January 6, 2020

Ms. Ellen Jackson, Central Region Section Head
Maryland Department of the Environment
Remediation Division
Oil Control Program
1800 Washington Boulevard, Suite 620
Baltimore, Maryland 21230-1719

Via: FedEx

Re: 2019 Fourth Quarter Status Report
Former Hess Station #20204
1613 East Joppa Road
Towson, Maryland
Case Number 1991-2100 BA

Dear Ms. Jackson:

Enclosed please find the above-referenced report. This report includes results from the November 13, 2019 groundwater monitoring and sampling event. This report also summarizes the results of the groundwater management system (System) vapor screening, operations and maintenance (O&M), and discharge sampling events conducted during the Fourth Quarter of 2019.

Should you have any questions or require any additional information, please feel free to contact me by telephone at (610) 866-7799 or via email at jfox@emsenv.com. If you have any questions relating to the project, please contact John Schenkewitz of Hess Corporation at (609) 406-3969.

Sincerely,
EMS Environmental, Inc.

Jeremy L. Fox
Regional Manager

Enclosure
cc: J. Schenkewitz, Hess Corporation
T. Jackson, Baker Botts
G. Helfrick, PMG
B. Hopkins, NeighborSpace
P. Groff Robertson, WSP

January 6, 2020

2019 FOURTH QUARTER STATUS REPORT
FORMER HESS STATION #20204
1613 East Joppa Road
Towson, Maryland
Case Number 1991-2100 BA

Prepared For: Hess Corporation
Trenton-Mercer Airport
601 Jack Stephan Way
West Trenton, NJ 08628

Prepared By: EMS Environmental, Inc.
4550 Bath Pike
Bethlehem, PA 18017

INTRODUCTION

The following is the 2019 Fourth Quarter Site Status Report for Former Hess Station #20204, located at 1613 East Joppa Road in Towson, Maryland. This report includes results from the November 13, 2019 groundwater monitoring and sampling event. Also included in this report are summaries of the groundwater management system vapor screening, operations and maintenance (O&M), and discharge sampling events. **Figure 1** is included as a Site Plan depicting the subject site layout, adjacent properties, the site's below-grade system, as well as all monitoring wells, piezometers, storm drain outlets, and vapor monitoring points bounded by the area known as Ridgely Manor Park. Refer to **Tables 1** and **2** for a summary of the groundwater data collected during the monitoring and sampling event. Refer to the **Appendix** for copies of the corresponding laboratory analytical reports.

During the Fourth Quarter of 2019, continued monthly system vapor screening events, using a photoionization detector (PID), were conducted at the designated vapor monitoring points depicted in **Figure 1**. Additionally, system O&M events were performed on a bi-monthly basis. Post-treatment discharge samples were collected twice monthly from the system's groundwater collection vault. Besides routine system maintenance (e.g. filter bag and carbon changeouts, pump and hose checks, electrical component maintenance, system throughput monitoring, etc.), noteworthy or unusual conditions, such as surficial dissolved iron staining, were not observed. **Tables 3** through **5** summarize the system vapor screening and discharge data.

GENERAL INFORMATION

Site:	Former Hess Station #20204 – Towson, MD (See **Figure 1**)
Sampling Frequency:	Semi-Annual
Reporting Frequency:	Quarterly
Monitoring Wells/Piezometers Sampled:	MW-4, MW-7, YMW-1 through YMW-4, YMW-8, YP-1, YP-2 and YP-5
Monitoring Wells/Piezometers Not Sampled:	MDE-4, MW-1, OW-1, YMW-5, YMW-6, YMW-7, YMW-9, YP-3 and YP-4
Monitoring Wells/Piezometers Gauged:	MDE-4, MW-1, MW-4, MW-7, OW-1, YMW-1 through YMW-9 and YP-1 through YP-5
Monitoring Wells/Piezometers Not Gauged:	None
Required Analysis:	Full Scan Volatile Organic Compounds (VOCs) + Fuel Oxygenates by EPA Method 8260C, and Total Petroleum Hydrocarbons-Gasoline Range Organics (TPH-GRO) and Total Petroleum Hydrocarbons-Diesel Range Organics (TPH-DRO) by EPA Method 8015C

SAMPLING DATA

Groundwater Sampling Event:	November 13, 2019
Depth to Groundwater:	2.61 feet (YMW-2) to 20.66 feet (OW-1)
Groundwater Elevation:	427.19 feet (YMW-6) to 435.48 feet (MW-1) (See **Table 1**, **Table 2**, and **Figure 2**)
Groundwater Flow:	Predominantly south (See **Figure 2**)
Liquid Phase Hydrocarbons (LPH) Identified:	None
Dissolved Phase Concentrations Reported:	See **Table 1** and **Figure 3**

REMEDIATION DATA

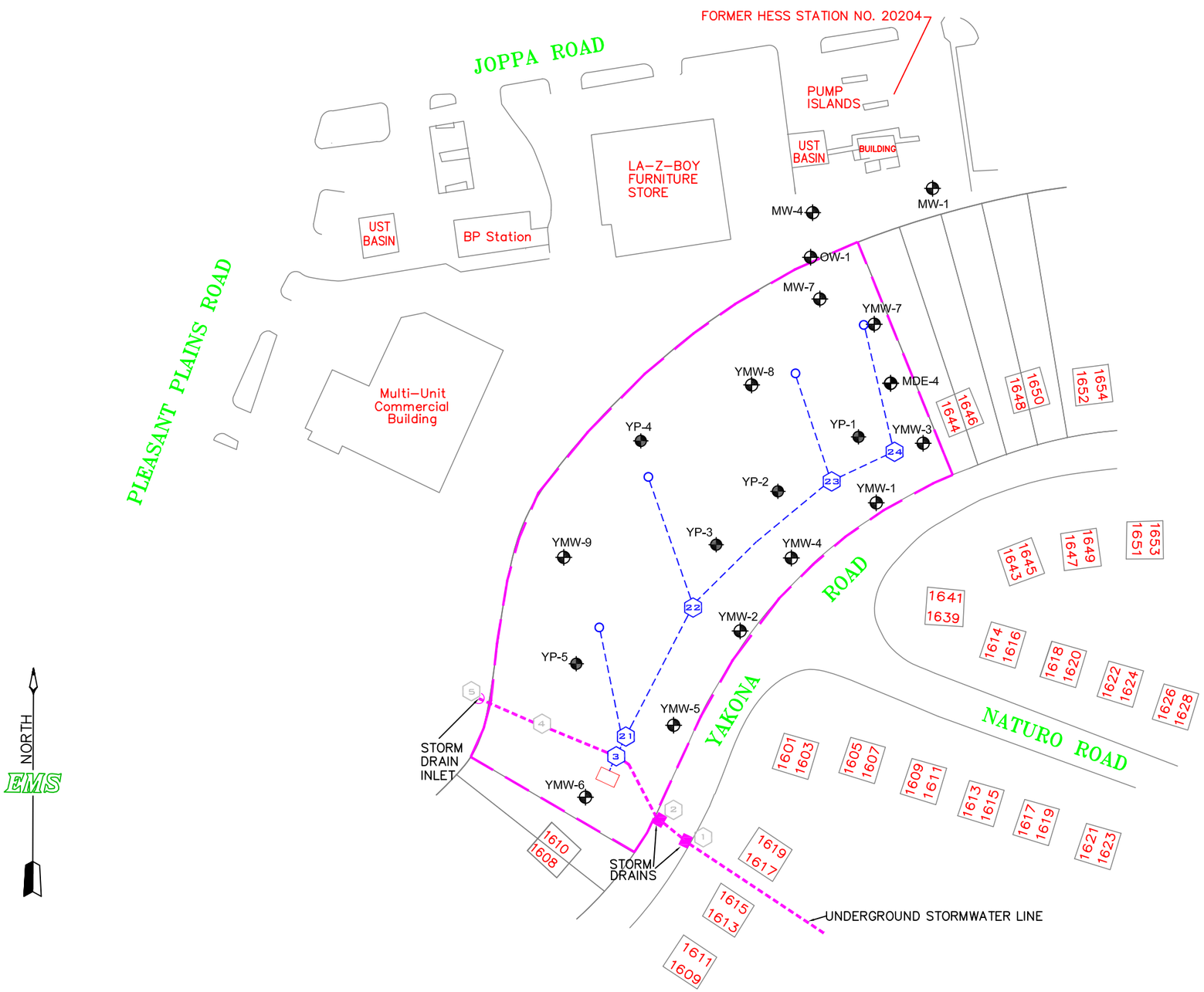
Technology:	Groundwater Collection System
System Start:	May 22, 2014
Waste Stream Treatment:	Groundwater collected within the site's groundwater collection system vault is treated via the use of both liquid phase carbon adsorbers and filter bags prior to being discharged to the adjacent public storm sewer system.
Vapor Screening Frequency:	Monthly
O&M Frequency:	Weekly
Discharge Sampling Frequency:	Twice monthly
System Performance Data:	See **Tables 4** and **5**

SCHEDULED/PROPOSED WORK

System vapor screening events are scheduled to continue on a monthly basis during the First Quarter of 2020. System O&M events and discharge sampling events are scheduled to continue weekly and twice monthly, respectively, during the First Quarter of 2020. Groundwater monitoring and sampling will continue on a semi-annual basis.

ATTACHMENTS

Figure 1:	Site Plan
Figure 2:	Groundwater Elevation & Hydraulic Contour Map (November 13, 2019)
Figure 3:	Hydrocarbon Distribution Map (November 13, 2019)
Table 1:	Historical Groundwater Monitoring Data Summary
Table 2:	Groundwater Gauging Results Summary
Table 3:	Monthly PID Screening Results Summary
Table 4:	Groundwater Treatment System Discharge Summary
Table 5:	Groundwater Treatment System Sampling Results Summary
Appendix:	Laboratory Analytical Report (November 13, 2019)



LEGEND

- Ridgely Manor Park Boundary
- Groundwater Monitoring Well
- Piezometer
- Groundwater Management System Access Manhole (Vapor Screening Point)
- Stormwater Inlet Callout
- Drainage Piping Cleanout
- Below Grade Groundwater Management System Vault
- Underground Groundwater Management System Drainage Piping

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

FIGURE 1

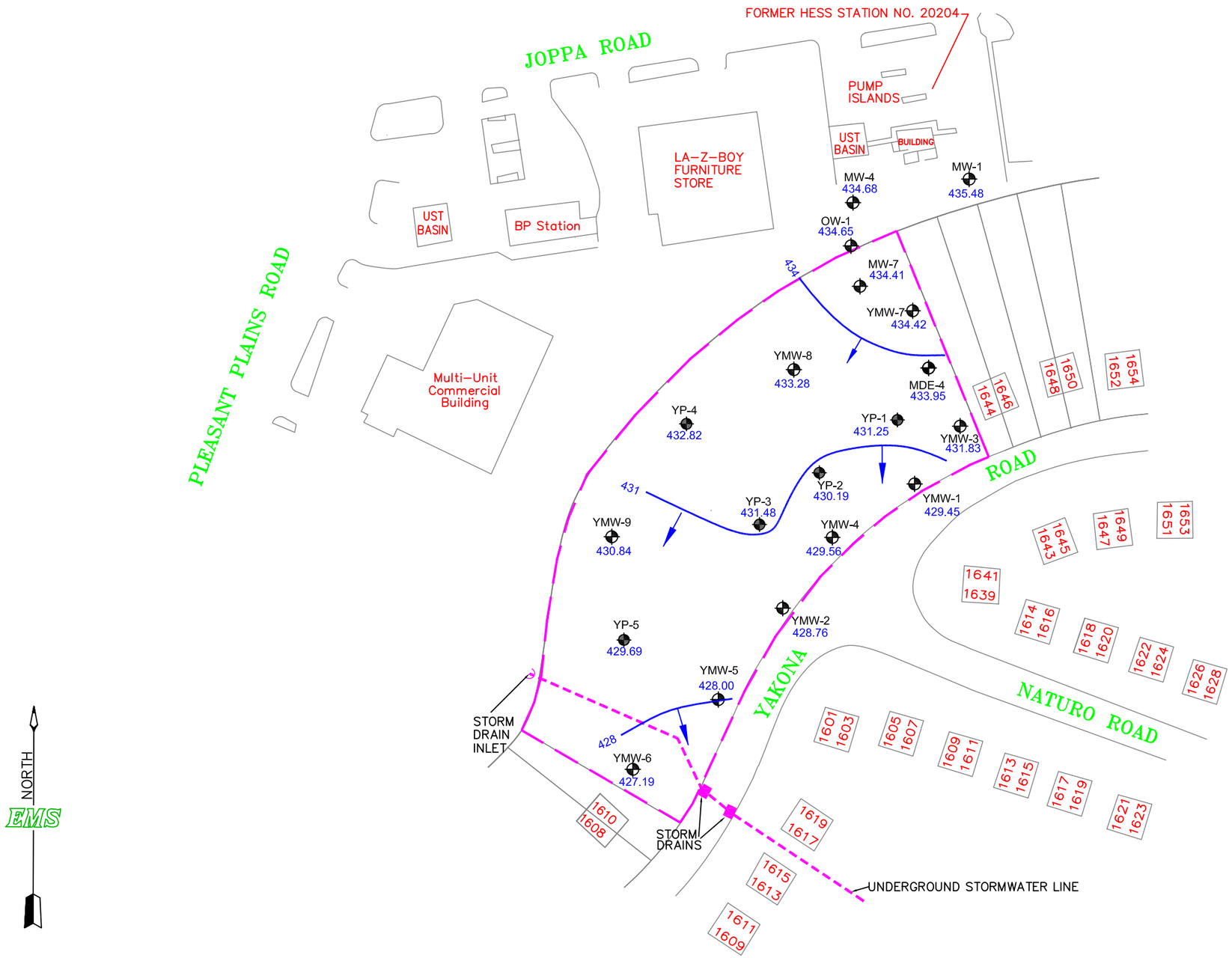
SITE PLAN

FORMER HESS STATION #20204
1613 East Joppa Road
Towson, Maryland

Drawn By: YSN

Date: 4/5/16

EMS ENVIRONMENTAL



LEGEND

- Ridgely Manor Park Boundary
- Groundwater Monitoring Well
- Piezometer
- 435.48 Groundwater Elevation (In Feet)
- 431 Groundwater Contour Value (In Feet)
- Groundwater Contour Line

