromomethane	ND		ug/kg dry	4.8	4.8	1	09/15/17	09/15/17 17:04	GM
tert-Butanol (TBA)	ND		ug/kg dry	48.0	48.0	1	09/15/17	09/15/17 17:04	GM
2-Butanone (MEK)	ND		ug/kg dry	9.6	9.6	1	09/15/17	09/15/17 17:04	GM
n-Butylbenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
sec-Butylbenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
tert-Butylbenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Carbon disulfide	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Carbon tetrachloride	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Chlorobenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Chloroethane	ND		ug/kg dry	4.8	4.8	1	09/15/17	09/15/17 17:04	GM
Chloroform	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Chloromethane	ND		ug/kg dry	4.8	4.8	1	09/15/17	09/15/17 17:04	GM
2-Chlorotoluene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
4-Chlorotoluene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Dibromochloromethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Dibromomethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,1-Dichloroethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,2-Dichloroethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,1-Dichloroethene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM

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Maryland spectral Services

Analytical Chemistry Services

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 15'

7091202-07 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Dichlorofluoromethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,2-Dichloropropane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,3-Dichloropropane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
2,2-Dichloropropane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,1-Dichloropropene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Ethylbenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Hexachlorobutadiene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
2-Hexanone	ND		ug/kg dry	9.6	9.6	1	09/15/17	09/15/17 17:04	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
4-Isopropyltoluene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
4-Methyl-2-pentanone	ND		ug/kg dry	9.6	9.6	1	09/15/17	09/15/17 17:04	GM
Methylene chloride	ND		ug/kg dry	9.6	9.6	1	09/15/17	09/15/17 17:04	GM
Naphthalene	**9.3**		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
n-Propylbenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Styrene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Tetrachloroethene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Toluene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Trichloroethene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,2,4-Trimethylbenzene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
1,3,5-Trimethylbenzene	**10.8**		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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Analytical Results

Project: RF-064
Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 15'

7091202-07 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
o-Xylene	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
m- & p-Xylenes	ND		ug/kg dry	4.8	1.9	1	09/15/17	09/15/17 17:04	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*110 %*		*09/15/17*		*09/15/17 17:04*	
Surrogate: Toluene-d8			*75-120*	*102 %*		*09/15/17*		*09/15/17 17:04*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*101 %*		*09/15/17*		*09/15/17 17:04*	
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.5	9.5	1	09/18/17	09/20/17 00:54	CMK
Surrogate: o-Terphenyl			*70-130*	*92 %*		*09/18/17*		*09/20/17 00:54*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**84**		%			1	09/18/17	09/19/17 10:26	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

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410-247-7600
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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 15'

7091202-07RE1 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**0.10**		mg/kg dry	0.09	0.03	1	09/15/17	09/15/17 17:00	GM

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-5 @ 7'-11'

7091202-08 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	996	996	84.7	09/15/17	09/15/17 22:08	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	4980	4980	84.7	09/15/17	09/15/17 22:08	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Benzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Bromobenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Bromochloromethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Bromodichloromethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Bromoform	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Bromomethane	ND		ug/kg dry	498	498	84.7	09/15/17	09/15/17 22:08	GM
tert-Butanol (TBA)	ND		ug/kg dry	4980	4980	84.7	09/15/17	09/15/17 22:08	GM
2-Butanone (MEK)	ND		ug/kg dry	996	996	84.7	09/15/17	09/15/17 22:08	GM
n-Butylbenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
sec-Butylbenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
tert-Butylbenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Carbon disulfide	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Carbon tetrachloride	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Chlorobenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Chloroethane	ND		ug/kg dry	498	498	84.7	09/15/17	09/15/17 22:08	GM
Chloroform	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Chloromethane	ND		ug/kg dry	498	498	84.7	09/15/17	09/15/17 22:08	GM
2-Chlorotoluene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
4-Chlorotoluene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Dibromochloromethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Dibromomethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,2-Dichlorobenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,3-Dichlorobenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,4-Dichlorobenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Dichlorodifluoromethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,1-Dichloroethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,2-Dichloroethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,1-Dichloroethene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-5 @ 7'-11'

7091202-08 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Dichlorofluoromethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,2-Dichloropropane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,3-Dichloropropane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
2,2-Dichloropropane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,1-Dichloropropene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Ethylbenzene	**242**	J	ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Hexachlorobutadiene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
2-Hexanone	ND		ug/kg dry	996	996	84.7	09/15/17	09/15/17 22:08	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
4-Isopropyltoluene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
4-Methyl-2-pentanone	ND		ug/kg dry	996	996	84.7	09/15/17	09/15/17 22:08	GM
Methylene chloride	ND		ug/kg dry	996	996	84.7	09/15/17	09/15/17 22:08	GM
Naphthalene	**362**	J	ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
n-Propylbenzene	**356**	J	ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Styrene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Tetrachloroethene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Toluene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,1,1-Trichloroethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,1,2-Trichloroethane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Trichloroethene	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,2,3-Trichloropropane	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,2,4-Trimethylbenzene	**2470**		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
1,3,5-Trimethylbenzene	**828**		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-5 @ 7'-11'

7091202-08 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
o-Xylene	**657**		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
m- & p-Xylenes	**1120**		ug/kg dry	498	199	84.7	09/15/17	09/15/17 22:08	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*106 %*		*09/15/17*		*09/15/17 22:08*	
Surrogate: Toluene-d8			*75-120*	*106 %*		*09/15/17*		*09/15/17 22:08*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*103 %*		*09/15/17*		*09/15/17 22:08*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**25.9**		mg/kg dry	9.96	2.99	84.7	09/14/17	09/14/17 18:07	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	**13.5**		mg/kg dry	9.4	9.4	1	09/18/17	09/20/17 01:21	CMK
Surrogate: o-Terphenyl			*70-130*	*82 %*		*09/18/17*		*09/20/17 01:21*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**85**		%			1	09/18/17	09/19/17 10:26	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-5 @ 12'