NORTH

EMS

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

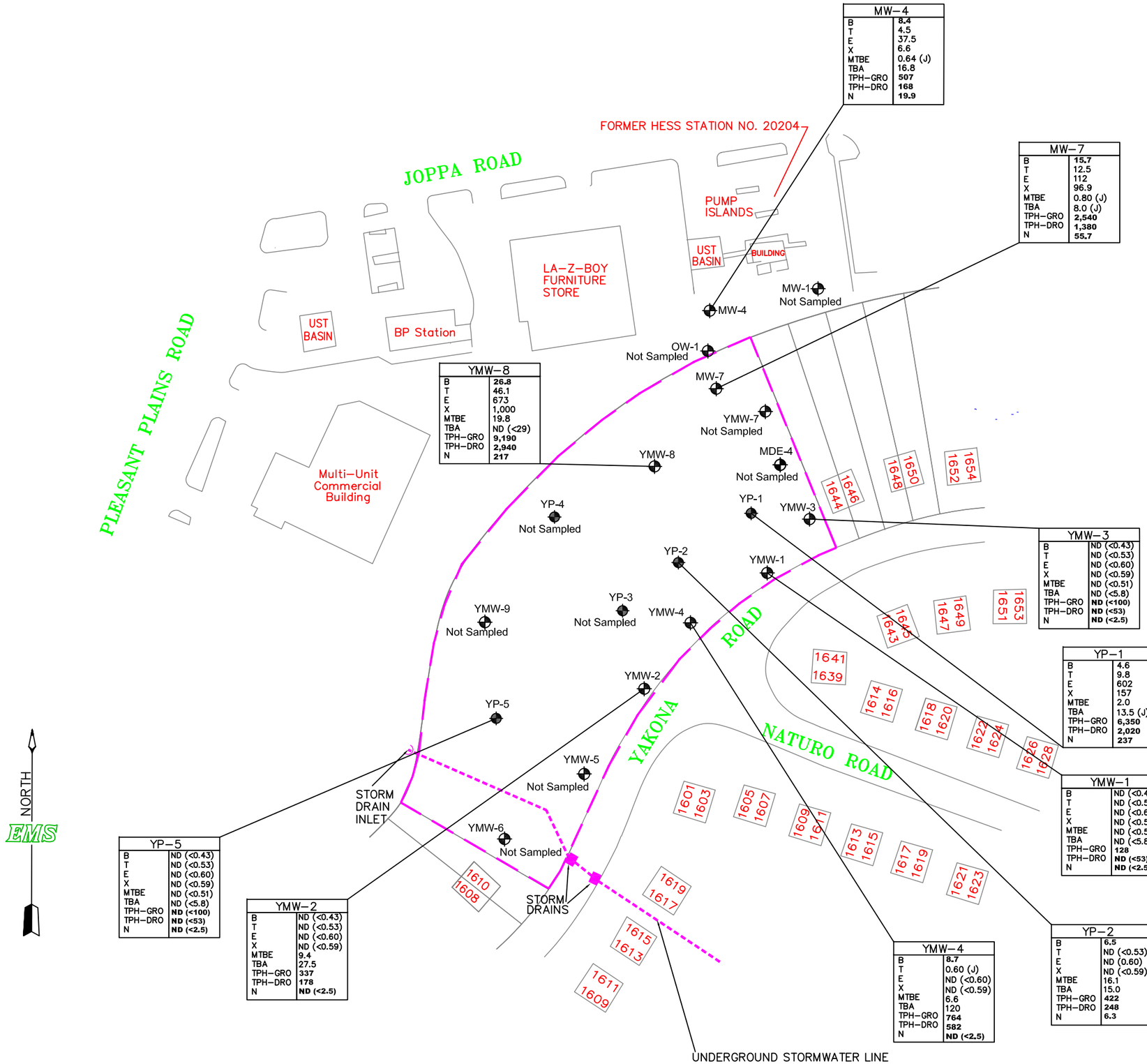
FIGURE 2

GROUNDWATER ELEVATION & HYDRAULIC CONTOUR MAP
(Gauged: 11/13/19)
FORMER HESS STATION #20204
1613 East Joppa Road
Towson, Maryland

Drawn By: RAL

Date: 1/3/20

EMS ENVIRONMENTAL



MW-4	
B	**8.4**
T	**4.5**
E	37.5
X	6.6
MTBE	0.64 (J)
TBA	16.8
TPH-GRO	**507**
TPH-DRO	**168**
N	**19.9**

MW-7	
B	**15.7**
T	12.5
E	112
X	96.9
MTBE	0.80 (J)
TBA	8.0 (J)
TPH-GRO	**2,540**
TPH-DRO	**1,380**
N	**55.7**

YMW-8	
B	**26.8**
T	46.1
E	673
X	1,000
MTBE	19.8
TBA	ND (<29)
TPH-GRO	**9,190**
TPH-DRO	**2,940**
N	**217**

YMW-3	
B	ND (<0.43)
T	ND (<0.53)
E	ND (<0.60)
X	ND (<0.59)
MTBE	ND (<0.51)
TBA	ND (<5.8)
TPH-GRO	**ND (<100)**
TPH-DRO	**ND (<53)**
N	**ND (<2.5)**

YP-1	
B	**4.6**
T	9.8
E	602
X	157
MTBE	2.0
TBA	13.5 (J)
TPH-GRO	**6,350**
TPH-DRO	**2,020**
N	**237**

YMW-1	
B	ND (<0.43)
T	ND (<0.53)
E	ND (<0.60)
X	ND (<0.59)
MTBE	ND (<0.51)
TBA	ND (<5.8)
TPH-GRO	**128**
TPH-DRO	**ND (<53)**
N	**ND (<2.5)**

YP-2	
B	**6.5**
T	ND (<0.53)
E	ND (0.60)
X	ND (<0.59)
MTBE	16.1
TBA	15.0
TPH-GRO	**422**
TPH-DRO	**248**
N	**6.3**

YMW-4	
B	**8.7**
T	0.60 (J)
E	ND (<0.60)
X	ND (<0.59)
MTBE	6.6
TBA	120
TPH-GRO	**764**
TPH-DRO	**582**
N	**ND (<2.5)**

YP-5	
B	ND (<0.43)
T	ND (<0.53)
E	ND (<0.60)
X	ND (<0.59)
MTBE	ND (<0.51)
TBA	ND (<5.8)
TPH-GRO	**ND (<100)**
TPH-DRO	**ND (<53)**
N	**ND (<2.5)**

YMW-2	
B	ND (<0.43)
T	ND (<0.53)
E	ND (<0.60)
X	ND (<0.59)
MTBE	9.4
TBA	27.5
TPH-GRO	**337**
TPH-DRO	**178**
N	**ND (<2.5)**

LEGEND

— —	Ridgely Manor Park Boundary
⊕	Groundwater Monitoring Well
⊕	Piezometer
ND	Constituent Compound Not Detected
J	Laboratory-Estimated Value
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total Xylenes
MTBE	Methyl Tertiary Butyl Ether
TBA	Tertiary Butyl Alcohol
TPH-GRO	Total Petroleum Hydrocarbons-Gasoline Range Organics
TPH-DRO	Total Petroleum Hydrocarbons-Diesel Range Organics
N	Naphthalene

All Concentrations Expressed In Micrograms/Liter (µg/L)

Values Shown In Boldface Type Exceed The Applicable MDE Statewide Health Standard

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)

FIGURE 3

HYDROCARBON DISTRIBUTION MAP

(Sampled: 11/13/19)

FORMER HESS STATION #20204
1613 East Joppa Road
Towson, Maryland

Drawn By: RAL

Date: 1/3/20

EMS ENVIRONMENTAL

Table 1
HISTORICAL GROUNDWATER MONITORING DATA SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
MDE-4	7/17/1996	NSVD	NM	NM	NM	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	11/26/1996	NSVD	NM	NM	NM	3	3	ND	ND	6	ND	NS	NS	NS	NS
Casing:	2/27/1997	444.03	5.78	0.00	438.25	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
0 to 3 feet	5/30/1997	444.03	6.20	0.00	437.83	ND	ND	ND	2	2	ND	NS	NS	NS	NS
	8/21/1997	444.03	7.37	0.00	436.66	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
Screen:	11/25/1997	444.03	7.42	0.00	436.61	**11**	642	**892**	3,050	4,595	**69**	NS	NS	NS	NS
3 to 13 feet	2/19/1998	444.03	6.01	0.00	438.02	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/28/1998	444.03	5.60	0.00	438.43	4	5	4	8	21	ND	NS	NS	NS	NS
	8/18/1998	444.03	6.68	0.00	437.35	**13**	10	57	92	172	**31**	NS	NS	NS	NS
	11/21/1998	444.03	7.64	0.00	436.39	1	8	31	176	216	**57**	NS	NS	NS	NS
	2/17/1999	444.03	7.70	0.00	436.33	3.7	107	193	605	909	**39**	NS	NS	NS	NS
	5/24/1999	444.03	7.02	0.00	437.01	2	ND	ND	ND	2	ND	NS	NS	NS	NS
	8/26/1999	444.03	7.87	0.00	436.16	**24**	140	390	750	1,304	**44**	NS	NS	NS	NS
	11/18/1999	444.03	6.90	0.00	437.13	ND	500	**920**	2,850	4,270	ND	NS	NS	NS	NS
	2/23/2000	444.03	6.50	0.00	437.53	ND	ND	ND	ND	ND	3.9	NS	NS	NS	NS
	5/17/2000	444.03	6.00	0.00	438.03	ND	ND	2.4	11.7	14.1	**30**	NS	NS	NS	NS
	8/3/2000	444.03	6.48	0.00	437.55	**7.7**	9	59	101	177	**54**	NS	NS	NS	NS
	11/20/2000	444.03	7.15	0.00	436.88	ND	ND	120	242	362	ND	NS	NS	NS	NS
	2/20/2001	444.03	6.87	0.00	437.16	**7.3**	7.5	19	81	115	**22**	NS	NS	NS	NS
	5/25/2001	444.03	6.66	0.00	437.37	**15**	8.8	ND	20.3	44	**34**	NS	NS	NS	NS
	8/6/2001	444.03	7.26	0.00	436.77	**9.7**	33	380	1,220	1,643	**87**	NS	NS	NS	NS
	11/7/2001	444.03	8.39	0.00	435.64	ND	41	220	760	1,021	**120**	NS	NS	NS	NS
	2/22/2002	444.03	8.83	0.00	435.20	**12**	91	220	1,380	1,703	ND	NS	NS	NS	NS
	5/16/2002	444.03	6.52	0.00	437.51	ND	27	120	268	415	15	NS	NS	NS	NS
	8/6/2002	444.03	8.72	0.00	435.31	ND	360	**1,100**	3,630	5,090	**150**	NS	NS	NS	NS
	11/13/2002	444.03	8.23	0.00	435.80	ND	610	**1,300**	5,900	7,810	ND	NS	NS	NS	NS
	3/5/2003	444.03	5.43	0.00	438.60	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/13/2003	444.03	5.36	0.00	438.67	2.0	ND	ND	2.6	4.6	11	NS	NS	NS	NS
	8/27/2003	444.03	5.72	0.00	438.31	1.0	ND	1.8	ND	2.8	ND	NS	NS	NS	NS
	11/12/2003	444.03	6.66	0.00	437.37	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	2/2/2004	444.03	5.39	0.00	438.64	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/14/2004	444.03	5.24	0.00	438.79	ND	ND	ND	ND	ND	1.7	NS	NS	NS	NS
	8/19/2004	444.03	5.97	0.00	438.06	ND	ND	ND	ND	ND	**26.8**	NS	NS	NS	NS
	5/19/2005	444.03	5.94	0.00	438.09	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/24/2007	444.03	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2007	444.03	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2008	444.03	6.91	0.00	437.12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/25/2008	444.03	6.56	0.00	437.47	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/2008	444.03	7.14	0.00	436.89	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/17/2008	444.03	6.53	0.00	437.50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2009	444.03	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/22/2009	444.03	6.36	0.00	437.67	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/25/2009	444.03	6.60	0.00	437.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2009	444.03	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/2009	444.03	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/17/2010	444.03	4.51	0.00	439.52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/18/2010	444.03	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/24/2010	443.68	6.69	0.00	436.99	1.3	0.87 (J)	2.8	1.3	6.27 (J)	ND	ND	**858**	**216**	**1.6 (J)**
	1/11/2011	443.68	7.17	0.00	436.51	ND	ND	0.42 (J)	ND	0.42 (J)	ND	ND	**ND (<200)**	**ND (<100)**	ND
	6/23/2011	443.68	6.26	0.00	437.42	1.3	0.46 (J)	4.4	3.6	9.76 (J)	ND	ND	**982**	**464**	**3.3 (J)**
	9/28/2011	443.68	6.02	0.00	437.66	ND	ND	ND	ND	ND	ND	ND	**ND (<200)**	**ND (<100)**	ND
	12/21/2012	443.68	5.90	0.00	437.78	ND	ND	ND	ND	ND	ND	ND	**ND (<200)**	**ND (<100)**	ND
	3/21/2012	443.68	6.18	0.00	437.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/16/2012	443.68	6.48	0.00	437.20	0.50 (J)	ND	0.46 (J)	0.73 (J)	1.69 (J)	ND	ND	**340**	**104**	ND
	8/29/2012	443.68	7.67	0.00	436.01	0.50 (J)	ND	0.30 (J)	0.43 (J)	1.23 (J)	ND	ND	**407**	ND	ND
	12/19/2012	443.68	6.94	0.00	436.74	0.40 (J)	0.44 (J)	2.5	19.2	22.54 (J)	ND	ND	**390**	**372**	**1.1 (J)**
	3/20/2013	443.68	6.57	0.00	437.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/19/2013	443.68	6.47	0.00	437.21	0.45 (J)	0.56 (J)	7.0	8.4	16.41 (J)	ND	ND	**328**	ND	**2.0 (J)**
	9/19/2013	443.68	7.31	0.00	436.37	0.71 (J)	ND	1.3	0.60 (J)	2.61 (J)	ND	ND	**580**	**221**	**2.0 (J)**
	11/22/2013	443.68	7.25	0.00	436.43	1.9	3.2	427	1,420	1,852.10	ND	ND	**13,300**	**2,310**	**110**
	3/20/2014	443.68	5.56	0.00	438.12	ND	ND	0.99	5.8	6.79	ND	ND	ND	ND	ND
***	6/18/2014	443.68	8.33	0.00	435.35	ND	1.2	ND	17.5	18.7	ND	ND	**762**	***	**6.9**
***	6/30/2014	443.68	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS
	9/23/2014	443.18	9.54	0.00	433.64	ND	0.53 (J)	0.99 (J)	1.1	2.62 (J)	ND	ND	ND	**ND (<80)**	**0.93 (J)**
	12/23/2014	443.18	9.94	0.00	433.24	ND	ND	0.62 (J)	0.53 (J)	1.15 (J)	ND	ND	ND	**ND (<80)**	0.37 (J)
	3/24/2015	443.18	9.58	0.00	433.60	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<77)**	ND
	6/22/2015	443.18	9.25	0.00	433.93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	9/21/2015	443.18	9.28	0.00	433.90	ND	ND	ND	ND	ND	ND	ND	ND	**125**	ND
	12/9/2015	443.18	9.58	0.00	433.60	ND	ND	ND	ND	ND	ND	ND	ND	**98.4**	ND
	3/8/2016	443.18	8.98	0.00	434.20	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<64)**	ND
	6/7/2016	443.18	9.03	0.00	434.15	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<58)**	ND
	9/13/2016	443.18	9.48	0.00	433.70	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**94.6**	ND
	11/21/2016	443.18	9.90	0.00	433.28	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**469**	ND
	3/9/2017	443.18	10.42	0.00	432.76	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
#	6/7/2017	443.18	9.72	0.00	433.46	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	9/6/2017	443.18	9.77	0.00	433.41	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	11/1/2017	443.18	9.97	0.00	433.21	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**154**	**ND (<1.1)**
	3/6/2018	443.18	9.84	0.00	433.34	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	6/20/2018	443.18	8.72	0.00	434.46	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/5/2018	443.18	8.64	0.00	434.54	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<53)**	**ND (<0.98)**
	7/18/2019	443.18	8.11	0.00	435.07	Not sampled									
	11/13/2019	443.18	9.23	0.00	433.95	Not sampled									
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

Table 1
HISTORICAL GROUNDWATER MONITORING DATA SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
MW-1	3/28/1991	455.93	15.86	0.00	440.07	**17**	ND	ND	35	52	5	NS	NS	NS	NS
	6/26/1991	455.93	29.40	0.00	426.53	2	ND	ND	2	4	8	NS	NS	NS	NS
Casing:	9/1/1992	455.93	26.35	0.00	429.58	**25**	18	10	41	94	ND	NS	NS	NS	NS
Unknown	1/7/1993	455.93	24.70	0.00	431.23	3	4	ND	10	17	**142**	NS	NS	NS	NS
	4/12/1993	455.93	NM	NM	NM	**29**	5	7	51	92	**30**	NS	NS	NS	NS
Screen:	7/15/1993	455.93	NM	NM	NM	**12**	3	3	66	84	ND	NS	NS	NS	NS
Unknown	10/19/1993	455.93	NM	NM	NM	**11**	ND	ND	37	48	ND	NS	NS	NS	NS
	1/26/1994	455.93	NM	NM	NM	**10**	ND	3	22	35	ND	NS	NS	NS	NS
	4/20/1994	455.93	NM	NM	NM	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	8/2/1994	455.93	NM	NM	NM	**23**	ND	4	38	65	ND	NS	NS	NS	NS
	11/22/1994	455.93	NM	NM	NM	**14**	ND	3	16	33	11	NS	NS	NS	NS
	3/3/1995	455.93	NM	NM	NM	**12**	2	3	13	30	6	NS	NS	NS	NS
	5/9/1995	455.93	NM	NM	NM	**10**	ND	ND	11	21	16	NS	NS	NS	NS
	8/15/1995	455.93	NM	NM	NM	**12**	ND	2	23	37	ND	NS	NS	NS	NS
	11/28/1995	455.93	NM	NM	NM	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	2/13/1996	455.93	16.20	0.00	439.73	ND	ND	ND	4	4	ND	NS	NS	NS	NS
	5/15/1996	455.93	18.06	0.00	437.87	4	ND	ND	6	10	**24.3**	NS	NS	NS	NS
	8/28/1996	455.93	16.95	0.00	438.98	ND	6	3	12	21	5.6	NS	NS	NS	NS
	11/26/1996	455.93	26.21	0.00	429.72	3	ND	ND	2	5	ND	NS	NS	NS	NS
	2/27/1997	455.93	15.73	0.00	440.20	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/30/1997	455.93	16.00	0.00	439.93	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	8/21/1997	455.93	18.66	0.00	437.27	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	11/25/1997	455.93	17.97	0.00	437.96	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	2/19/1998	455.93	15.47	0.00	440.46	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/28/1998	455.93	15.06	0.00	440.87	ND	ND	3	9	12	ND	NS	NS	NS	NS
	8/18/1998	455.93	16.42	0.00	439.51	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/19/2005	455.93	16.83	0.00	439.10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/24/2007	455.93	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2007	455.93	17.58	0.00	438.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2008	455.93	17.39	0.00	438.54	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/25/2008	455.93	16.41	0.00	439.52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/2008	455.93	16.57	0.00	439.36	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/17/2008	455.93	16.26	0.00	439.67	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2009	455.93	17.87	0.00	438.06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/22/2009	455.93	16.07	0.00	439.86	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/25/2009	455.93	16.48	0.00	439.45	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2009	455.93	15.94	0.00	439.99	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/2009	455.93	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/17/2010	455.93	0.01	0.00	455.92	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/18/2010	455.93	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/26/2010	454.42	16.61	0.00	437.81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1/10/2011	454.42	17.64	0.00	436.78	ND	ND	ND	ND	ND	ND	ND	**ND (<200)**	**ND (<100)**	ND
	6/22/2011	454.42	16.05	0.00	438.37	ND	ND	ND	ND	ND	ND	ND	**ND (<200)**	**ND (<110)**	ND
	9/28/2011	454.42	6.68	0.00	447.74	ND	ND	ND	ND	ND	ND	ND	**ND (<200)**	**ND (<110)**	ND
	12/20/2012	454.42	15.90	0.00	438.52	ND	ND	ND	ND	ND	ND	ND	**ND (<200)**	**ND (<100)**	ND
	3/21/2012	454.42	16.41	0.00	438.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	5/15/2012	454.42	14.43	0.00	439.99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	8/28/2012	454.42	15.84	0.00	438.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/18/2012	454.42	17.16	0.00	437.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/19/2013	454.42	16.57	0.00	437.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/18/2013	454.42	17.45	0.00	436.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	9/19/2013	454.42	17.54	0.00	436.88	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	11/22/2013	454.42	17.87	0.00	436.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3/20/2014	454.42	15.89	0.00	438.53	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.59 (J)
***	6/18/2014	454.42	18.43	0.00	435.99	ND	ND	ND	ND	ND	ND	ND	ND	***	ND
***	6/30/2014	454.42	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS
	9/23/2014	453.92	18.73	0.00	435.19	ND	ND	ND	ND	ND	ND	18.4	ND	**243**	ND
	12/23/2014	453.92	19.67	0.00	434.25	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<80)**	ND
	3/24/2015	453.92	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/22/2015	453.92	18.24	0.00	435.68	ND	ND	ND	ND	ND	ND	ND	ND	**102**	ND
	9/21/2015	453.92	18.49	0.00	435.43	ND	ND	ND	ND	ND	ND	ND	ND	**233**	ND
	12/9/2015	453.92	19.24	0.00	434.68	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<64)**	ND
	3/8/2016	453.92	18.28	0.00	435.64	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<64)**	ND
	6/7/2016	453.92	18.21	0.00	435.71	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<58)**	ND
	9/13/2016	453.92	18.92	0.00	435.00	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**108**	ND
	11/21/2016	453.92	19.83	0.00	434.09	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	ND
	3/9/2017	453.92	20.49	0.00	433.43	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	6/7/2017	453.92	19.38	0.00	434.54	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	9/6/2017	453.92	19.04	0.00	434.88	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	11/1/2017	453.92	19.67	0.00	434.25	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	3/6/2018	453.92	20.16	0.00	433.76	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**91.9**	**ND (<1.1)**
	6/20/2018	453.92	17.45	0.00	436.47	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/5/2018	453.92	16.71	0.00	437.21	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<53)**	**ND (<0.98)**
	7/18/2019	453.92	16.52	0.00	437.40	Not sampled									
	11/13/2019	453.92	18.44	0.00	435.48	Not sampled									
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

Table 1
HISTORICAL GROUNDWATER MONITORING DATA SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
MW-4	3/28/1991	457.11	16.98	0.00	440.13	**600**	**1,300**	380	1,500	3,780	**40**	NS	NS	NS	NS
	6/26/1991	457.11	23.80	0.00	433.31	**3,775**	**4,825**	**925**	4,075	13,600	**1,125**	NS	NS	NS	NS
Casing:	9/1/1992	457.11	22.00	0.00	435.11	**3,500**	**9,300**	**1,625**	5,225	19,650	**1,100**	NS	NS	NS	NS
0 to 10 feet	9/4/1992	457.11	22.79	0.01	434.33	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/15/1992	457.11	22.98	sheen	434.13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Screen:	11/9/1992	457.11	23.20	2.50	435.79	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10 to 25 feet	12/9/1992	457.11	21.58	1.36	436.55	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/7/1993	457.11	21.68	0.02	435.45	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1/1993	457.11	23.15	0.85	434.60	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/8/1993	457.11	20.10	sheen	437.01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/12/1993	457.11	18.20	0.05	438.95	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/11/1993	457.11	18.10	0.15	439.12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/3/1993	457.11	18.96	0.38	438.44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/7/1993	457.11	19.65	0.30	437.69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/2/1993	457.11	18.95	0.00	438.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/15/1993	457.11	19.34	0.00	437.77	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/19/1993	457.11	19.75	0.00	437.36	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/1993	457.11	20.75	sheen	436.36	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/1993	457.11	19.85	0.00	437.26	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/25/1994	457.11	17.84	0.00	439.27	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/11/1994	457.11	17.13	0.00	439.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/20/1994	457.11	17.68	0.00	439.43	**1,650**	**6,130**	678	3,950	12,408	**223**	NS	NS	NS	NS
	8/2/1994	457.11	18.35	0.00	438.76	**2,630**	**12,200**	**1,430**	9,070	25,330	ND	NS	NS	NS	NS
	11/22/1994	457.11	18.52	0.00	438.59	**2,950**	**7,040**	**1,430**	8,700	20,120	**340**	NS	NS	NS	NS
	3/3/1995	457.11	20.31	0.00	436.80	**1,560**	**12,400**	**1,690**	9,050	24,700	**775**	NS	NS	NS	NS
	5/9/1995	457.11	20.25	0.00	436.86	**1,600**	**12,800**	**1,840**	**10,400**	26,640	**499**	NS	NS	NS	NS
	8/15/1995	457.11	21.10	0.00	436.01	**<200**	<200	<200	726	726	**<200**	NS	NS	NS	NS
	7/24/1995	457.11	19.29	0.02	437.84	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/28/1995	457.11	22.00	0.00	435.11	ND	10	ND	58	68	**47**	NS	NS	NS	NS
	2/13/1996	457.11	20.20	0.00	436.91	3	11	2	21	37	14	NS	NS	NS	NS
	5/15/1996	457.11	17.60	0.00	439.51	ND	53	18	133	204	6	NS	NS	NS	NS
	8/28/1996	457.11	16.98	0.00	440.13	ND	3	3	10	16	6	NS	NS	NS	NS
	11/26/1996	457.11	15.85	0.00	441.26	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	2/27/1997	457.11	14.19	0.00	442.92	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/30/1997	457.11	15.77	0.00	441.34	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	8/21/1997	457.11	19.01	0.00	438.10	**15**	24	4	27	70	ND	NS	NS	NS	NS
	11/25/1997	457.11	19.15	0.00	437.96	**89**	75	143	240	547	3	NS	NS	NS	NS
	2/19/1998	457.11	17.68	0.00	439.43	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/28/1998	457.11	16.64	0.00	440.47	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	8/18/1998	457.11	18.21	0.00	438.90	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	11/21/1998	457.11	19.65	0.00	437.46	**71**	**1,600**	183	731	2,585	19	NS	NS	NS	NS
	2/17/1999	457.11	19.70	0.00	437.41	ND	780	252	460	1,492	**<100**	NS	NS	NS	NS
	5/24/1999	457.11	18.90	0.00	438.21	ND	14	8.7	21.9	44.6	**77.7**	NS	NS	NS	NS
	8/26/1999	457.11	20.60	0.00	436.51	ND	ND	35	123	158	**220**	NS	NS	NS	NS
	11/18/1999	457.11	18.52	0.00	438.59	ND	ND	ND	3.8	3.8	**2,000**	NS	NS	NS	NS
	12/29/1999	457.11	NM	NM	NM	ND	ND	ND	ND	ND	**2,100**	NS	NS	NS	NS
	2/23/2000	457.11	19.21	0.00	437.90	**120**	4.5	32	106	263	**730**	NS	NS	NS	NS
	5/17/2000	457.11	16.90	0.00	440.21	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	8/3/2000	457.11	17.28	0.00	439.83	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	11/20/2000	457.11	19.69	0.00	437.42	**87**	ND	ND	ND	87	**3,000**	NS	NS	NS	NS
	2/20/2001	457.11	18.60	0.00	438.51	ND	ND	ND	ND	ND	6.8	NS	NS	NS	NS
	5/25/2001	457.11	17.30	0.00	439.81	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	8/6/2001	457.11	19.17	0.00	437.94	ND	ND	ND	ND	ND	2.0	NS	NS	NS	NS
	11/7/2001	457.11	21.17	0.00	435.94	**330**	62	370	800	1,562	**110**	NS	NS	NS	NS
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

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Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
MW-4 (continued)	2/22/2002	457.11	20.80	0.00	436.31	**81**	120	200	510	911	**33**	NS	NS	NS	NS
	5/16/2002	457.11	18.12	0.00	438.99	ND	15	12	223	250	2.2	NS	NS	NS	NS
	8/6/2002	457.11	21.61	0.00	435.50	3.5	3.2	7.0	22.8	36.5	3.9	NS	NS	NS	NS
	11/13/2002	457.11	18.81	0.00	438.30	ND	4.9	14	141	159.9	ND	NS	NS	NS	NS
	3/5/2003	457.11	18.41	0.00	438.70	ND	ND	ND	ND	ND	2.0	NS	NS	NS	NS
	5/13/2003	457.11	16.96	0.00	440.15	3.9	ND	ND	ND	3.9	**110**	NS	NS	NS	NS
	9/25/2003	457.11	NM	NM	NM	ND	ND	ND	ND	ND	1.5	NS	NS	NS	NS
	11/12/2003	457.11	18.32	0.00	438.79	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS
	2/2/2004	457.11	14.70	0.00	442.41	ND	ND	ND	ND	ND	**666**	NS	NS	NS	NS
	5/14/2004	457.11	18.09	0.00	439.02	ND	ND	ND	ND	ND	**24.8**	NS	NS	NS	NS
	8/19/2004	457.11	16.55	0.00	440.56	1.6	2.1	36.5	92.4	132.6	1.6	NS	NS	NS	NS
	11/22/2004	457.11	19.43	0.00	437.68	ND	ND	0.31 (J)	0.57 (J)	0.88 (J)	0.29 (J)	NS	NS	NS	NS
	2/23/2005	457.11	18.93	0.00	438.18	ND	ND	ND	ND	ND	0.65 (J)	NS	NS	NS	NS
	5/19/2005	457.11	16.67	0.00	440.44	ND	ND	ND	ND	ND	0.91 (J)	ND	ND	ND	NS
	8/24/2007	457.11	19.06	0.00	438.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2007	457.11	18.72	0.00	438.39	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2008	457.11	18.63	0.00	438.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/25/2008	457.11	17.57	0.00	439.54	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/2008	457.11	19.28	0.00	437.83	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/17/2008	457.11	19.10	0.00	438.01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2009	457.11	19.12	0.00	437.99	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/22/2009	457.11	15.07	0.00	442.04	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/25/2009	457.11	17.63	0.00	439.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2009	457.11	16.56	0.00	440.55	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/2009	457.11	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/17/2010	457.11	14.98	0.00	442.13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/18/2010	457.11	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/23/2010	455.60	18.10	0.00	437.50	0.52 (J)	22.3	41.1	84.2	148.12 (J)	ND	ND	**449**	**244**	**7.2**
	1/10/2011	455.60	18.94	0.00	436.66	**16.4**	16.9	151	235	419.30	2.7	112	**1,940**	**1,930**	**84.1**
	6/22/2011	455.60	17.57	0.00	438.03	**8.7**	10.6	5.7	8.6	33.60	1.9	128	**306**	**304**	ND
	9/28/2011	455.60	17.08	0.00	438.52	ND	ND	ND	ND	ND	ND	ND	**ND (<200)**	**ND (<100)**	ND
	12/20/2012	455.60	17.30	0.00	438.30	ND	ND	0.29 (J)	ND	0.29 (J)	ND	ND	**ND (<200)**	**ND (<100)**	ND
	3/21/2012	455.60	17.78	0.00	437.82	0.24 (J)	ND	1.5	ND	1.74 (J)	ND	ND	ND	ND	ND
	5/15/2012	455.60	11.49	0.00	444.11	ND	ND	ND	ND	ND	ND	ND	ND	**283**	ND
	8/28/2012	455.60	18.91	0.00	436.69	ND	ND	ND	ND	ND	ND	ND	ND	**924**	ND
	12/18/2012	455.60	18.58	0.00	437.02	**6.5**	37.2	419	108	570.7	ND	18.5 (J)	**2,510**	**1,120**	**154**
	3/19/2013	455.60	17.99	0.00	437.61	ND	ND	ND	ND	ND	ND	ND	ND	**350**	ND
	6/18/2013	455.60	17.77	0.00	437.83	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	9/19/2013	455.60	19.01	0.00	436.59	3.0	16.1	85.9	16.2	121.2	ND	55.8	**2,420**	**367**	**34.3**
	11/22/2013	455.60	19.21	0.00	436.39	**9.9**	32.3	38.4	23.7	104.3	1.3	52.9	**4,110**	**1,400**	**7.0**
	3/20/2014	455.60	15.71	0.00	439.89	2.0	5.2	ND	5.8	13.0	1.2	71.3	**1,870**	**408**	ND
***	6/18/2014	455.60	18.24	0.00	437.36	**87.4**	59.2	9.4	24.8	180.8	**106**	1,770	**3,850**	***	**1.5 (J)**
***	6/30/2014	455.60	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	**2,160**	NS
	9/23/2014	455.10	20.69	0.00	434.41	**7.3**	212	541	567	1,327.3	**269**	1,150	**5,740**	**2,560**	**159**
	12/23/2014	455.10	21.37	0.00	433.73	**88.0**	83.0	**1,290**	1,480	2,941.0	**50.6**	771	**12,200**	**3,090**	**490**
	3/24/2015	455.10	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/22/2015	455.10	20.38	0.00	434.72	**178**	34.1	661	409	1,282.1	17.3	3,200	**6,130**	**4,540**	**392**
	9/21/2015	455.10	20.57	0.00	434.53	**153**	44.3	623	394	1,214.3	16.9	1,730	**10,300**	**3,740**	**430**
	12/9/2015	455.10	21.08	0.00	434.02	**7.8**	1.4	34.8	10.1	54.1	ND	250	**650**	**684**	**28.3**
	3/8/2016	455.10	20.29	0.00	434.81	**103**	9.4	223	49.0	384.4	7.5	553	**2,130**	**874**	**143**
	6/7/2016	455.10	20.28	0.00	434.82	**155**	27.1	**744**	139	1,065.1	6.2	3,030	**6,540**	**3,150**	**436**
	9/13/2016	455.10	20.87	0.00	434.23	**131**	23.1	**763**	150	1,067.1	5.8	2,320	**6,520**	**2,750**	**422**
	11/21/2016	455.10	21.56	0.00	433.54	**108**	25.9	**727**	192	1,052.9	12.9	2,480	**6,730**	**3,520**	**439**
	3/9/2017	455.10	22.05	0.00	433.05	**23.7**	5.5	142	42.8	214.0	3.4	ND	**2,450**	**1,090**	**144**
	6/7/2017	455.10	21.18	0.00	433.92	**14.6**	2.8	50.7	7.8	75.9	2.3	174	**1,590**	**1,050**	**34.3**
	9/6/2017	455.10	20.94	0.00	434.16	**44.1**	5.8	141	24.5	215.4	ND	1,230	**1,980**	**1,570**	**107**
	11/1/2017	455.10	21.41	0.00	433.69	**69.8**	7.6	146	42.1	266	6.1	1,380	**3,050**	**1,900**	**118**
	3/6/2018	455.10	21.75	0.00	433.35	**11.3**	0.71 (J)	12.3	4.4	28.7 (J)	ND	9.4 (J)	**1,090**	**1,070**	**20.6**
	6/20/2018	455.10	19.73	0.00	435.37	**18.2**	ND	0.77 (J)	ND	18.97 (J)	2.5	83.4	**124 (J)**	**112**	**ND (<1.1)**
	9/5/2018	455.10	19.34	0.00	435.76	**7.3**	ND	2.7	ND	10.0	ND	40.3	**226**	**110**	**2.8 (J)**
	7/18/2019	455.10	18.82	0.00	436.28	ND (<0.43)	ND (<0.53)	ND (<0.60)	ND (<0.59)	ND (<2.15)	ND (<0.51)	ND (<5.8)	ND (<42)	**ND (<53)**	**ND (<0.98)**
	11/13/2019	455.10	20.42	0.00	434.68	**8.4**	4.5	37.5	6.6	57.0	0.64 (J)	16.8	**507**	**168**	**19.9**
MDE MEAT GNCSG**						**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