7091202-09 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	9.1	9.1	1	09/13/17	09/13/17 20:41	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	45.5	45.5	1	09/13/17	09/13/17 20:41	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Benzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Bromobenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Bromochloromethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Bromodichloromethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Bromoform	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Bromomethane	ND		ug/kg dry	4.6	4.6	1	09/13/17	09/13/17 20:41	GM
tert-Butanol (TBA)	ND		ug/kg dry	45.5	45.5	1	09/13/17	09/13/17 20:41	GM
2-Butanone (MEK)	ND		ug/kg dry	9.1	9.1	1	09/13/17	09/13/17 20:41	GM
n-Butylbenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
sec-Butylbenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
tert-Butylbenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Carbon disulfide	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Carbon tetrachloride	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Chlorobenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Chloroethane	ND		ug/kg dry	4.6	4.6	1	09/13/17	09/13/17 20:41	GM
Chloroform	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Chloromethane	ND		ug/kg dry	4.6	4.6	1	09/13/17	09/13/17 20:41	GM
2-Chlorotoluene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
4-Chlorotoluene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Dibromochloromethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Dibromomethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,1-Dichloroethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,2-Dichloroethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,1-Dichloroethene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM

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Analytical Results

Project: RF-064
Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-5 @ 12'

7091202-09 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Dichlorofluoromethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,2-Dichloropropane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,3-Dichloropropane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
2,2-Dichloropropane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,1-Dichloropropene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Ethylbenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Hexachlorobutadiene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
2-Hexanone	ND		ug/kg dry	9.1	9.1	1	09/13/17	09/13/17 20:41	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
4-Isopropyltoluene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
4-Methyl-2-pentanone	ND		ug/kg dry	9.1	9.1	1	09/13/17	09/13/17 20:41	GM
Methylene chloride	ND		ug/kg dry	9.1	9.1	1	09/13/17	09/13/17 20:41	GM
Naphthalene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
n-Propylbenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Styrene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Tetrachloroethene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Toluene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Trichloroethene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,2,4-Trimethylbenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
1,3,5-Trimethylbenzene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM

Rebecka Koons

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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

Analytical Results

Project: RF-064
Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-5 @ 12'

7091202-09 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
o-Xylene	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
m- & p-Xylenes	ND		ug/kg dry	4.6	1.8	1	09/13/17	09/13/17 20:41	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*109 %*		*09/13/17*		*09/13/17 20:41*	
Surrogate: Toluene-d8			*75-120*	*103 %*		*09/13/17*		*09/13/17 20:41*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*101 %*		*09/13/17*		*09/13/17 20:41*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	ND		mg/kg dry	0.10	0.03	1	09/13/17	09/13/17 22:50	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.8	9.8	1	09/18/17	09/20/17 01:48	CMK
Surrogate: o-Terphenyl			*70-130*	*94 %*		*09/18/17*		*09/20/17 01:48*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**82**		%			1	09/18/17	09/19/17 10:26	GM

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Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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Baltimore MD 21227
410-247-7600
www.mdspectral.com

Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 4'-6'

7091202-10 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	976	976	82	09/15/17	09/15/17 22:33	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	4880	4880	82	09/15/17	09/15/17 22:33	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Benzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Bromobenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Bromochloromethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Bromodichloromethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Bromoform	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Bromomethane	ND		ug/kg dry	488	488	82	09/15/17	09/15/17 22:33	GM
tert-Butanol (TBA)	ND		ug/kg dry	4880	4880	82	09/15/17	09/15/17 22:33	GM
2-Butanone (MEK)	ND		ug/kg dry	976	976	82	09/15/17	09/15/17 22:33	GM
n-Butylbenzene	**207**	J	ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
sec-Butylbenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
tert-Butylbenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Carbon disulfide	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Carbon tetrachloride	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Chlorobenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Chloroethane	ND		ug/kg dry	488	488	82	09/15/17	09/15/17 22:33	GM
Chloroform	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Chloromethane	ND		ug/kg dry	488	488	82	09/15/17	09/15/17 22:33	GM
2-Chlorotoluene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
4-Chlorotoluene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Dibromochloromethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Dibromomethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,2-Dichlorobenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,3-Dichlorobenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,4-Dichlorobenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Dichlorodifluoromethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,1-Dichloroethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,2-Dichloroethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,1-Dichloroethene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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

Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 4'-6'

7091202-10 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Dichlorofluoromethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,2-Dichloropropane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,3-Dichloropropane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
2,2-Dichloropropane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,1-Dichloropropene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Ethylbenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Hexachlorobutadiene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
2-Hexanone	ND		ug/kg dry	976	976	82	09/15/17	09/15/17 22:33	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
4-Isopropyltoluene	**636**		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
4-Methyl-2-pentanone	ND		ug/kg dry	976	976	82	09/15/17	09/15/17 22:33	GM
Methylene chloride	ND		ug/kg dry	976	976	82	09/15/17	09/15/17 22:33	GM
Naphthalene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
n-Propylbenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Styrene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Tetrachloroethene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Toluene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,1,1-Trichloroethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,1,2-Trichloroethane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Trichloroethene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,2,3-Trichloropropane	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,2,4-Trimethylbenzene	**1060**		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
1,3,5-Trimethylbenzene	**2120**		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM

Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

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

Analytical Results

Project: RF-064

Project Number: 05-056 RF-64
Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

B-13 @ 4'-6'

7091202-10 (Soil)
Sample Date: 09/12/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
o-Xylene	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
m- & p-Xylenes	ND		ug/kg dry	488	195	82	09/15/17	09/15/17 22:33	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*103 %*		*09/15/17*		*09/15/17 22:33*	
Surrogate: Toluene-d8			*75-120*	*104 %*		*09/15/17*		*09/15/17 22:33*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*103 %*		*09/15/17*		*09/15/17 22:33*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**38.2**		mg/kg dry	9.76	2.93	82	09/14/17	09/14/17 18:37	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	**29.4**		mg/kg dry	9.5	9.5	1	09/18/17	09/20/17 02:15	CMK
Surrogate: o-Terphenyl			*70-130*	*90 %*		*09/18/17*		*09/20/17 02:15*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**84**		%			1	09/18/17	09/19/17 10:26	GM

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Rabecka Koons, Quality Assurance Specialist

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Maryland spectral Services

Analytical Chemistry Services

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
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Analytical Results