Table 1
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Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
MW-7	3/28/1991	452.69	15.10	0.00	437.59	**7,950**	**6,100**	**2,700**	8,550	25,300	**650**	NS	NS	NS	NS
	6/26/1991	452.69	16.12	0.00	436.57	**2,100**	**2,400**	**800**	2,300	7,600	**1,000**	NS	NS	NS	NS
Casing:	9/1/1992	452.69	17.22	0.00	435.47	**1,470**	**3,670**	**1,350**	5,350	11,840	**1,200**	NS	NS	NS	NS
0 to 8 feet	1/7/1993	452.69	26.25	0.00	426.44	**1,550**	**5,750**	**1,100**	6,250	14,650	**600**	NS	NS	NS	NS
	4/12/1993	452.69	NM	NM	NM	**200**	**2,550**	350	3,600	6,700	ND	NS	NS	NS	NS
Screen:	7/15/1993	452.69	NM	NM	NM	**2,150**	**8,550**	**1,200**	8,950	20,850	**1,000**	NS	NS	NS	NS
8 to 33 feet	10/19/1993	452.69	NM	NM	NM	**2,400**	**15,700**	**1,300**	9,000	28,400	**870**	NS	NS	NS	NS
	1/26/1994	452.69	NM	NM	NM	**1,100**	**6,200**	**950**	5,650	13,900	ND	NS	NS	NS	NS
	4/19/1994	452.69	NM	NM	NM	**11**	68	11	86	176	**64.4**	NS	NS	NS	NS
	8/2/1994	452.69	NM	NM	NM	**280**	**1,160**	260	2,280	3,980	**180**	NS	NS	NS	NS
	11/22/1994	452.69	NM	NM	NM	**1,530**	**1,780**	**1,380**	5,400	10,090	**338**	NS	NS	NS	NS
	3/3/1995	452.69	NM	NM	NM	**1,690**	**9,600**	**1,930**	**11,000**	24,220	**913**	NS	NS	NS	NS
	5/9/1995	452.69	NM	NM	NM	**448**	**2,330**	294	3,560	6,632	**<200**	NS	NS	NS	NS
	8/15/1995	452.69	NM	NM	NM	**370**	**1,790**	420	3,430	6,010	**<200**	NS	NS	NS	NS
	11/28/1995	452.69	NM	NM	NM	**394**	**3,440**	646	4,230	8,710	ND	NS	NS	NS	NS
	2/13/1996	452.69	14.75	0.00	437.94	**104**	164	106	259	633	ND	NS	NS	NS	NS
	5/15/1996	452.69	15.40	0.00	437.29	**132**	429	101	436	1,098	**33**	NS	NS	NS	NS
	8/28/1996	452.69	15.27	0.00	437.42	**422**	**3,460**	480	5,540	9,902	**78**	NS	NS	NS	NS
	11/26/1996	452.69	15.61	0.00	437.08	**96**	340	ND	875	1,311	ND	NS	NS	NS	NS
	2/27/1997	452.69	14.69	0.00	438.00	**56**	225	**1,420**	3,830	5,531	**109**	NS	NS	NS	NS
	5/30/1997	452.69	15.10	0.00	437.59	**69**	293	**1,600**	4,900	6,862	**149**	NS	NS	NS	NS
	8/21/1997	452.69	16.53	0.00	436.16	ND	349	**1,280**	5,730	7,359	ND	NS	NS	NS	NS
	11/25/1997	452.69	16.63	0.00	436.06	ND	175	**913**	4,160	5,248	**57**	NS	NS	NS	NS
	2/19/1998	452.69	15.23	0.00	437.46	ND	165	381	2,360	2,906	ND	NS	NS	NS	NS
	5/28/1998	452.69	14.36	0.00	438.33	**100**	364	**1,270**	5,070	6,804	**147**	NS	NS	NS	NS
	8/18/1998	452.69	15.61	0.00	437.08	**120**	313	**1,300**	5,540	7,273	ND	NS	NS	NS	NS
	11/21/1998	452.69	16.86	0.00	435.83	**<100**	195	**1,280**	6,340	7,815	**129**	NS	NS	NS	NS
	2/17/1999	452.69	17.02	0.00	435.67	**<50**	409	**1,510**	6,230	8,149	**136**	NS	NS	NS	NS
	5/24/1999	452.69	16.20	0.00	436.49	**37**	229	**1,010**	3,230	4,506	**211**	NS	NS	NS	NS
	8/26/1999	452.69	17.18	0.00	435.51	**<50**	110	**920**	3,900	4,930	**170**	NS	NS	NS	NS
	11/18/1999	452.69	16.02	0.00	436.67	**<20**	130	**870**	3,300	4,300	**1,400**	NS	NS	NS	NS
	12/29/1999	452.69	NM	NM	NM	**9**	140	**780**	3,200	4,129	**240**	NS	NS	NS	NS
	2/23/2000	452.69	15.43	0.00	437.26	**<20**	320	**990**	3,800	5,110	**370**	NS	NS	NS	NS
	5/17/2000	452.69	14.47	0.00	438.22	ND	180	**1,100**	3,900	5,180	**1,300**	NS	NS	NS	NS
	8/3/2000	452.69	14.92	0.00	437.77	**84**	260	**1,000**	4,200	5,544	**2,100**	NS	NS	NS	NS
	11/20/2000	452.69	16.65	0.00	436.04	ND	140	**830**	3,180	4,150	**150**	NS	NS	NS	NS
	2/20/2001	452.69	17.86	0.00	434.83	**70**	240	**850**	2,540	3,700	**130**	NS	NS	NS	NS
	5/25/2001	452.69	15.05	0.00	437.64	ND	250	**1,300**	3,600	5,150	ND	NS	NS	NS	NS
	8/6/2001	452.69	16.70	0.00	435.99	**11**	280	**1,400**	4,900	6,591	**210**	NS	NS	NS	NS
	11/7/2001	452.69	17.64	0.00	435.05	ND	64	**810**	2,284	3,158	**98**	NS	NS	NS	NS
	2/22/2002	452.69	17.92	0.00	434.77	**11**	75	660	2,080	2,826	**54**	NS	NS	NS	NS
	5/16/2002	452.69	15.80	0.00	436.89	ND	140	690	2,110	2,940	**51**	NS	NS	NS	NS
	8/6/2002	452.69	18.05	0.00	434.64	**60**	93	**800**	2,180	3,133	**140**	NS	NS	NS	NS
	11/13/2002	452.69	17.23	0.00	435.46	ND	ND	**760**	1,746	2,506	ND	NS	NS	NS	NS
	3/5/2003	452.69	13.94	0.00	438.75	ND	16	100	301	417	5.1	NS	NS	NS	NS
	5/13/2003	452.69	15.10	0.00	437.59	**10**	10	110	198	328	**22**	NS	NS	NS	NS
	9/25/2003	452.69	NM	NM	NM	**25.6**	24.9	343	273	667	16.1	NS	NS	NS	NS
	11/12/2003	452.69	15.36	0.00	437.33	**24.5**	91.7	**907**	1,400	2,423	10	NS	NS	NS	NS
	2/2/2004	452.69	14.40	0.00	438.29	**22.6**	76.4	605	1,390	2,094	7.0	NS	NS	NS	NS
	5/14/2004	452.69	13.97	0.00	438.72	**10.3**	28.8	499	595	1,133	5.8	NS	NS	NS	NS
	8/19/2004	452.69	14.67	0.00	438.02	**18.8**	82.8	**763**	2,720	3,585	11.3	NS	NS	NS	NS
	2/23/2005	452.69	16.39	0.00	436.30	3.5 (J)	80	**1,080**	4,320	5,484 (J)	7.6 (J)	NS	NS	NS	NS
	5/19/2005	452.69	16.25	0.00	436.44	2.1 (J)	61.9	**740**	2,580	3,384 (J)	3.7 (J)	NS	NS	NS	NS
	8/24/2005	452.69	15.89	0.00	436.80	**<10**	56.9	**1,020**	3,770	4,847	8.4 (J)	NS	NS	NS	NS
	11/8/2005	452.69	15.54	0.00	437.15	1.6 (J)	18.1	472	913	1,405 (J)	9.1	NS	NS	NS	NS
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