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/21/17 10:01

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

Rabecka Koons

Rabecka Koons, Quality Assurance Specialist

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CHAIN-OF-CUSTODY RECORD

Maryland Spectral Services, Inc.
1500 Caton Center Drive, Suite G
Baltimore, MD 21227
410–247–7600 • Fax 410–247–7602
labman@mdspectral.com

Matrix Codes: NW (non-potable water) PW (potable water)

Company Name:	Project Manager:
AEC	J. Stein
Project Name:	**Project ID:**
RF-64	05-056-064
Sampler(s):	**P.O. Number:**
J. Botero S. Dessel	05-056-064

Field Sample ID	Date	Time	Water	Soil	Other	No. of Containers	VOC's 8260/5035	TPH DRO 8015	TPH GRO 8015/5035	Preservative: 1+1 HCl, H_2SO_4, Methanol, $Na_2S_2O_3$, $NaHCO_3$	Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank	MSS Lab ID
B-5 @ 20'	9/12/17	7:32		X		1	X	X	X			7091202-01
MDE-3 @ 6'-9'		10:40										-02
MDE-3 @ 13'		10:30										-03
MDE-2 @ 5'-7'		9:50										-04
B-13 @ 8'		8:04										-05
MDE-2 @ 15'		9:40										-06
B-13 @ 15'		8:10										-07
B-5 @ 7'-11'		7:40										-08
B-5 @ 12'		7:29										-09
B-13 @ 4'-6'												-10

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
(Printed) Juan Botero	9/12/17 12:46	(Printed) Adrien Mobelka	(Printed)		(Printed)
Relinquished by: (Signature)	Date/Time	Received by Lab: (Signature)			
(Printed)		(Printed)			

Delivery Method:
- ☐ Courier
- ☑ Client
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Other: _____

Special Instructions/QC Requirements & Comments:
J. Stein T Rubino
S Dessel J Botero

Turn Around Time:
- ☒ Normal (7 day)
- ☐ 5 day
- ☐ 4 day
- ☐ 3 day
- ☐ Rush (2 day)
- ☐ Next Day
- ☐ Other: _____
- ☐ Specific Due Date: _____

Lab Use:
Temp: 16.2 °C
- ☐ Received on Ice
- ☑ Received same day
- ☐ Preservation Appropriate

Sample Disposal:
- ☐ Return to Client
- ☑ Disposal by lab
- ☐ Archive for _____ days

Maryland spectral Services

Analytical Chemistry Services

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

20 September 2017

Jeffery Stein
Advantage Environmental Consultants
8610 Baltimore Washington Blvd, Suite 217
Jessup, MD 20794
RE: RF-064

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 14:59.

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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-6 @ 11'		7091103-01	Soil	09/11/17 12:30	09/11/17 14:59
B-6 @ 14'		7091103-02	Soil	09/11/17 11:07	09/11/17 14:59
MDE -1 @ 12.5'		7091103-03	Soil	09/11/17 10:50	09/11/17 14:59
B-8 @ 12'-17'		7091103-04	Soil	09/11/17 12:00	09/11/17 14:59
B-2 @ 20'		7091103-05	Soil	09/11/17 10:25	09/11/17 14:59
B-2 @ 8'-14'		7091103-06	Soil	09/11/17 10:38	09/11/17 14:59
MDE -1@ 9'-15'		7091103-07	Soil	09/11/17 10:58	09/11/17 14:59
B-8 @ 13'		7091103-08	Soil	09/11/17 11:45	09/11/17 14:59
B-6 @ 9.5'-17'		7091103-09	Soil	09/11/17 11:14	09/11/17 14:59

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 11'

7091103-01 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	**15.2**		ug/kg dry	8.9	8.9	1	09/15/17	09/15/17 16:32	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	44.3	44.3	1	09/15/17	09/15/17 16:32	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Benzene	**2.0**	J	ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Bromobenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Bromochloromethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Bromodichloromethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Bromoform	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Bromomethane	ND		ug/kg dry	4.4	4.4	1	09/15/17	09/15/17 16:32	GM
tert-Butanol (TBA)	ND		ug/kg dry	44.3	44.3	1	09/15/17	09/15/17 16:32	GM
2-Butanone (MEK)	ND		ug/kg dry	8.9	8.9	1	09/15/17	09/15/17 16:32	GM
n-Butylbenzene	**5.3**		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
sec-Butylbenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
tert-Butylbenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Carbon disulfide	**4.4**		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Carbon tetrachloride	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Chlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Chloroethane	ND		ug/kg dry	4.4	4.4	1	09/15/17	09/15/17 16:32	GM
Chloroform	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Chloromethane	ND		ug/kg dry	4.4	4.4	1	09/15/17	09/15/17 16:32	GM
2-Chlorotoluene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
4-Chlorotoluene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Dibromochloromethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Dibromomethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,1-Dichloroethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,2-Dichloroethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,1-Dichloroethene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM

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Will Brewington, Staff Chemist

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 11'

7091103-01 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Dichlorofluoromethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,2-Dichloropropane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,3-Dichloropropane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
2,2-Dichloropropane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,1-Dichloropropene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Ethylbenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Hexachlorobutadiene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
2-Hexanone	ND		ug/kg dry	8.9	8.9	1	09/15/17	09/15/17 16:32	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
4-Isopropyltoluene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Methyl tert-butyl ether (MTBE)	**6.8**		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
4-Methyl-2-pentanone	ND		ug/kg dry	8.9	8.9	1	09/15/17	09/15/17 16:32	GM
Methylene chloride	ND		ug/kg dry	8.9	8.9	1	09/15/17	09/15/17 16:32	GM
Naphthalene	**2.7**	J	ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
n-Propylbenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Styrene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Tetrachloroethene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Toluene	**4.5**		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Trichloroethene	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,2,4-Trimethylbenzene	**5.9**		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
1,3,5-Trimethylbenzene	**3.0**	J	ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM

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Will Brewington, Staff Chemist

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 11'