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Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
MW-7	2/10/2006	452.69	14.54	0.00	438.15	1.2 (J)	22	413	1,390	1,826	5.2	NS	NS	NS	NS
(continued)	5/15/2006	452.69	15.50	0.00	437.19	**<10**	34.4	**880**	2,690	3,604	**22.2**	NS	NS	NS	NS
	8/9/2006	452.69	15.41	0.00	437.28	ND	40	**911**	3,140	4,091	6.1	NS	NS	NS	NS
	10/17/2006	452.69	17.28	0.00	435.41	**<10**	42.3	**1,170**	4,340	5,552	10	NS	NS	NS	NS
	4/11/2007	452.69	NG	NG	NG	ND	1.9	57	92	150.9	ND	ND	**1,900**	ND	NS
	8/24/2007	452.69	16.38	0.00	436.31	1.5	7.2	200	150	359	4.3	ND	**1,900**	**1,300**	NS
	12/27/2007	452.69	16.02	0.00	436.67	ND	ND	1.2	2.2	3.4	ND	ND	ND	**4,900**	NS
	3/27/2008	452.69	16.11	0.00	436.58	ND	ND	14	12.9	26.9	1.0	ND	ND	ND	NS
	6/25/2008	452.69	15.56	0.00	437.13	0.42 (J)	3.1	17.4	39	59.9	ND	ND	**1,400**	**700**	NS
	9/24/2008	452.69	16.20	0.00	436.49	1.7	9.7	278	323	612.4	3.4	ND	**4,340**	**976**	NS
	12/17/2008	452.69	9.65	0.00	443.04	2.0	17.3	495	911	1,425.3	3.4	ND	**8,250**	**1,160**	NS
	3/31/2009	452.69	16.77	0.00	435.92	1.0	ND	ND	ND	1.0	**59.8**	ND (<25)	ND	**1,160**	NS
	6/22/2009	452.69	15.50	0.00	437.19	1.2 (J)	7.9	257	285	551.1 (J)	1.6 (J)	ND (<63)	**4,810**	**1,870**	NS
	9/25/2009	452.69	15.64	0.00	437.05	1.2 (J)	9.1	528	549	1,087.3 (J)	ND	ND (<50)	**9,450**	**2,330**	NS
	12/14/2009	452.69	13.57	0.00	439.12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/2009	452.69	NM	NM	NM	0.51 (J)	3.4	98.9	53.7	156.51 (J)	ND	ND (<25)	**1,490**	**531**	NS
	3/17/2010	452.69	13.17	0.00	439.52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/18/2010	452.69	NM	NM	NM	ND	ND	43.3	7.4	50.7	ND	ND (<25)	**1,160**	**516**	NS
19 ft. sample	8/24/2010	453.52	15.73	0.00	437.79	1.8	3	238	58.4	301.2	ND	ND	**3,000**	**567**	NS
27 ft. sample	8/24/2010	453.52	15.73	0.00	437.79	**13**	2	127	31.3	173.3	**53.1**	47.6	**2,080**	**655**	**7.3**
	1/11/2011	453.52	16.36	0.00	437.16	1.8	8.7	492	294	796.5	1.8	ND	**7,180**	**2,360**	**75.4**
	6/23/2011	453.52	15.20	0.00	438.32	0.76 (J)	3.8	114	19.9	138.46 (J)	0.75 (J)	ND	**1,640**	**772**	**12.6**
	9/29/2011	453.52	14.99	0.00	438.53	1.5	6.7	330	200	538.2	1.7	18.8 (J)	**3,060**	**2,620**	**48.0**
	12/21/2012	453.52	14.86	0.00	438.66	3.7	2.8	13.6	3.0	23.1	6.7	276	**452**	**422**	**32.9**
	3/21/2012	453.52	15.26	0.00	438.26	4.0	3.4	128	10.1	145.5	4.5	198	**1,820**	**1,390**	**11.9**
	5/16/2012	453.52	15.60	0.00	437.92	2.3	3.5	138	55.7	199.5	2.9	126	**2,270**	**1,330**	**20.5**
	8/29/2012	453.52	15.84	0.00	437.68	3.5	9.3	392	354	758.8	3.5	96.3	**6,070**	**1,530**	**85.7**
	12/19/2012	453.52	16.06	0.00	437.46	3.2	8.9	464	424	900.1	9.7	44.3 (J)	**8,770**	**1,760**	**153**
	3/20/2013	453.52	14.45	0.00	439.07	1.8	7.8	208	289	506.6	3.7	ND	**4,880**	**1,400**	**171**
	6/19/2013	453.52	15.46	0.00	438.06	1.6	6.1	193	150	350.7	2.4	5.4 (J)	**3,980**	**1,690**	**80.0**
	9/19/2013	453.52	16.49	0.00	437.03	2.4	8.0	386	259	647.4	2.8	ND	**6,250**	**1,520**	**162**
	11/22/2013	453.52	16.56	0.00	436.96	2.1	9.0	481	295	787.1	3.8	10.1 (J)	**8,920**	**1,230**	**197**
	3/20/2014	453.52	14.60	0.00	438.92	2.1	3.2	147	20.3	172.6	1.5	ND	**2,830**	**1,560**	**29.2**
	6/18/2014	453.52	Inaccessible - Sampled on 6/24/2014												
***	6/24/2014	453.52	16.89	0.00	436.63	4.8	10.5	396	284	695.3	**32.1**	256	**8,400**	***	**34.1**
***	6/30/2014	453.52	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	**1,840**	NS
	9/23/2014	452.69	18.44	0.00	434.25	1.3	5.5	350	389	745.8	**28.3**	125	**8,640**	**232**	**159**
	12/23/2014	452.69	19.02	0.00	433.67	1.4	4.3	200	177	382.7	**29.6**	90.1	**5,990**	**1,030**	**91.8**
	3/24/2015	452.69	18.67	0.00	434.02	3.6	1.9	97.4	53.4	156.3	**80.0**	130	**3,540**	**463**	**56.2**
	6/22/2015	452.69	18.29	0.00	434.40	5.0	3.6	117	117	242.6	**51.0**	145	**2,980**	**1,580**	**45.7**
	9/21/2015	452.69	18.42	0.00	434.27	**5.9**	2.6	77.0	73.2	158.7	18.0	89.7	**3,460**	**902**	**27.3**
	12/9/2015	452.69	18.81	0.00	433.88	**7.3**	2.5	63.3	40.4	113.5	18.1	93.2	**2,080**	**714**	**6.4**
	3/8/2016	452.69	18.16	0.00	434.53	**8.9**	1.6	36.9	11.6	59.0	**81.5**	138	**1,990**	**785**	**2.8 (J)**
	6/7/2016	452.69	18.19	0.00	434.50	**8.3**	1.5	32.0	14.4	56.2	**25.3**	73.8	**1,390**	**904**	**5.5**
	9/13/2016	452.69	18.62	0.00	434.07	**8.5**	1.5	31.6	15.6	57.2	10.7	73.5	**2,600**	**925**	**5.0**
	11/21/2016	452.69	19.14	0.00	433.55	**7.6**	1.8	39.0	21.8	70.2	7.4	77.1	**2,240**	**564**	**7.7**
	3/9/2017	452.69	19.63	0.00	433.06	**6.9**	1.1	27.8	14.0	49.8	9.7	ND	**1,720**	**434**	**4.5**
	6/7/2017	452.69	18.89	0.00	433.80	**6.2**	0.81(J)	8.5	7.8	23.31 (J)	**43.2**	94.7	**1,130**	**585**	**ND (<1.0)**
	9/6/2017	452.69	18.78	0.00	433.91	**6.6**	2.2	42.6	35.4	86.8	8.2	64.6	**1,630**	**665**	**6.7**
	11/1/2017	452.69	19.07	0.00	433.62	**8.3**	3.3	63.2	56.2	131.0	9.2	96.2	**1,560**	**893**	**10.5**
	3/6/2018	452.69	19.31	0.00	433.38	3.3	0.56 (J)	3.3	2.2	9.36 (J)	**21.0**	72.8	**826**	**517**	**ND (<1.1)**
	6/20/2018	452.69	17.74	0.00	434.95	**18.4**	3.4	59.1	47.2	128.1	**52.7**	187	**1,810**	**866**	**12.0**
	9/5/2018	452.69	17.38	0.00	435.31	**12.9**	2.1	27.8	20.6	63.4	14.2	100	**1,410**	**715**	**4.6 (J)**
	7/18/2019	452.69	16.97	0.00	435.72	**5.1**	3.6	31.0	19.0	58.7	1.5	ND (<5.8)	**1,640**	**537**	**9.0**
	11/13/2019	452.69	18.28	0.00	434.41	**15.7**	12.5	112	96.9	237	0.80 (J)	8.0 (J)	**2,540**	**1,380**	**55.7**
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

Table 1
HISTORICAL GROUNDWATER MONITORING DATA SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
OW-1	11/22/2004	NSVD	18.36	0.00	NSVD	**74.8**	169	**919**	5,220	6,383	**25**	NS	NS	NS	NS
	2/23/2005	NSVD	17.93	0.00	NSVD	4.4	9.4	168	621	803	19.9	NS	NS	NS	NS
Casing:	5/19/2005	NSVD	17.44	0.00	NSVD	**14.5**	46	343	1,130	1,534	14.3	NS	NS	NS	NS
0 to 9 feet	8/24/2005	NSVD	18.44	0.00	NSVD	**43.1**	163	**831**	3,890	4,927	5.9	NS	NS	NS	NS
	11/8/2005	NSVD	18.57	0.00	NSVD	4.0	17.8	344	1,050	1,416	7.7	NS	NS	NS	NS
Screen:	2/10/2006	NSVD	17.35	0.00	NSVD	1.8	11.2	77.3	328	418	2.2	NS	NS	NS	NS
9 to 34 feet	5/15/2006	NSVD	17.99	0.00	NSVD	4.0 (J)	53.4	414	1,690	2,161	6.4	NS	NS	NS	NS
	8/9/2006	NSVD	18.15	0.00	NSVD	**5.8**	68.4	432	1,550	2,056	10.8	NS	NS	NS	NS
	10/17/2006	NSVD	18.50	0.00	NSVD	1.2 (J)	18.6	268	712	1,000	10.2	NS	NS	NS	NS
	4/11/2007	NSVD	17.68	0.00	NSVD	ND	26	320	1,400	1,746	8.7	ND	**14,000**	**3,000**	NS
	8/24/2007	NSVD	19.14	0.00	NSVD	ND	11	210	440	661	4.2	ND	**6,900**	**2,400**	NS
	12/27/2007	NSVD	18.98	0.00	NSVD	ND	5.8	120	3.1	128.9	3.3	13	**9,600**	**2,400**	NS
	3/27/2008	NSVD	18.24	0.00	NSVD	ND	4.2	69	382.5	455.7	5.0	7.6	**9,200**	**2,000**	NS
	6/25/2008	NSVD	NM	NM	NSVD	ND	8.7	163	347	518.7	ND	ND	**8,900**	**1,400**	NS
	9/24/2008	NSVD	16.30	0.00	NSVD	0.67 (J)	11.6	170	372	554.3	1.2	13.3 (J)	**8,400**	**1,550**	NS
	12/17/2008	NSVD	15.95	0.00	NSVD	0.46 (J)	6.2	96.3	248	351.0	ND	ND	**6,020**	**1,490**	NS
	3/31/2009	NSVD	19.19	0.00	NSVD	ND	3.4	31.2	157	191.6	1.9	ND (<25)	**8,110**	**1,820**	NS
	6/22/2009	NSVD	17.74	0.00	NSVD	0.60 (J)	7.5	111	352	471.1 (J)	1.0	ND (<25)	**7,200**	**1,710**	NS
	9/25/2009	NSVD	18.10	0.00	NSVD	ND	3.0	73.0	168	244.0	ND	ND (<50)	**5,920**	**2,960**	NS
	12/14/2009	NSVD	16.51	0.00	NSVD	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/2009	NSVD	NM	NM	NM	0.30 (J)	6.3	209	934	1,149.6 (J)	0.44 (J)	ND (<25)	**8,690**	**1,440**	NS
	3/17/2010	NSVD	15.70	0.00	NSVD	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/18/2010	NSVD	NM	NM	NM	ND	22.1	98.5	378	498.6	ND	ND (<25)	**6,880**	**2,030**	NS
23 ft. sample	8/25/2010	455.81	18.27	0.00	437.54	0.71 (J)	14.7	267	376	658.41 (J)	ND	ND	**8,780**	**2,290**	NS
28 ft.sample	8/25/2010	455.81	18.27	0.00	437.54	0.88 (J)	13.4	239	384	637.28 (J)	ND	ND	**8,290**	**2,500**	ND
	1/10/2011	455.81	18.99	0.00	436.82	0.81 (J)	13.1	143	376	532.91 (J)	ND	ND	**7,960**	**2,800**	**138**
	6/22/2011	455.81	18.73	0.00	437.08	ND	0.20 (J)	4.3	9.1	13.6 (J)	ND	ND	**353**	**1,110**	**4.1 (J)**
	9/28/2011	455.81	17.56	0.00	438.25	ND	2.0	41.0	110	153.0	ND	ND	**3,920**	**268**	**53.9**
	12/20/2012	455.81	15.49	0.00	440.32	0.53 (J)	2.2	33.9	124	160.63 (J)	ND	ND	**4,430**	**465**	**61.8**
	3/20/2012	455.81	17.84	0.00	437.97	0.41 (J)	2.5	24.2	107	134.11 (J)	0.87 (J)	ND	**6,030**	**1,760**	**74.4**
	5/15/2012	455.81	20.16	0.00	435.65	0.65 (J)	1.1	11.8	57.4	70.95 (J)	ND	ND	**2,630**	**514**	**29.4**
	8/28/2012	455.81	18.31	0.00	437.50	0.54 (J)	2.8	54.3	95.0	152.64 (J)	ND	ND	**5,060**	**1,840**	**70.0**
	12/18/2012	455.81	18.64	0.00	437.17	0.90 (J)	3.6	77.8	145	227.30 (J)	0.42 (J)	ND	**4,890**	**1,280**	**58.8**
	3/19/2013	455.81	18.05	0.00	437.76	0.80 (J)	2.0	21.5	84.5	108.80 (J)	0.74 (J)	ND	**3,670**	**1,280**	**41.3**
	6/18/2013	455.81	17.91	0.00	437.90	ND	1.5	21.8	48.1	71.4	ND	ND	**4,330**	**2,190**	**56.7**
	9/19/2013	455.81	19.03	0.00	436.78	ND	2.5	53.7	68.5	124.7	ND	ND	**3,910**	**1,200**	**65.5**
	11/22/2013	455.81	19.13	0.00	436.68	0.38 (J)	5.1	116	92.4	213.88 (J)	ND	ND	**5,810**	**1,620**	**98.6**
	3/20/2014	455.81	17.24	0.00	438.57	0.33 (J)	1.7	27.4	35.5	64.93 (J)	0.52 (J)	ND	**4,100**	**1,240**	**45.3**
***	6/18/2014	455.81	18.82	0.00	436.99	2.2	3.5	47.6	65.1	118.4	7.9	ND	**6,150**	***	**66.4**
***	6/30/2014	455.81	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	**2,020**	NS
	9/23/2014	455.31	20.88	0.00	434.43	0.43 (J)	1.6	53.3	135	190.33 (J)	1.5	56.7	**7,780**	**1,170**	**72.0**
	12/23/2014	455.31	21.28	0.00	434.03	0.81	1.4	13.1	34.2	49.51	1.5	33.9	**4,310**	**1,280**	**23.6**
	3/24/2015	455.31	21.08	0.00	434.23	0.47 (J)	0.64 (J)	2.3	8.9	12.31 (J)	ND	ND	**3,180**	**787**	**14.6**
	6/22/2015	455.31	20.58	0.00	434.73	1.4	0.32 (J)	1.0	1.8	4.52 (J)	6.9	29.5	**1,370**	**918**	**3.4 (J)**
	9/21/2015	455.31	20.73	0.00	434.58	1.7	0.27 (J)	1.4	1.8	5.17 (J)	5.3	24.5	**982**	**515**	**1.3 (J)**
	12/9/2015	455.31	21.23	0.00	434.08	2.3	0.23 (J)	0.93 (J)	1.3	4.76 (J)	6.9	19.5	**1,040**	**459**	**0.76 (J)**
	3/8/2016	455.31	20.54	0.00	434.77	1.9	ND	0.36 (J)	ND	2.26 (J)	6.1	ND	**1,100**	**373**	0.33 (J)
	6/7/2016	455.31	20.58	0.00	434.73	2.5	0.33 (J)	2.5	3.0	8.33 (J)	6.6	14.0	**934**	**370**	ND
	9/13/2016	455.31	21.03	0.00	434.28	0.99	ND	ND	ND	0.99	3.3	10.7	**583**	**209**	ND
	11/21/2016	455.31	21.82	0.00	433.49	1.2	ND	0.56 (J)	ND	1.76 (J)	4.2	11.4	**486**	**344**	ND
	3/9/2017	455.31	22.04	0.00	433.27	1.5	ND	0.34 (J)	0.58 (J)	2.42 (J)	7.9	ND	**845**	**298**	**ND (<1.0)**
#	6/7/2017	455.31	21.22	0.00	434.09	1.6	ND	0.47 (J)	0.69 (J)	2.76 (J)	7.3	11.5	**572**	**356**	**ND (<1.0)**
	9/6/2017	455.31	21.27	0.00	434.04	1.3	ND	0.37 (J)	0.45 (J)	2.12 (J)	4.7	12.8	**583**	**348**	**ND (<1.1)**
	11/1/2017	455.31	21.53	0.00	433.78	1.4	ND	0.49 (J)	0.32 (J)	2.2 (J)	6.1	11.3	**439**	**336**	**ND (<1.1)**
	3/6/2018	455.31	21.77	0.00	433.54	1.5	ND	1.3	8.6	11.4	7.5	19.7	**962**	**511**	**ND (<1.1)**
	6/20/2018	455.31	20.03	0.00	435.28	1.7	0.45 (J)	2.8	16.1	21.1 (J)	6.2	14.2	**746**	**469**	**ND (<1.1)**
	9/5/2018	455.31	19.61	0.00	435.70	2.2	ND	7.8	8.3	18.3	5.2	21.3	**816**	**441**	**1.2 (J)**
	7/18/2019	455.31	19.23	0.00	436.08	Not sampled									
	11/13/2019	455.31	20.66	0.00	434.65	Not sampled									
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

Table 1
HISTORICAL GROUNDWATER MONITORING DATA SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
YMW-1	6/13/2006	433.72	3.00	0.00	430.72	**21.7**	30.1	559	373	984	15.6	NS	NS	NS	NS
	7/17/2006	433.72	3.95	0.00	429.77	**5.3**	61.4	543	1,390	2,000	ND	NS	NS	NS	NS
Casing:	4/11/2007	433.72	4.89	0.00	428.83	**5.5**	140	**1,200**	3,300	4,646	ND	ND	**37,000**	ND	NS
0 to 2 feet	8/24/2007	433.72	5.94	0.00	427.78	4.6	60	660	850	1,574.6	ND	ND	**12,000**	**1,500**	NS
	12/27/2007	433.72	5.29	0.00	428.43	4.8	32	500	30	566.8	ND	ND	**14,000**	**1,500**	NS
Screen:	3/27/2008	433.72	5.19	0.00	428.53	**5.6**	73	610	1,510	2,198.6	1.2	ND	**9,600**	**1,000**	NS
2 to 14 feet	6/25/2008	433.72	1.68	0.00	432.04	4.0	92.7	648	1,700	2,444.7	ND	ND	**14,300**	**1,980**	NS
	9/24/2008	433.72	2.55	0.00	431.17	2.3	38.1	477	912	1,429.4	ND	ND	**11,200**	**1,010**	NS
	12/17/2008	433.72	2.30	0.00	431.42	2.0	38.5	346	1,000	1,386.5	ND	ND	**10,700**	**731**	NS
	3/31/2009	433.72	2.78	0.00	430.94	**7.7**	20.2	112	290	429.9	6.1	ND (<25)	**7,790**	**567**	NS
	6/22/2009	433.72	1.13	0.00	432.59	1.9 (J)	54.4	557	1,470	2,083.3 (J)	ND	(<130)	**11,600**	**1,810**	NS
	9/25/2009	433.72	0.20	0.00	433.52	2.0	28.1	325	701	1,056.1	ND	ND (<50)	**8,540**	**1,540**	NS
	12/14/2009	433.72	0.00	0.00	433.72	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/2009	433.72	NM	NM	NM	ND	40.7	401	1,490	1,931.7	ND	(<130)	**10,700**	**1,760**	NS
	3/17/2010	433.72	0.01	0.00	433.71	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/18/2010	433.72	NM	NM	NM	ND	60.4	407	1,060	1,527.4	ND	(<130)	**10,500**	**1,080**	NS
	8/25/2010	434.11	1.39	0.00	432.72	2.3 (J)	81.1	635	1,250	1,968.4	ND	131	**5,350**	**796**	**234**
	1/12/2011	434.11	1.51	0.00	432.60	1.8	40.6	464	1,620	2,126.4	ND	ND	**11,500**	**2,080**	**168**
	6/22/2011	434.11	1.34	0.00	432.77	0.74 (J)	18.0	181	392	591.74 (J)	ND	ND	**4,200**	**1,530**	**59.3**
	9/28/2011	434.11	0.03	0.00	434.08	1.6	31.3	463	685	1,180.9	ND	ND	**7,580**	**ND (<110)**	**168**
	12/20/2012	434.11	1.01	0.00	433.10	1.4 (J)	52.0	**792**	1,530	2375.4 (J)	ND	ND	**12,600**	**1,161**	**285**
	3/20/2012	434.11	0.90	0.00	433.21	0.51 (J)	11.4	145	298	454.91 (J)	ND	ND	**1,690**	**1,140**	**58.6**
†	5/15/2012	434.11	0.04	0.00	434.07	3.5	7.3	14.1	73.8	98.7	5.8	21.8 (J)	**2,420**	**1,650**	**83.3**
	8/28/2012	434.11	1.56	0.00	432.55	1.9 (J)	22.0	240	107	370.9 (J)	ND	ND	**5,040**	**1,860**	**156**
	12/18/2012	434.11	0.50	0.00	433.61	2.0	23.4	178	143	346.4	ND	ND	**3,790**	**616**	**15.1**
	3/19/2013	434.11	0.03	0.00	434.08	1.3	54.4	444	645	1,144.7	ND	ND	**6,810**	**807**	**184**
	6/18/2013	434.11	0.89	0.00	433.22	0.90 (J)	21.3	231	164	417.2 (J)	ND	ND	**3,770**	**1,280**	**104**
	9/19/2013	434.11	1.49	0.00	432.62	2.2	27.3	428	173	630.5	ND	ND	**5,960**	**1,560**	**200**
	11/22/2013	434.11	0.50	0.00	433.61	2.2	23.0	377	89.5	491.7	ND	ND	**8,760**	**1,130**	**186**
	3/20/2014	434.11	0.01	0.00	434.10	1.4	18.6	234	69.5	323.5	ND	ND	**3,210**	**659**	**57.4**
***	6/18/2014	434.11	3.62	0.00	430.49	3.3	19.2	96.6	104	223.1	ND	ND	**4,710**	***	**132**
***	6/30/2014	434.11	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	**1,040**	NS
	9/23/2014	433.64	5.33	0.00	428.31	0.72	1.4	0.98 (J)	2.7	5.8 (J)	ND	ND	**775**	**269**	**2.3 (J)**
	12/23/2014	433.64	4.19	0.00	429.45	0.31 (J)	0.33 (J)	2.5	0.61 (J)	3.75 (J)	ND	ND	**277**	**ND (<80)**	ND
	3/24/2015	433.64	3.02	0.00	430.62	ND	ND	2.0	0.57 (J)	2.57 (J)	ND	ND	ND	**ND (<77)**	**0.97 (J)**
	6/22/2015	433.64	3.04	0.00	430.60	ND	ND	0.39 (J)	ND	0.39 (J)	ND	ND	ND	**108**	ND
	9/21/2015	433.64	4.94	0.00	428.70	0.60	ND	0.61 (J)	ND	1.21 (J)	ND	ND	**205**	**144**	**0.81 (J)**
	12/9/2015	433.64	4.37	0.00	429.27	ND	ND	1.7	ND	1.7	ND	ND	ND	**160**	ND
	3/8/2016	433.64	3.31	0.00	430.33	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<64)**	ND
	6/7/2016	433.64	3.90	0.00	429.74	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<64)**	ND
	9/13/2016	433.64	5.47	0.00	428.17	0.86	ND	ND	ND	0.86	ND	ND	**157 (J)**	**112**	ND
	11/21/2016	433.64	6.21	0.00	427.43	0.35 (J)	ND	ND	ND	0.35 (J)	ND	ND	**ND (<100)**	**ND (<64)**	ND
	3/9/2017	433.64	5.40	0.00	428.24	0.41 (J)	ND	13.1	0.46 (J)	13.97 (J)	ND	ND	**184**	**ND (<64)**	**ND (<1.0)**
‡	6/7/2017	433.64	4.25	0.00	429.39	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	9/6/2017	433.64	4.44	0.00	429.20	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND(<83)**	**ND (<1.1)**
	11/1/2017	433.64	5.37	0.00	428.27	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND(<83)**	**ND (<1.1)**
	3/6/2018	433.64	4.16	0.00	429.48	ND	ND	0.86 (J)	ND	0.86 (J)	ND	ND	**ND (<100)**	**90.6**	**ND (<1.1)**
	6/20/2018	433.64	3.08	0.00	430.56	0.55	ND	ND	ND	0.55	ND	ND	**ND (<100)**	**ND(<83)**	**ND (<1.1)**
	9/5/2018	433.64	3.35	0.00	430.29	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND(<53)**	**ND (<0.90)**
	7/18/2019	433.64	2.73	0.00	430.91	ND (<0.43)	ND (<0.53)	ND (<0.60)	ND (<0.59)	ND (<2.15)	ND (<0.51)	ND (<5.8)	ND (<0.42)	**ND(<53)**	**ND (<0.98)**
	11/13/2019	433.64	4.19	0.00	429.45	ND (<0.43)	ND (<0.53)	ND (<0.60)	ND (<0.59)	ND (<2.15)	ND (<0.51)	ND (<5.8)	**128**	**ND(<53)**	**ND (<2.5)**
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

Table 1
HISTORICAL GROUNDWATER MONITORING DATA SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
YMW-2	6/13/2006	431.42	0.89	0.00	430.53	3.3	47.6	211	656	917.9	2.3	NS	NS	NS	NS
	7/17/2006	431.42	1.25	0.00	430.17	**14.9**	25.6	533	285	858.5	10.7	NS	NS	NS	NS
Casing:	4/11/2007	431.42	1.60	0.00	429.82	**15**	24	630	670	1,339	14	17	**1,400**	**3,000**	NS
0 to 2 feet	8/24/2007	431.42	2.61	0.00	428.81	**16**	59	250	270	595	14	ND	**4,800**	**3,200**	NS
	12/27/2007	431.42	2.48	0.00	428.94	**13**	21	370	14	418	9.9	17	**13,000**	**2,300**	NS
Screen:	3/27/2008	431.42	1.06	0.00	430.36	**8.2**	21	260	395	684.2	7.7	ND	**7,700**	**1,400**	NS
2 to 14 feet	6/25/2008	431.42	1.00	0.00	430.42	**11.5**	38.5	66.3	163	279.3	10.5	ND	**6,010**	**1,550**	NS
	9/24/2008	431.42	1.15	0.00	430.27	**13.5**	45.7	125	215	399.2	9	ND	**7,710**	**2,000**	NS
	12/17/2008	431.42	1.00	0.00	430.42	1.3	2.4	22.7	33.9	60.3	1.1	ND	**920**	ND	NS
	3/31/2009	431.42	1.66	0.00	429.76	**8.1**	23.2	164	357	552.3	5.8	ND (<25)	**7,750**	**1,030**	NS
	6/22/2009	431.42	0.60	0.00	430.82	**6.6**	14.6	43.8	93.8	158.8	4.1	ND (<25)	**3,960**	**977**	NS
	9/25/2009	431.42	0.30	0.00	431.12	**9.1**	25.8	73.0	178	285.9	6.5	ND (<25)	**5,290**	**3,070**	NS
	12/14/2009	431.42	0.10	0.00	431.32	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/28/2009	431.42	NM	NM	NM	4.8	12.0	117	176	309.8	2.7	ND (<25)	**4,560**	**534**	NS
	3/17/2010	431.42	0.74	0.00	430.68	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/18/2010	431.42	NM	NM	NM	4.9	17.0	115	187	323.9	3.8	ND (<25)	**3,670**	**549**	NS
	8/25/2010	431.34	0.90	0.00	430.44	**6.9**	25.4	63.8	118	214.1	5.3	ND	**5,820**	**1,580**	**239**
	1/11/2011	431.34	1.39	0.00	429.95	**7.0**	23.6	199	251	480.6	4.8	ND	**7,190**	**1,950**	**215**
	6/23/2011	431.34	0.87	0.00	430.47	1.8	3.0	2.1	7.8	14.7	5.5	ND	**2,140**	**649**	**17.8**
	9/29/2011	431.34	0.08	0.00	431.26	**6.9**	19.6	29.0	138	193.5	9.4	31.5	**3,010**	**1,140**	**150**
	12/21/2012	431.34	0.92	0.00	430.42	**7.2**	14.9	98.0	194	314.1	8.6	ND	**5,510**	**1,470**	**164**
	3/21/2012	431.34	1.18	0.00	430.16	4.1	8.6	38.1	90.5	141.3	6.5	27.3	**3,800**	**859**	**86.2**
	5/16/2012	431.34	1.47	0.00	429.87	1.0 (J)	28.6	450	551	1,030.6 (J)	ND	ND	**8,100**	**1,820**	**247**
	8/29/2012	431.34	0.59	0.00	430.75	4.7	15.2	25.4	135	180.3	4.7	39.0	**4,490**	**1,990**	**157 (E)**
	12/19/2012	431.34	1.03	0.00	430.31	4.5	19.1	77.9	229	330.5	3.1	ND	**6,000**	**1,300**	**148**
	3/20/2013	431.34	1.00	0.00	430.34	2.9	12.4	55.1	133	203.4	5.0	ND	**3,550**	**582**	**96.5**
	6/19/2013	431.34	0.58	0.00	430.76	2.2	7.9	6.2	85.8	102.1	4.6	ND	**3,190**	**612**	**61.1**
	9/19/2013	431.34	0.08	0.00	431.26	3.2	18.9	23.3	158	203.4	2.7	ND	**3,770**	**1,250**	**102**
	11/22/2013	431.34	0.50	0.00	430.84	0.98 (J)	4.1	12.3	67.9	85.28 (J)	1.4	ND	**2,180**	**747**	**34.3**
	3/20/2014	431.34	0.00	0.00	431.34	4.5	7.6	124	178	314.1	4.7	ND	**4,340**	**934**	**76.6**
***	6/18/2014	431.34	1.23	0.00	430.11	0.89	0.43 (J)	9.4	24.6	35.32 (J)	ND	ND	**729**	***	**2.2 (J)**
***	6/30/2014	431.34	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	**183**	NS
	9/23/2014	431.37	2.51	0.00	428.86	3.4	ND	ND	ND	3.4	13.4	77.3	**759**	**313**	ND
	12/23/2014	431.37	2.64	0.00	428.73	2.7	ND	ND	ND	2.7	18.7	103	**740**	**310**	ND
	3/24/2015	431.37	2.78	0.00	428.59	3.0	0.27 (J)	ND	ND	3.27 (J)	**22.6**	92.9	**671**	**309**	ND
	6/22/2015	431.37	2.51	0.00	428.86	2.4	ND	ND	ND	2.4	12.7	87.7	**336**	**315**	0.41 (J)
	9/21/2015	431.37	2.58	0.00	428.79	4.0	ND	ND	ND	4.0	18.2	150	**391**	**320**	ND
	12/9/2015	431.37	3.94	0.00	427.43	**6.8**	1.6	0.96 (J)	5.7	15.06 (J)	16.5	202	**671**	**345**	**1.6 (J)**
	3/8/2016	431.37	2.97	0.00	428.40	2.2	ND	ND	ND	2.2	19.6	96.2	**364**	**ND (<64)**	ND
	6/7/2016	431.37	2.84	0.00	428.53	**5.2**	ND	ND	ND	5.2	14.3	99.4	**222**	**ND (<64)**	ND
	9/13/2016	431.37	2.44	0.00	428.93	3.3	ND	ND	ND	3.3	11.6	135	**304**	**489**	ND
	11/21/2016	431.37	2.94	0.00	428.43	**5.8**	ND	ND	ND	5.8	ND	185	**645**	**260**	ND
	3/9/2017	431.37	2.94	0.00	428.43	**5.8**	ND	0.51 (J)	0.45 (J)	6.76 (J)	7.9	185	**727**	**ND (<64)**	**ND (<1.0)**
	6/7/2017	431.37	3.10	0.00	428.27	1.1	ND	ND	ND	1.1	11.5	238	**376**	**318**	**ND (<1.0)**
	9/6/2017	431.37	2.65	0.00	428.72	ND	ND	ND	ND	ND	10.7	280	**334**	**358**	**ND (<1.1)**
	11/1/2017	431.37	2.67	0.00	428.70	ND	ND	ND	ND	ND	ND	338	**374**	**420**	**ND (<1.1)**
	3/6/2018	431.37	2.85	0.00	428.52	0.53	ND	ND	ND	0.53	5.8	200	**514**	**308**	**ND (<1.1)**
	6/20/2018	431.37	2.58	0.00	428.79	ND	ND	ND	ND	ND	**20.6**	189	**150 (J)**	**162**	**ND (<1.1)**
	9/5/2018	431.37	2.51	0.00	428.86	ND	ND	ND	ND	ND	**22.3**	184	**144 (J)**	**151**	**ND (<0.98)**
	7/18/2019	431.37	3.01	0.00	428.36	ND (<0.43)	ND (<0.53)	ND (<0.60)	ND (<0.59)	ND (<2.15)	**54.4**	59.0	**158 (J)**	**ND (<53)**	**ND (<0.98)**
	11/13/2019	431.37	2.61	0.00	428.76	ND (<0.43)	ND (<0.53)	ND (<0.60)	ND (<0.59)	ND (<2.15)	9.4	27.5	**337**	**178**	**ND (<2.5)**
YMW-3	9/23/2014	440.39	9.41	0.00	430.98	ND	0.39 (J)	9.0	5.1	14.49 (J)	ND	ND	**268**	**327**	**1.1 (J)**
	12/23/2014	440.39	9.86	0.00	430.53	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<80)**	ND
Casing:	3/24/2015	440.39	8.17	0.00	432.22	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<76)**	ND
0 to 4.5 feet	6/22/2015	440.39	8.54	0.00	431.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	9/21/2015	440.39	9.21	0.00	431.18	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<58)**	ND
Screen:	12/9/2015	440.39	8.83	0.00	431.56	ND	ND	ND	ND	ND	ND	ND	ND	**231**	ND
4.5 to 19.5 feet	3/8/2016	440.39	8.63	0.00	431.76	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<64)**	ND
	6/7/2016	440.39	8.86	0.00	431.53	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<64)**	ND
	9/13/2016	440.39	9.54	0.00	430.85	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	ND
	11/21/2016	440.39	10.44	0.00	429.95	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	ND
	3/9/2017	440.39	9.55	0.00	430.84	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
‡	6/7/2017	440.39	8.82	0.00	431.57	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	9/6/2017	440.39	8.84	0.00	431.55	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	11/1/2017	440.39	9.34	0.00	431.05	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	3/6/2018	440.39	7.97	0.00	432.42	ND	ND	ND	ND	ND	ND	13.3	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	6/20/2018	440.39	8.27	0.00	432.12	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/5/2018	440.39	8.48	0.00	431.91	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<53)**	**ND (<0.98)**
	7/18/2019	440.39	8.12	0.00	432.27	ND (<0.43)	ND (<0.53)	ND (<0.60)	ND (<0.59)	ND (<2.15)	ND (<0.51)	ND (<5.8)	ND (<42)	**ND (<53)**	**ND (<0.98)**
	11/13/2019	440.39	8.56	0.00	431.83	ND (<0.43)	ND (<0.53)	ND (<0.60)	ND (<0.59)	ND (<2.15)	ND (<0.51)	ND (<5.8)	**ND (<100)**	**ND (<53)**	**ND (<2.5)**
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