7091103-01 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
o-Xylene	**4.6**		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
m- & p-Xylenes	**4.5**		ug/kg dry	4.4	1.8	1	09/15/17	09/15/17 16:32	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*108 %*		*09/15/17*		*09/15/17 16:32*	
Surrogate: Toluene-d8			*75-120*	*108 %*		*09/15/17*		*09/15/17 16:32*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*94 %*		*09/15/17*		*09/15/17 16:32*	
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	**11.8**		mg/kg dry	9.6	9.6	1	09/14/17	09/16/17 01:27	CMK
Surrogate: o-Terphenyl			*70-130*	*88 %*		*09/14/17*		*09/16/17 01:27*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**83**		%			1	09/18/17	09/19/17 10:26	GM

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Analytical Results

1500 Caton Center Dr Suite G
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Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 11'

7091103-01RE1 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**0.38**		mg/kg dry	0.09	0.03	1	09/15/17	09/15/17 16:24	GM

Will Brewington, Staff Chemist

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
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Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 14'

7091103-02 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	1100	1100	94.3	09/15/17	09/15/17 19:16	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	5480	5480	94.3	09/15/17	09/15/17 19:16	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Benzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Bromobenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Bromochloromethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Bromodichloromethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Bromoform	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Bromomethane	ND		ug/kg dry	548	548	94.3	09/15/17	09/15/17 19:16	GM
tert-Butanol (TBA)	ND		ug/kg dry	5480	5480	94.3	09/15/17	09/15/17 19:16	GM
2-Butanone (MEK)	ND		ug/kg dry	1100	1100	94.3	09/15/17	09/15/17 19:16	GM
n-Butylbenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
sec-Butylbenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
tert-Butylbenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Carbon disulfide	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Carbon tetrachloride	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Chlorobenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Chloroethane	ND		ug/kg dry	548	548	94.3	09/15/17	09/15/17 19:16	GM
Chloroform	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Chloromethane	ND		ug/kg dry	548	548	94.3	09/15/17	09/15/17 19:16	GM
2-Chlorotoluene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
4-Chlorotoluene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Dibromochloromethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Dibromomethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,2-Dichlorobenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,3-Dichlorobenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,4-Dichlorobenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Dichlorodifluoromethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,1-Dichloroethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,2-Dichloroethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,1-Dichloroethene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 14'

7091103-02 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Dichlorofluoromethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,2-Dichloropropane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,3-Dichloropropane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
2,2-Dichloropropane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,1-Dichloropropene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Ethylbenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Hexachlorobutadiene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
2-Hexanone	ND		ug/kg dry	1100	1100	94.3	09/15/17	09/15/17 19:16	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
4-Isopropyltoluene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
4-Methyl-2-pentanone	ND		ug/kg dry	1100	1100	94.3	09/15/17	09/15/17 19:16	GM
Methylene chloride	ND		ug/kg dry	1100	1100	94.3	09/15/17	09/15/17 19:16	GM
Naphthalene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
n-Propylbenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Styrene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Tetrachloroethene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Toluene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,1,1-Trichloroethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,1,2-Trichloroethane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Trichloroethene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,2,3-Trichloropropane	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,2,4-Trimethylbenzene	**293**	J	ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
1,3,5-Trimethylbenzene	**393**	J	ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 14'

7091103-02 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
o-Xylene	ND		ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
m- & p-Xylenes	**238**	J	ug/kg dry	548	219	94.3	09/15/17	09/15/17 19:16	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*106 %*		*09/15/17*		*09/15/17 19:16*	
Surrogate: Toluene-d8			*75-120*	*104 %*		*09/15/17*		*09/15/17 19:16*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*99 %*		*09/15/17*		*09/15/17 19:16*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**13.1**		mg/kg dry	11.0	3.29	94.3	09/14/17	09/14/17 14:05	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	**157**		mg/kg dry	18.6	18.6	2	09/14/17	09/16/17 01:54	CMK
Surrogate: o-Terphenyl			*70-130*	*95 %*		*09/14/17*		*09/16/17 01:54*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**86**		%			1	09/18/17	09/19/17 10:26	GM

Will Brewington, Staff Chemist

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

MDE -1 @ 12.5'

7091103-03 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	1930	1930	164	09/15/17	09/15/17 19:41	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	9650	9650	164	09/15/17	09/15/17 19:41	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Benzene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Bromobenzene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Bromochloromethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Bromodichloromethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Bromoform	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Bromomethane	ND		ug/kg dry	965	965	164	09/15/17	09/15/17 19:41	GM
tert-Butanol (TBA)	ND		ug/kg dry	9650	9650	164	09/15/17	09/15/17 19:41	GM
2-Butanone (MEK)	ND		ug/kg dry	1930	1930	164	09/15/17	09/15/17 19:41	GM
n-Butylbenzene	**5600**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
sec-Butylbenzene	**1890**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
tert-Butylbenzene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Carbon disulfide	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Carbon tetrachloride	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Chlorobenzene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Chloroethane	ND		ug/kg dry	965	965	164	09/15/17	09/15/17 19:41	GM
Chloroform	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Chloromethane	ND		ug/kg dry	965	965	164	09/15/17	09/15/17 19:41	GM
2-Chlorotoluene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
4-Chlorotoluene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Dibromochloromethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Dibromomethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,2-Dichlorobenzene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,3-Dichlorobenzene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,4-Dichlorobenzene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Dichlorodifluoromethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,1-Dichloroethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,2-Dichloroethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,1-Dichloroethene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM

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Will Brewington, Staff Chemist

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

MDE -1 @ 12.5'

7091103-03 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Dichlorofluoromethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,2-Dichloropropane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,3-Dichloropropane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
2,2-Dichloropropane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,1-Dichloropropene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Ethylbenzene	**15100**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Hexachlorobutadiene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
2-Hexanone	ND		ug/kg dry	1930	1930	164	09/15/17	09/15/17 19:41	GM
Isopropylbenzene (Cumene)	**3730**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
4-Isopropyltoluene	**3550**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
4-Methyl-2-pentanone	ND		ug/kg dry	1930	1930	164	09/15/17	09/15/17 19:41	GM
Methylene chloride	ND		ug/kg dry	1930	1930	164	09/15/17	09/15/17 19:41	GM
Naphthalene	**8030**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
n-Propylbenzene	**13100**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Styrene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Tetrachloroethene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Toluene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,1,1-Trichloroethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,1,2-Trichloroethane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Trichloroethene	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,2,3-Trichloropropane	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,2,4-Trimethylbenzene	**82500**	E	ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
1,3,5-Trimethylbenzene	**26100**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