Table 1
HISTORICAL GROUNDWATER MONITORING DATA SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
YMW-4	9/23/2014	433.72	4.71	0.00	429.01	**6.1**	9.2	94.0	192	301.3	4.3	ND	**3,780**	**1,050**	**45.0**
	12/23/2014	433.72	4.31	0.00	429.41	**5.7**	14.2	44.7	219	283.6	5.9	16.6	**4,240**	**612**	**57.3**
Casing:	3/24/2015	433.72	4.06	0.00	429.66	4.0	21.6	36.6	434	496.2	10.6	53.8	**4,470**	**1,190**	**73.1**
0 to 2 feet	6/22/2015	433.72	3.96	0.00	429.76	**5.6**	21.6	36.3	376	439.5	**24.5**	114	**4,280**	**2,460**	**124**
	9/21/2015	433.72	4.45	0.00	429.27	**7.8**	17.2	33.2	289	347.2	**38.9**	163	**5,480**	**1,560**	**138**
Screen:	12/9/2015	433.72	4.34	0.00	429.38	**9.2**	13.7	31.9	252	306.8	**38.4**	251	**5,110**	**1,560**	**87.8**
2 to 17 feet	3/8/2016	433.72	4.18	0.00	429.54	2.4	3.1	4.4	39.0	48.9	10	68.8	**828**	**414**	**15.8**
	6/7/2016	433.72	4.18	0.00	429.54	**13.9**	9.5	27.8	116	167.2	**32.3**	280	**4,040**	**1,790**	**98.7**
	9/13/2016	433.72	4.46	0.00	429.26	**18.4**	8.7	25.3	108	160.4	**24.9**	240	**3,500**	**2,490**	**64.3**
	11/21/2016	433.72	4.85	0.00	428.87	**18.8**	5.2	13.6	59.5	97.1	**28.4**	247	**3,520**	**299**	**28.9**
	3/9/2017	433.72	4.30	0.00	429.42	**19.6**	4.8	8.9	47.4	80.7	**50.9**	ND	**2,830**	**925**	**32.4**
	6/7/2017	433.72	4.26	0.00	429.46	**13.4**	3.0	7.6	18.7	42.7	**21.4**	169	**1,940**	**1,300**	**20.8**
	9/6/2017	433.72	4.18	0.00	429.54	0.49 (J)	ND	0.70 (J)	1.6	2.79 (J)	0.46 (J)	7.2 (J)	**262**	**134**	**ND (<1.1)**
	11/1/2017	433.72	4.41	0.00	429.31	**20.9**	12.9	35.9	286	355.7	17.8	345	**3,570**	**1,730**	**50.3**
	3/6/2018	433.72	4.24	0.00	429.48	**6.2**	2.2	3.6	29.6	41.6	10.0	144	**688**	**383**	**4.8 (J)**
	6/20/2018	433.72	3.89	0.00	429.83	5.0	ND	0.63 (J)	ND	5.6 (J)	16.6	361	**591**	**623**	**ND (<1.1)**
	9/5/2018	433.72	4.01	0.00	429.71	**10.4**	0.72 (J)	4.2	5.7	21.0 (J)	14.0	355	**1,010**	**813**	**1.9 (J)**
	7/18/2019	433.72	3.79	0.00	429.93	1.8	ND (<0.53)	ND (<0.60)	ND (<0.59)	<3.5	**181**	384	**625**	**406**	**ND (<0.98)**
	11/13/2019	433.72	4.16	0.00	429.56	**8.7**	0.60 (J)	ND (<0.60)	ND (<0.59)	<10.5	6.6	384	**764**	**582**	**ND (<2.5)**
YMW-5	9/23/2014	430.70	4.42	0.00	426.28	ND	ND	ND	181	0.63 (J)	6.6	ND	**294**	**273**	ND
	12/23/2014	430.70	5.52	0.00	425.18	0.25 (J)	ND	ND	ND	0.25 (J)	5.6	ND	ND	**ND (<80)**	ND
Casing:	3/24/2015	430.70	3.05	0.00	427.65	0.65	ND	ND	ND	0.65	7.7	7.0 (J)	ND	**ND (<80)**	ND
0 to 1 feet	6/22/2015	430.70	3.05	0.00	427.65	0.92	ND	ND	ND	0.92	6.3	10.3	ND	**123**	ND
	9/21/2015	430.70	3.52	0.00	427.18	0.54	ND	ND	ND	0.54	9.2	23.5	ND	**98.0**	ND
Screen:	12/9/2015	430.70	3.16	0.00	427.54	0.35 (J)	ND	ND	ND	0.35 (J)	7.4	27.3	ND	**ND (<64)**	ND
1 to 16 feet	3/8/2016	430.70	2.99	0.00	427.71	0.38 (J)	ND	ND	ND	0.38 (J)	6.8	19.7	**ND (<55)**	**ND (<64)**	ND
	6/7/2016	430.70	3.01	0.00	427.69	0.23 (J)	ND	ND	ND	0.23 (J)	6.8	12.6	**ND (<55)**	**ND (<64)**	ND
	9/13/2016	430.70	3.39	0.00	427.31	0.20 (J)	ND	ND	ND	0.20 (J)	6.6	15.4	**ND (<100)**	**ND (<64)**	ND
	11/21/2016	430.70	3.74	0.00	426.96	ND	ND	ND	ND	ND	6.2	26.2	**ND (<100)**	**565**	ND
	3/9/2017	430.70	3.14	0.00	427.56	0.30 (J)	ND	ND	ND	0.30 (J)	5.7	23.2	**ND (<100)**	**ND (<64)**	**ND (<100)**
	6/7/2017	430.70	3.07	0.00	427.63	0.25 (J)	ND	ND	ND	0.25 (J)	4.5	13.5	**ND (<100)**	**105**	**ND (<100)**
	9/6/2017	430.70	2.98	0.00	427.72	ND	ND	ND	ND	ND	3.6	12.2	**ND (<100)**	**171**	**ND (<1.1)**
	11/1/2017	430.70	3.23	0.00	427.47	ND	ND	ND	ND	ND	5.5	27.9	**ND (<100)**	**109**	**ND (<1.1)**
	3/6/2018	430.70	2.83	0.00	427.87	ND	ND	ND	ND	ND	4.2	27.9	**ND (<100)**	**98.6**	**ND (<1.1)**
	6/20/2018	430.70	2.67	0.00	428.03	ND	ND	ND	ND	ND	3.0	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/5/2018	430.70	2.74	0.00	427.96	ND	ND	ND	ND	ND	3.3	ND	**ND (<100)**	**ND (<53)**	**ND (<0.98)**
	7/18/2019	430.70	2.36	0.00	428.34	Not sampled									
	11/13/2019	430.70	2.70	0.00	428.00	Not sampled									
YMW-6	9/23/2014	432.68	6.61	0.00	426.07	ND	ND	ND	ND	ND	1.5	26.9	ND	**ND (<80)**	ND
	12/23/2014	432.68	5.69	0.00	426.99	ND	ND	ND	ND	ND	1.4	24.7	ND	**ND (<80)**	ND
Casing:	3/24/2015	432.68	5.11	0.00	427.57	ND	ND	ND	ND	ND	2.1	44.5	ND	**ND (<80)**	ND
0 to 3 feet	6/22/2015	432.68	5.11	0.00	427.57	ND	ND	ND	ND	ND	2.4	65.6	ND	ND	ND
	9/21/2015	432.68	6.11	0.00	426.57	ND	ND	ND	ND	ND	2.9	73.3	ND	**76.9**	ND
Screen:	12/9/2015	432.68	5.56	0.00	427.12	ND	ND	ND	ND	ND	2.9	80.3	ND	**ND (<64)**	ND
3 to 18 feet	3/8/2016	432.68	5.10	0.00	427.58	ND	ND	ND	ND	ND	3.3	91.0	**ND (<55)**	**ND (<64)**	ND
	6/7/2016	432.68	5.36	0.00	427.32	ND	ND	ND	ND	ND	4.3	109	**ND (<55)**	**ND (<64)**	ND
	9/13/2016	432.68	6.38	0.00	426.30	ND	ND	ND	ND	ND	4.3	98.6	**ND (<100)**	**ND (<64)**	ND
	11/21/2016	432.68	7.05	0.00	425.63	ND	ND	ND	ND	ND	3.8	85.9	**ND (<100)**	**ND (<64)**	ND
	3/9/2017	432.68	6.25	0.00	426.43	ND	ND	ND	ND	ND	4.5	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	6/7/2017	432.68	5.49	0.00	427.19	ND	ND	ND	ND	ND	4.9	97.3	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	9/6/2017	432.68	6.25	0.00	426.43	ND	ND	ND	ND	ND	4.0	89.6	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	11/1/2017	432.68	6.65	0.00	426.03	ND	ND	ND	ND	ND	4.7	83.7	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	3/6/2018	432.68	5.35	0.00	427.33	ND	ND	ND	ND	ND	5.0	85.6	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	6/20/2018	432.68	4.89	0.00	427.79	ND	ND	ND	ND	ND	5.5	96.8	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/5/2018	432.68	5.05	0.00	427.63	ND	ND	ND	ND	ND	5.3	98.4	**ND (<100)**	**ND (<53)**	**ND (<0.98)**
	7/18/2019	432.68	4.74	0.00	427.94	Not sampled									
	11/13/2019	432.68	5.49	0.00	427.19	Not sampled									
YMW-7	9/23/2014	449.40	15.33	0.00	434.07	**173**	141	428	2,240	2,982	10.0	ND	**17,500**	**1,670**	**73.6**
	12/23/2014	449.40	15.16	0.00	434.24	**176**	130	690	2,580	3,576	9.1 (J)	ND	**23,800**	**2,250**	**99.7**
Casing:	3/24/2015	449.40	15.54	0.00	433.86	**142**	78.0	261	2,330	2,811	11.4	ND	**16,300**	**2,560**	**92.8**
0 to 18 feet	6/22/2015	449.40	15.22	0.00	434.18	**134**	37.4	146	828	1,145.4	9.1	ND	**6,820**	**1,680**	**39.8**
	9/21/2015	449.40	15.32	0.00	434.08	**101**	18.9	67.9	286	473.8	8.3	17.0	**4,970**	**736**	**22.1**
Screen:	12/9/2015	449.40	15.68	0.00	433.72	**129**	80.2	301	1,140	1,650.2	7.3	ND	**14,100**	**1,630**	**122**
18 to 28 feet	3/8/2016	449.40	15.13	0.00	434.27	**136**	52.0	140	688	1,016.0	7.3	17.0 (J)	**7,050**	**1,300**	**97.7**
	6/7/2016	449.40	15.09	0.00	434.31	**127**	42.3	166	620	955.3	7.6	15.7	**7,370**	**1,320**	**75.6**
	9/13/2016	449.40	15.47	0.00	433.93	**118**	65.2	296	961	1,440.2	6.9	14.0 (J)	**9,010**	**1,480**	**103**
	11/21/2016	449.40	15.69	0.00	433.71	**97.2**	68.1	313	1,080	1,558.3	ND	ND	**10,300**	**841**	**108**
	3/9/2017	449.40	16.31	0.00	433.09	**45.0**	81.7	342	1,450	1,918.7	1.9	ND	**12,000**	**1,290**	**121**
	6/7/2017	449.40	15.24	0.00	434.16	**60.0**	76.2	303	1,310	1,749.2	2.6 (J)	ND	**13,100**	**2,350**	**124**
	9/6/2017	449.40	15.68	0.00	433.72	**57.3**	92.3	398	1,470	2,017.6	ND	ND	**13,200**	**1,650**	**130**
	11/1/2017	449.40	15.91	0.00	433.49	**48.5**	89.6	374	1,550	2,062	ND	ND	**13,200**	**2,330**	**116**
	3/6/2018	449.40	16.12	0.00	433.28	**37.9**	54.1	267	1,190	1,549	1.4	ND	**13,000**	**2,170**	**91.5**
	6/20/2018	449.40	14.75	0.00	434.65	**57.9**	23.6	195	473	750	2.7	15.9 (J)	**6,530**	**1,100**	**63.4**
	9/5/2018	449.40	14.43	0.00	434.97	**64.9**	10.1	105	207	387	3.5	12.1	**3,810**	**ND (<53)**	**39.8**
	7/18/2019	449.40	13.96	0.00	435.44	Not sampled									
	11/13/2019	449.40	14.98	0.00	434.42	Not sampled									
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