MDE -1 @ 12.5'

7091103-03 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
o-Xylene	**2650**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
m- & p-Xylenes	**48900**		ug/kg dry	965	386	164	09/15/17	09/15/17 19:41	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*110 %*		*09/15/17*		*09/15/17 19:41*	
Surrogate: Toluene-d8			*75-120*	*105 %*		*09/15/17*		*09/15/17 19:41*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*104 %*		*09/15/17*		*09/15/17 19:41*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**397**		mg/kg dry	9.65	2.89	82	09/14/17	09/14/17 14:35	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	**14.1**		mg/kg dry	9.4	9.4	1	09/14/17	09/16/17 02:20	CMK
Surrogate: o-Terphenyl			*70-130*	*95 %*		*09/14/17*		*09/16/17 02:20*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**85**		%			1	09/18/17	09/19/17 10:26	GM

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-8 @ 12'-17'

7091103-04 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	8.9	8.9	1	09/13/17	09/13/17 17:48	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	44.4	44.4	1	09/13/17	09/13/17 17:48	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Benzene	**12.3**		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Bromobenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Bromochloromethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Bromodichloromethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Bromoform	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Bromomethane	ND		ug/kg dry	4.4	4.4	1	09/13/17	09/13/17 17:48	GM
tert-Butanol (TBA)	ND		ug/kg dry	44.4	44.4	1	09/13/17	09/13/17 17:48	GM
2-Butanone (MEK)	ND		ug/kg dry	8.9	8.9	1	09/13/17	09/13/17 17:48	GM
n-Butylbenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
sec-Butylbenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
tert-Butylbenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Carbon disulfide	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Carbon tetrachloride	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Chlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Chloroethane	ND		ug/kg dry	4.4	4.4	1	09/13/17	09/13/17 17:48	GM
Chloroform	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Chloromethane	ND		ug/kg dry	4.4	4.4	1	09/13/17	09/13/17 17:48	GM
2-Chlorotoluene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
4-Chlorotoluene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Dibromochloromethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Dibromomethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,1-Dichloroethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,2-Dichloroethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,1-Dichloroethene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-8 @ 12'-17'

7091103-04 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Dichlorofluoromethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,2-Dichloropropane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,3-Dichloropropane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
2,2-Dichloropropane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,1-Dichloropropene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Ethylbenzene	**10.0**		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Hexachlorobutadiene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
2-Hexanone	ND		ug/kg dry	8.9	8.9	1	09/13/17	09/13/17 17:48	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
4-Isopropyltoluene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
4-Methyl-2-pentanone	ND		ug/kg dry	8.9	8.9	1	09/13/17	09/13/17 17:48	GM
Methylene chloride	ND		ug/kg dry	8.9	8.9	1	09/13/17	09/13/17 17:48	GM
Naphthalene	**3.2**	J	ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
n-Propylbenzene	**3.7**	J	ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Styrene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Tetrachloroethene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Toluene	**7.9**		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Trichloroethene	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,2,4-Trimethylbenzene	**23.1**		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
1,3,5-Trimethylbenzene	**6.1**		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-8 @ 12'-17'

7091103-04 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
o-Xylene	**12.2**		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
m- & p-Xylenes	**37.3**		ug/kg dry	4.4	1.8	1	09/13/17	09/13/17 17:48	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*105 %*		*09/13/17*		*09/13/17 17:48*	
Surrogate: Toluene-d8			*75-120*	*103 %*		*09/13/17*		*09/13/17 17:48*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*100 %*		*09/13/17*		*09/13/17 17:48*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**0.47**		mg/kg dry	0.09	0.03	1	09/13/17	09/13/17 19:19	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.5	9.5	1	09/14/17	09/16/17 02:47	CMK
Surrogate: o-Terphenyl			*70-130*	*93 %*		*09/14/17*		*09/16/17 02:47*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**84**		%			1	09/18/17	09/19/17 10:26	GM

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Will Brewington, Staff Chemist

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-2 @ 20'

7091103-05 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.4	9.4	1	09/14/17	09/16/17 03:14	CMK
Surrogate: o-Terphenyl			*70-130*	*88 %*	*09/14/17*		*09/16/17 03:14*		
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**85**		%			1	09/18/17	09/19/17 10:26	GM

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Will Brewington, Staff Chemist

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Analytical Results

1500 Caton Center Dr Suite G
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www.mdspectral.com

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-2 @ 20'

7091103-05RE1 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	**56.4**		ug/kg dry	8.3	8.3	1	09/20/17	09/20/17 10:49	GM
tert-Amyl alcohol (TAA)	**1030**	E	ug/kg dry	41.4	41.4	1	09/20/17	09/20/17 10:49	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Benzene	**79.1**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Bromobenzene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Bromochloromethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Bromodichloromethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Bromoform	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Bromomethane	ND		ug/kg dry	4.1	4.1	1	09/20/17	09/20/17 10:49	GM
tert-Butanol (TBA)	ND		ug/kg dry	41.4	41.4	1	09/20/17	09/20/17 10:49	GM
2-Butanone (MEK)	ND		ug/kg dry	8.3	8.3	1	09/20/17	09/20/17 10:49	GM
n-Butylbenzene	**1.9**	J	ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
sec-Butylbenzene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
tert-Butylbenzene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Carbon disulfide	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Carbon tetrachloride	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Chlorobenzene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Chloroethane	ND		ug/kg dry	4.1	4.1	1	09/20/17	09/20/17 10:49	GM
Chloroform	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Chloromethane	ND		ug/kg dry	4.1	4.1	1	09/20/17	09/20/17 10:49	GM
2-Chlorotoluene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
4-Chlorotoluene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Dibromochloromethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Dibromomethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,1-Dichloroethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,2-Dichloroethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,1-Dichloroethene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-2 @ 20'

7091103-05RE1 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Dichlorofluoromethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,2-Dichloropropane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,3-Dichloropropane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
2,2-Dichloropropane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,1-Dichloropropene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Diisopropyl ether (DIPE)	**14.5**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Ethylbenzene	**64.7**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Hexachlorobutadiene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
2-Hexanone	ND		ug/kg dry	8.3	8.3	1	09/20/17	09/20/17 10:49	GM
Isopropylbenzene (Cumene)	**5.9**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
4-Isopropyltoluene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Methyl tert-butyl ether (MTBE)	**3.9**	J	ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
4-Methyl-2-pentanone	ND		ug/kg dry	8.3	8.3	1	09/20/17	09/20/17 10:49	GM
Methylene chloride	ND		ug/kg dry	8.3	8.3	1	09/20/17	09/20/17 10:49	GM
Naphthalene	**31.8**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
n-Propylbenzene	**11.9**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Styrene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Tetrachloroethene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Toluene	**15.9**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Trichloroethene	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,2,4-Trimethylbenzene	**76.4**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
1,3,5-Trimethylbenzene	**25.2**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Vinyl chloride	ND		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM

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Will Brewington, Staff Chemist

As a NELAP accredited laboratory, MSS can provide a certification list upon request.

Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-2 @ 20'

7091103-05RE1 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
o-Xylene	**6.6**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
m- & p-Xylenes	**50.8**		ug/kg dry	4.1	1.7	1	09/20/17	09/20/17 10:49	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*117 %*		*09/20/17*		*09/20/17 10:49*	
Surrogate: Toluene-d8			*75-120*	*100 %*		*09/20/17*		*09/20/17 10:49*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*102 %*		*09/20/17*		*09/20/17 10:49*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**1.81**		mg/kg dry	0.09	0.03	1	09/15/17	09/15/17 17:37	GM

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-2 @ 8'-14'

7091103-06 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	8.7	8.7	1	09/13/17	09/13/17 18:13	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	43.4	43.4	1	09/13/17	09/13/17 18:13	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Benzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Bromobenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Bromochloromethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Bromodichloromethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Bromoform	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Bromomethane	ND		ug/kg dry	4.3	4.3	1	09/13/17	09/13/17 18:13	GM
tert-Butanol (TBA)	ND		ug/kg dry	43.4	43.4	1	09/13/17	09/13/17 18:13	GM
2-Butanone (MEK)	ND		ug/kg dry	8.7	8.7	1	09/13/17	09/13/17 18:13	GM
n-Butylbenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
sec-Butylbenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
tert-Butylbenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Carbon disulfide	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Carbon tetrachloride	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Chlorobenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Chloroethane	ND		ug/kg dry	4.3	4.3	1	09/13/17	09/13/17 18:13	GM
Chloroform	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Chloromethane	ND		ug/kg dry	4.3	4.3	1	09/13/17	09/13/17 18:13	GM
2-Chlorotoluene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
4-Chlorotoluene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Dibromochloromethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Dibromomethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,2-Dichlorobenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,3-Dichlorobenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,4-Dichlorobenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Dichlorodifluoromethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,1-Dichloroethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,2-Dichloroethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,1-Dichloroethene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-2 @ 8'-14'

7091103-06 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Dichlorofluoromethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,2-Dichloropropane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,3-Dichloropropane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
2,2-Dichloropropane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,1-Dichloropropene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Ethylbenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Hexachlorobutadiene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
2-Hexanone	ND		ug/kg dry	8.7	8.7	1	09/13/17	09/13/17 18:13	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
4-Isopropyltoluene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
4-Methyl-2-pentanone	ND		ug/kg dry	8.7	8.7	1	09/13/17	09/13/17 18:13	GM
Methylene chloride	ND		ug/kg dry	8.7	8.7	1	09/13/17	09/13/17 18:13	GM
Naphthalene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
n-Propylbenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Styrene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Tetrachloroethene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Toluene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,1,1-Trichloroethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,1,2-Trichloroethane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Trichloroethene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,2,3-Trichloropropane	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,2,4-Trimethylbenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
1,3,5-Trimethylbenzene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-2 @ 8'-14'

7091103-06 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
o-Xylene	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
m- & p-Xylenes	ND		ug/kg dry	4.3	1.7	1	09/13/17	09/13/17 18:13	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*106 %*		*09/13/17*		*09/13/17 18:13*	
Surrogate: Toluene-d8			*75-120*	*102 %*		*09/13/17*		*09/13/17 18:13*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*101 %*		*09/13/17*		*09/13/17 18:13*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	ND		mg/kg dry	0.09	0.03	1	09/13/17	09/13/17 19:49	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	ND		mg/kg dry	9.3	9.3	1	09/14/17	09/16/17 03:41	CMK
Surrogate: o-Terphenyl			*70-130*	*90 %*		*09/14/17*		*09/16/17 03:41*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**86**		%			1	09/18/17	09/19/17 10:26	GM

Will Brewington, Staff Chemist

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

MDE -1@ 9'-15'

7091103-07 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	985	985	84.7	09/15/17	09/15/17 20:30	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	4920	4920	84.7	09/15/17	09/15/17 20:30	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Benzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Bromobenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Bromochloromethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Bromodichloromethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Bromoform	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Bromomethane	ND		ug/kg dry	492	492	84.7	09/15/17	09/15/17 20:30	GM
tert-Butanol (TBA)	ND		ug/kg dry	4920	4920	84.7	09/15/17	09/15/17 20:30	GM
2-Butanone (MEK)	ND		ug/kg dry	985	985	84.7	09/15/17	09/15/17 20:30	GM
n-Butylbenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
sec-Butylbenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
tert-Butylbenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Carbon disulfide	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Carbon tetrachloride	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Chlorobenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Chloroethane	ND		ug/kg dry	492	492	84.7	09/15/17	09/15/17 20:30	GM
Chloroform	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Chloromethane	ND		ug/kg dry	492	492	84.7	09/15/17	09/15/17 20:30	GM
2-Chlorotoluene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
4-Chlorotoluene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Dibromochloromethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Dibromomethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,2-Dichlorobenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,3-Dichlorobenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,4-Dichlorobenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Dichlorodifluoromethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,1-Dichloroethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,2-Dichloroethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,1-Dichloroethene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM

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Will Brewington, Staff Chemist

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

MDE -1@ 9'-15'

7091103-07 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Dichlorofluoromethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,2-Dichloropropane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,3-Dichloropropane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
2,2-Dichloropropane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,1-Dichloropropene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Ethylbenzene	**431**	J	ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Hexachlorobutadiene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
2-Hexanone	ND		ug/kg dry	985	985	84.7	09/15/17	09/15/17 20:30	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
4-Isopropyltoluene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
4-Methyl-2-pentanone	ND		ug/kg dry	985	985	84.7	09/15/17	09/15/17 20:30	GM
Methylene chloride	ND		ug/kg dry	985	985	84.7	09/15/17	09/15/17 20:30	GM
Naphthalene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
n-Propylbenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Styrene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Tetrachloroethene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Toluene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,1,1-Trichloroethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,1,2-Trichloroethane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Trichloroethene	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,2,3-Trichloropropane	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,2,4-Trimethylbenzene	**879**		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
1,3,5-Trimethylbenzene	**295**	J	ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

MDE -1@ 9'-15'

7091103-07 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
o-Xylene	**231**	J	ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
m- & p-Xylenes	**1710**		ug/kg dry	492	197	84.7	09/15/17	09/15/17 20:30	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*105 %*		*09/15/17*		*09/15/17 20:30*	
Surrogate: Toluene-d8			*75-120*	*104 %*		*09/15/17*		*09/15/17 20:30*	
Surrogate: 4-Bromofluorobenzene			*70-120*	*99 %*		*09/15/17*		*09/15/17 20:30*	
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**28.2**		mg/kg dry	9.85	2.95	84.7	09/14/17	09/14/17 15:36	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	**42.7**		mg/kg dry	9.3	9.3	1	09/14/17	09/16/17 04:08	CMK
Surrogate: o-Terphenyl			*70-130*	*80 %*		*09/14/17*		*09/16/17 04:08*	
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**86**		%			1	09/18/17	09/19/17 10:26	GM

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Analytical Results

1500 Caton Center Dr Suite G
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www.mdspectral.com

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-8 @ 13'

7091103-08 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	1950	1950	169.4	09/15/17	09/15/17 20:54	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	9740	9740	169.4	09/15/17	09/15/17 20:54	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Benzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Bromobenzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Bromochloromethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Bromodichloromethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Bromoform	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Bromomethane	ND		ug/kg dry	974	974	169.4	09/15/17	09/15/17 20:54	GM
tert-Butanol (TBA)	ND		ug/kg dry	9740	9740	169.4	09/15/17	09/15/17 20:54	GM
2-Butanone (MEK)	ND		ug/kg dry	1950	1950	169.4	09/15/17	09/15/17 20:54	GM
n-Butylbenzene	**1800**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
sec-Butylbenzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
tert-Butylbenzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Carbon disulfide	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Carbon tetrachloride	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Chlorobenzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Chloroethane	ND		ug/kg dry	974	974	169.4	09/15/17	09/15/17 20:54	GM
Chloroform	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Chloromethane	ND		ug/kg dry	974	974	169.4	09/15/17	09/15/17 20:54	GM
2-Chlorotoluene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
4-Chlorotoluene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Dibromochloromethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Dibromomethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,2-Dichlorobenzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,3-Dichlorobenzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,4-Dichlorobenzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Dichlorodifluoromethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,1-Dichloroethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,2-Dichloroethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,1-Dichloroethene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-8 @ 13'

7091103-08 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Dichlorofluoromethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,2-Dichloropropane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,3-Dichloropropane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
2,2-Dichloropropane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,1-Dichloropropene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Ethylbenzene	**9490**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Hexachlorobutadiene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
2-Hexanone	ND		ug/kg dry	1950	1950	169.4	09/15/17	09/15/17 20:54	GM
Isopropylbenzene (Cumene)	**1590**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
4-Isopropyltoluene	**1080**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
4-Methyl-2-pentanone	ND		ug/kg dry	1950	1950	169.4	09/15/17	09/15/17 20:54	GM
Methylene chloride	ND		ug/kg dry	1950	1950	169.4	09/15/17	09/15/17 20:54	GM
Naphthalene	**3930**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
n-Propylbenzene	**5280**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Styrene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Tetrachloroethene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Toluene	**8460**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,1,1-Trichloroethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,1,2-Trichloroethane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Trichloroethene	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,2,3-Trichloropropane	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,2,4-Trimethylbenzene	**31600**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
1,3,5-Trimethylbenzene	**9410**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Vinyl chloride	ND		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-8 @ 13'

7091103-08 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
o-Xylene	**13200**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
m- & p-Xylenes	**34600**		ug/kg dry	974	389	169.4	09/15/17	09/15/17 20:54	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*104 %*		*09/15/17*	*09/15/17 20:54*		
Surrogate: Toluene-d8			*75-120*	*105 %*		*09/15/17*	*09/15/17 20:54*		
Surrogate: 4-Bromofluorobenzene			*70-120*	*102 %*		*09/15/17*	*09/15/17 20:54*		
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**242**		mg/kg dry	9.74	2.92	84.7	09/14/17	09/14/17 16:06	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	**16.2**		mg/kg dry	9.2	9.2	1	09/14/17	09/16/17 04:34	CMK
Surrogate: o-Terphenyl			*70-130*	*95 %*		*09/14/17*	*09/16/17 04:34*		
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**87**		%			1	09/18/17	09/19/17 10:26	GM

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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-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 9.5'-17'

7091103-09 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS)									
Acetone	ND		ug/kg dry	853	853	72.5	09/15/17	09/15/17 21:19	GM
tert-Amyl alcohol (TAA)	ND		ug/kg dry	4260	4260	72.5	09/15/17	09/15/17 21:19	GM
tert-Amyl methyl ether (TAME)	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Benzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Bromobenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Bromochloromethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Bromodichloromethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Bromoform	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Bromomethane	ND		ug/kg dry	426	426	72.5	09/15/17	09/15/17 21:19	GM
tert-Butanol (TBA)	ND		ug/kg dry	4260	4260	72.5	09/15/17	09/15/17 21:19	GM
2-Butanone (MEK)	ND		ug/kg dry	853	853	72.5	09/15/17	09/15/17 21:19	GM
n-Butylbenzene	**221**	J	ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
sec-Butylbenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
tert-Butylbenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Carbon disulfide	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Carbon tetrachloride	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Chlorobenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Chloroethane	ND		ug/kg dry	426	426	72.5	09/15/17	09/15/17 21:19	GM
Chloroform	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Chloromethane	ND		ug/kg dry	426	426	72.5	09/15/17	09/15/17 21:19	GM
2-Chlorotoluene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
4-Chlorotoluene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,2-Dibromo-3-chloropropane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Dibromochloromethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,2-Dibromoethane (EDB)	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Dibromomethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,2-Dichlorobenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,3-Dichlorobenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,4-Dichlorobenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Dichlorodifluoromethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,1-Dichloroethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,2-Dichloroethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,1-Dichloroethene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
cis-1,2-Dichloroethene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM

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Analytical Results

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

Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 9.5'-17'

7091103-09 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
trans-1,2-Dichloroethene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Dichlorofluoromethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,2-Dichloropropane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,3-Dichloropropane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
2,2-Dichloropropane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,1-Dichloropropene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
cis-1,3-Dichloropropene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
trans-1,3-Dichloropropene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Diisopropyl ether (DIPE)	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Ethylbenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Hexachlorobutadiene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
2-Hexanone	ND		ug/kg dry	853	853	72.5	09/15/17	09/15/17 21:19	GM
Isopropylbenzene (Cumene)	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
4-Isopropyltoluene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
4-Methyl-2-pentanone	ND		ug/kg dry	853	853	72.5	09/15/17	09/15/17 21:19	GM
Methylene chloride	ND		ug/kg dry	853	853	72.5	09/15/17	09/15/17 21:19	GM
Naphthalene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
n-Propylbenzene	**236**	J	ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Styrene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,1,1,2-Tetrachloroethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,1,2,2-Tetrachloroethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Tetrachloroethene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Toluene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,2,3-Trichlorobenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,2,4-Trichlorobenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,1,1-Trichloroethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,1,2-Trichloroethane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Trichloroethene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Trichlorofluoromethane (Freon 11)	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,2,3-Trichloropropane	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,2,4-Trimethylbenzene	**2010**		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
1,3,5-Trimethylbenzene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM

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Analytical Results

1500 Caton Center Dr Suite G
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Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

B-6 @ 9.5'-17'

7091103-09 (Soil)
Sample Date: 09/11/17

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Quantitation Limit (LOQ)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 5035/8260B (GC/MS) (continued)									
Vinyl chloride	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
o-Xylene	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
m- & p-Xylenes	ND		ug/kg dry	426	171	72.5	09/15/17	09/15/17 21:19	GM
Surrogate: 1,2-Dichloroethane-d4			*70-130*	*104 %*	*09/15/17*		*09/15/17 21:19*		
Surrogate: Toluene-d8			*75-120*	*105 %*	*09/15/17*		*09/15/17 21:19*		
Surrogate: 4-Bromofluorobenzene			*70-120*	*102 %*	*09/15/17*		*09/15/17 21:19*		
GASOLINE RANGE ORGANICS BY EPA 5035/8015B									
Gasoline-Range Organics	**88.3**		mg/kg dry	8.53	2.56	72.5	09/14/17	09/14/17 16:36	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015B									
Diesel-Range Organics	**12.4**		mg/kg dry	9.4	9.4	1	09/14/17	09/16/17 05:01	CMK
Surrogate: o-Terphenyl			*70-130*	*89 %*	*09/14/17*		*09/16/17 05:01*		
PERCENT SOLIDS BY ASTM D2216-05									
Percent Solids	**85**		%			1	09/18/17	09/19/17 10:26	GM

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Analytical Results

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410-247-7600
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Project: RF-064

Project Number: 05-056 RF-64

Project Manager: Jeffery Stein

Reported:
09/20/17 11:37

Notes and Definitions

S-07	Surrogate recovery outside control limits due to sample matrix effect.
J	Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-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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CHAIN-OF-CUSTODY RECORD

Maryland Spectral Services, Inc.
1500 Caton Center Drive, Suite G
Baltimore, MD 21227
410–247–7600 • Fax 410–247–7602
labman@mdspectral.com

Matrix Codes: NW (nonpotable water)
PW (potable water)

Company Name:	Project Manager:
AEC	j.Stein
Project Name:	**Project ID:**
RF-64	05-056-064
Sampler(s):	**P.O. Number:**
J.Botero S.Dessel	05-056-064

Field Sample ID	Date	Time	Water	Soil	Other	No. of Containers	Analysis Requested: VOCs 5035/8260	TPH DRO	TPH GRO 5035	Preservative: 1+1 HCL, H_2SO_4, Methanol, $Na_2S_2O_3$, $NaHCO_3$	Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank	MSS Lab ID
B-6@11'	9/11/17	12:30		X			X	X	X			7091103-01
B-6@14'		11:07		X								-02
MDE-1@12.5'		10:50		X								-03
B-8@12'-17'		12:00		X								-04
B-2@20'		10:25		X								-05
B-2@8'-14'		10:38		X								-06
MDE-1@9'-15'		10:58		X								-07
B-8@13'		11:45		X								-08
B-6@9.5'-17'		11:14		X								-09

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
(Printed) Juan Botero	9/11/17 14:59	(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date/Time	Received by Lab: (Signature)			
(Printed)	9/11/17 1459	(Printed) Grady Mulhall			

Delivery Method:
- ☐ Courier
- ☒ Client
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Other:_____

Special Instructions/QC Requirements & Comments:
J Stein
J Botero
T Rubino
S Dessel

Turn Around Time:
- ☒ Normal (7 day)
- ☐ 5 day
- ☐ 4 day
- ☐ 3 day
- ☐ Rush (2 day)
- ☐ Next Day
- ☐ Other: _____
- ☐ Specific Due Date: _____

Lab Use:
Temp: 6.0 °C
- ☑ Received on Ice
- ☑ Received same day
- ☐ Preservation Appropriate

Sample Disposal:
- ☐ Return to Client
- ☒ Disposal by lab
- ☐ Archive for _____ days

MSS-F001-03/13