Table 1
HISTORICAL GROUNDWATER MONITORING DATA SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
YMW-8	9/23/2014	446.91	13.63	0.00	433.28	**56.4**	46.8	638	2,270	3,011.2	**50.8**	ND	**16,100**	**1,820**	**182**
	12/23/2014	446.91	13.96	0.00	432.95	**61.9**	50.5	**793**	2,570	3,475.4	**40.0**	ND	**17,800**	**2,450**	**216**
Casing:	3/24/2015	446.91	12.91	0.00	434.00	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<80)**	ND
0 to 7 feet	6/22/2015	446.91	13.44	0.00	433.47	**91.5**	18.4	255	395	759.9	**28.4**	17.2	**4,330**	**1,710**	**75.9**
	9/21/2015	446.91	13.85	0.00	433.06	**45.7**	24.9	533	1,150	1,753.6	**31.2**	ND	**16,600**	**1,900**	**145**
Screen:	12/9/2015	446.91	13.94	0.00	432.97	**39.5**	96.9	631	1,500	2,267.4	**24.6**	ND	**18,400**	**2,470**	**169**
7 to 22 feet	3/8/2016	446.91	13.05	0.00	433.86	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<64)**	ND
	6/7/2016	446.91	13.52	0.00	433.39	**72.4**	14.6	341	185	613.0	**29.1**	20.9	**4,260**	**1,020**	**77.1**
	9/13/2016	446.91	14.03	0.00	432.88	**37.0**	117	**806**	1,790	2,750	**26.1**	30.6 (J)	**14,700**	**3,440**	**200**
	11/21/2016	446.91	14.39	0.00	432.52	**22.9**	113	**710**	2,240	3,085.9	18.8	ND	**18,200**	**3,920**	**208**
	3/9/2017	446.91	14.61	0.00	432.30	**31.2**	114	**1,010**	3,070	4,225.2	**21.3**	ND	**20,400**	**2,620**	**297**
	6/7/2017	446.91	14.07	0.00	432.84	**41.9**	70.9	**953**	2,840	3,905.8	**22.4**	47.8 (J)	**19,500**	**3,080**	**251**
	9/6/2017	446.91	14.28	0.00	432.63	**25.1**	155	**1,060**	3,190	4,430.1	18.4	ND	**26,300**	**6,870**	**291**
	11/1/2017	446.91	14.43	0.00	432.48	**23.9**	144	**1,190**	4,250	5,608	19.2	ND	**21,600**	**4,510**	**301**
	3/6/2018	446.91	14.07	0.00	432.84	**36.3**	76.0	**1,240**	4,660	6,012	21.6	102	**26,400**	**4,570**	**325**
	6/20/2018	446.91	12.80	0.00	434.11	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/5/2018	446.91	12.99	0.00	433.92	**29.3**	10.4	202	267	509	9.4	17.4	**3,000**	**823**	**59.7**
	7/18/2019	446.91	12.57	0.00	434.34	**11.4**	1.1	31.4	34.5	78.4	5.5	ND (<5.8)	**403**	**ND (<53)**	**6.1**
	11/13/2019	446.91	13.63	0.00	433.28	**26.8**	46.1	673	1,000	1,746	19.8	ND (<29)	**9,190**	**2,940**	**217.0**
YMW-9	9/23/2014	436.71	6.16	0.00	430.55	ND	ND	ND	ND	ND	1.8	ND	ND	**ND (<80)**	ND
	12/23/2014	436.71	5.94	0.00	430.77	ND	ND	ND	ND	ND	1.6	ND	ND	**ND (<80)**	ND
Casing:	3/24/2015	436.71	5.41	0.00	431.30	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<80)**	ND
0 to 2.5 feet	6/22/2015	436.71	5.81	0.00	430.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	9/21/2015	436.71	6.17	0.00	430.54	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<58)**	ND
Screen:	12/9/2015	436.71	5.86	0.00	430.85	ND	ND	ND	ND	ND	ND	ND	ND	**ND (<64)**	ND
2.5 to 17.5 feet	3/8/2016	436.71	5.43	0.00	431.28	ND	ND	ND	ND	ND	ND	ND	**ND (<55)**	**ND (<64)**	ND
	6/7/2016	436.71	5.93	0.00	430.78	ND	ND	ND	ND	ND	0.48 (J)	ND	**ND (<55)**	**ND (<64)**	ND
	9/13/2016	436.71	6.44	0.00	430.27	ND	ND	ND	ND	ND	0.67 (J)	ND	**ND (<100)**	**ND (<64)**	ND
	11/21/2016	436.71	6.50	0.00	430.21	ND	ND	ND	ND	ND	0.62 (J)	ND	**ND (<100)**	**ND (<64)**	ND
	3/9/2017	436.71	6.23	0.00	430.48	ND	ND	ND	ND	ND	0.94 (J)	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	6/7/2017	436.71	6.13	0.00	430.58	ND	ND	ND	ND	ND	0.86 (J)	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	9/6/2017	436.71	6.42	0.00	430.29	ND	ND	ND	ND	ND	0.92 (J)	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	11/1/2017	436.71	6.34	0.00	430.37	ND	ND	ND	ND	ND	1.2	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	3/6/2018	436.71	5.29	0.00	431.42	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**87.5**	**ND (<1.1)**
	6/20/2018	436.71	5.73	0.00	430.98	ND	ND	ND	ND	ND	1.7	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/5/2018	436.71	5.88	0.00	430.83	ND	ND	ND	ND	ND	1.7	ND	**ND (<100)**	**ND (<53)**	**ND (<0.98)**
	7/18/2019	436.71	5.65	0.00	431.06	Not sampled									
	11/13/2019	436.71	5.87	0.00	430.84	Not sampled									
YP-1	9/23/2014	440.41	9.11	0.00	431.30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/2014	440.41	9.16	0.00	431.25	0.98	42.1	383	326	752.08	6.3	34.5	**4,370**	**221**	**67.0**
Casing:	3/25/2015	440.41	9.26	0.00	431.15	1.8 (J)	72.6	**762**	2,120	2,956.4 (J)	11.2	70.9	**13,300**	**2,160**	**160**
0 to 8 feet	6/23/2015	440.41	9.18	0.00	431.23	**5.6**	75.6	**714**	1,420	2,215.2	19.3	104	**11,100**	**1,980**	**186**
	9/22/2015	440.41	9.20	0.00	431.21	**7.0**	63.1	**807**	1,460	2,337.1	9.4	120	**9,470**	**2,500**	**280**
Screen:	12/10/2015	440.41	9.17	0.00	431.24	**5.5**	31.0	**723**	872	1,631.5	5.0	113	**13,400**	**1,590**	**181**
8 to 13 feet	3/9/2016	440.41	9.24	0.00	431.17	**6.0**	28.1	**756**	970	1,760.1	5.0	38.4	**10,700**	**1,940**	**166**
	6/8/2016	440.41	9.14	0.00	431.27	**6.4**	20.2	638	773	1,437.6	4.2	53.3	**8,270**	**2,490**	**189**
	9/14/2016	440.41	8.18	0.00	432.23	**6.8**	12.4	516	259	794.2	3.5	25.0	**6,130**	**1,730**	**113**
	11/22/2016	440.41	9.25	0.00	431.16	**7.4**	12.7	652	314	986.1	2.4	24.7	**6,950**	**1,230**	**129**
	3/10/2017	440.41	9.39	0.00	431.02	4.0	22.7	**820**	1,160	2,006.7	ND	ND	**8,680**	**1,710**	**171**
	‡ 6/8/2017	440.41	9.34	0.00	431.07	4.4	14.4	683	1,020	1,721.8	2.0 (J)	32.4 (J)	**11,500**	**1,780**	**185**
	9/7/2017	440.41	9.29	0.00	431.12	**6.9**	23.4	698	466	1,194.3	ND	ND	**8,770**	**3,130**	**228**
	11/1/2017	440.41	9.32	0.00	431.09	**8.4**	31.3	**785**	398	1,222.7	3.1	ND	**6,930**	**2,230**	**202**
	3/7/2018	440.41	9.41	0.00	431.00	**5.5**	54.7	**952**	2,210	3,222.2	1.9 (J)	52.7	**14,600**	**3,660**	**284**
	6/21/2018	440.41	9.14	0.00	431.27	4.2	22.6	**811**	1,360	2,198	4.1	89.5	**9,620**	**2,000**	**245**
	9/6/2018	440.41	9.01	0.00	431.40	**10.1**	30.6	688	759	1,488	5.3	115	**9,700**	**2,030**	**202**
	7/18/2019	440.41	8.93	0.00	431.48	**5.8**	16.5	**725**	404	1,151	1.9	ND (<5.8)	**11,200**	**1,510**	**268**
	11/13/2019	440.41	9.16	0.00	431.25	4.6	9.8	602	157	773	2.0	13.5 (J)	**6,350**	**2,020**	**237**
YP-2	9/23/2014	438.35	8.25	0.00	430.10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/2014	438.35	8.10	0.00	430.25	3.0	ND	ND	ND	3.0	8.5	7.4 (J)	ND	**ND (<80)**	0.43 (J)
Casing:	3/25/2015	438.35	8.05	0.00	430.30	**5.3**	ND	1.7	1	7.0	12.5	ND	ND	**ND (<80)**	0.42 (J)
0 to 7 feet	6/23/2015	438.35	7.98	0.00	430.37	3.9	ND	ND	ND	3.9	12.6	4.7 (J)	ND	**95**	ND
	9/22/2015	438.35	8.13	0.00	430.22	**5.2**	0.20 (J)	ND	0.77 (J)	6.17 (J)	13.2	60.2	**399**	**299**	0.52 (J)
Screen:	12/10/2015	438.35	8.25	0.00	430.10	**9.8**	0.18 (J)	ND	0.44 (J)	10.42 (J)	15.5	76.0	**322**	**254**	**0.81 (J)**
7 to 12 feet	3/9/2016	438.35	8.15	0.00	430.20	**62.4**	0.21 (J)	2.8	0.44 (J)	65.85 (J)	**32.7**	18.9	**324**	**110**	0.66 (J)
	6/8/2016	438.35	8.07	0.00	430.28	**13.9**	ND	ND	ND	13.9	17.7	23.4	**159**	**151**	ND
	9/14/2016	438.35	8.07	0.00	430.28	2.0	ND	ND	ND	2.0	6.1	37.0	**215**	**ND (<64)**	ND
	11/22/2016	438.35	8.11	0.00	430.24	**6.9**	0.46 (J)	15.9	7.4	30.66 (J)	8.6	167	**1,030**	**437**	**7.7**
	3/10/2017	438.35	8.11	0.00	430.24	3.0	ND	ND	ND	3.0	11.6	78.5	**168**	**ND (<64)**	**ND (<1.0)**
	9/7/2017	438.35	8.10	0.00	430.25	1.4	ND	ND	ND	1.4	10.1	26.3	**121 (J)**	**196**	**ND (<1.1)**
	‡ 6/8/2017	438.35	8.23	0.00	430.12	2.0	ND	ND	ND	2.0	13.1	21.6	**130 (J)**	**192**	**ND (<1.1)**
	9/7/2017	438.35	8.10	0.00	430.25	1.4	ND	ND	ND	1.4	10.1	26.3	**121 (J)**	**196**	**ND (<1.1)**
	11/1/2017	438.35	8.08	0.00	430.27	**6.7**	ND	3.0	0.36 (J)	10.1	10.5	257	**521**	**984**	**4.3 (J)**
	3/7/2018	438.35	8.12	0.00	430.23	0.93	ND	ND	ND	0.93	5.0	44.0	**ND (<100)**	**106**	**ND (<1.1)**
	6/21/2018	438.35	8.13	0.00	430.22	0.92	ND	ND	ND	0.92	7.0	13.6	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/6/2018	438.35	8.16	0.00	430.19	2.9	ND	ND	ND	2.9	9.6	57.7	**181 (J)**	**96.3**	**ND (<0.98)**
	7/18/2019	438.35	8.03	0.00	430.32	0.70	ND (<0.53)	ND (<0.60)	ND (<0.59)	<2.42	12.5	ND (<5.8)	**150 (J)**	**ND (<53)**	**ND (<0.98)**
	11/13/2019	438.35	8.16	0.00	430.19	**6.5**	ND (<0.53)	ND (<0.60)	ND (<0.59)	<8.22	16.1	15.0	**422**	**248**	**6.3**
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

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Former Hess Station No. 20204
1613 East Joppa Road
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Well No.	Date	Casing Elevation* (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Table Elevation* (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPH-GRO (µg/L)	TPH-DRO (µg/L)	Naphthalene (µg/L)
YP-3	9/23/2014	436.51	5.21	0.00	431.30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/2014	436.51	5.21	0.00	431.30	ND	ND	ND	ND	ND	1.9	ND	ND	**ND (<80)**	ND
Casing:	3/25/2015	436.51	4.85	0.00	431.66	0.30 (J)	ND	ND	ND	0.30 (J)	6.0	ND	ND	**ND (<80)**	ND
0 to 5.5 feet	6/23/2015	436.51	4.75	0.00	431.76	0.91	ND	ND	ND	0.91	6.9	4.8 (J)	ND	**199**	ND
	9/22/2015	436.51	5.19	0.00	431.32	1.0	ND	ND	ND	1.0	6.6	ND	ND	**122**	ND
Screen:	12/10/2015	436.51	5.27	0.00	431.24	0.98	ND	ND	ND	0.98	5.9	5.3 (J)	ND	**146**	ND
5.5 to 10.5 feet	3/9/2016	436.51	4.74	0.00	431.77	0.25 (J)	ND	ND	ND	0.25 (J)	2.6	ND	**ND (<55)**	**122**	ND
	6/8/2016	436.51	5.02	0.00	431.49	0.84	ND	ND	ND	0.84	4.3	ND	**ND (<55)**	**216**	ND
	9/14/2016	436.51	5.32	0.00	431.19	0.61	ND	ND	ND	0.61	4.9	ND	**ND (<100)**	**ND (<64)**	ND
	11/22/2016	436.51	6.65	0.00	429.86	1.0	ND	ND	ND	1.0	6.7	ND	**ND (<100)**	NS	ND
	3/10/2017	436.51	5.62	0.00	430.89	0.88	ND	ND	ND	0.88	5.0	3.3 (J)	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	ǂ 6/8/2017	436.51	5.21	0.00	431.30	0.69	ND	ND	ND	0.69	4.0	4.0 (J)	**ND (<100)**	**89.6**	**ND (<1.0)**
	9/7/2017	436.51	5.16	0.00	431.35	0.67	ND	ND	ND	0.67	3.6	ND	**ND (<100)**	**197**	**ND (<1.1)**
	11/1/2017	436.51	5.94	0.00	430.57	0.96	ND	ND	ND	0.96	5.7	ND	**ND (<100)**	**413**	**ND (<1.1)**
	3/7/2018	436.51	4.95	0.00	431.56	0.25 (J)	ND	ND	ND	0.25 (J)	2.0	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	6/21/2018	436.51	4.62	0.00	431.89	0.39 (J)	ND	ND	ND	0.39 (J)	2.5	ND	**ND (<100)**	**102**	**ND (<1.1)**
	9/6/2018	436.51	4.76	0.00	431.75	ND	ND	ND	ND	ND	2.2	ND	**ND (<100)**	**ND (<53)**	**ND (<0.98)**
	7/18/2019	436.51	4.49	0.00	432.02	Not sampled									
	11/13/2019	436.51	5.03	0.00	431.48	Not sampled									
YP-4	9/23/2014	441.83	9.01	0.00	432.82	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/2014	441.83	9.24	0.00	432.59	0.44 (J)	ND	ND	ND	0.44 (J)	**36.5**	19.7	**386**	**ND (<80)**	ND
Casing:	3/25/2015	441.83	8.25	0.00	433.58	ND	ND	ND	ND	ND	5.5	ND	ND	**ND (<80)**	ND
0 to 8 feet	6/23/2015	441.83	8.96	0.00	432.87	ND	ND	ND	ND	ND	3.1	ND	ND	**ND (<64)**	ND
	9/22/2015	441.83	9.31	0.00	432.52	ND	ND	ND	ND	ND	12.2	ND	ND	**199**	0.26 (J)
Screen:	12/10/2015	441.83	9.28	0.00	432.55	0.41 (J)	ND	ND	ND	0.41 (J)	19.5	13.7	ND	**ND (<64)**	ND
8 to 13 feet	3/9/2016	441.83	8.54	0.00	433.29	ND	ND	ND	ND	ND	2.7	ND	**ND (<55)**	**ND (<64)**	ND
	6/8/2016	441.83	9.02	0.00	432.81	ND	ND	ND	ND	ND	4.2	ND	**ND (<55)**	**ND (<64)**	ND
	9/14/2016	441.83	9.53	0.00	432.30	0.23 (J)	ND	ND	ND	0.23 (J)	14.1	9.3 (J)	**118 (J)**	**ND (<64)**	ND
	11/22/2016	441.83	9.74	0.00	432.09	0.29 (J)	ND	ND	ND	0.29 (J)	19.8	18.4	**140 (J)**	**122**	ND
	3/10/2017	441.83	9.91	0.00	431.92	ND	ND	ND	ND	ND	19.9	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	ǂ 6/8/2017	441.83	9.31	0.00	432.52	ND	ND	ND	ND	ND	5.0	ND	**ND (<100)**	**115**	**ND (<1.0)**
	9/7/2017	441.83	9.72	0.00	432.11	ND	ND	ND	ND	ND	11.0	ND	**ND (<100)**	**199**	**ND (<1.1)**
	11/1/2017	441.83	9.82	0.00	432.01	ND	ND	ND	ND	ND	14.2	ND	**ND (<100)**	**107**	**ND (<1.1)**
	3/7/2018	441.83	9.23	0.00	432.60	ND	ND	ND	ND	ND	8.5	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	6/21/2018	441.83	8.48	0.00	433.35	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/6/2018	441.83	8.61	0.00	433.22	ND	ND	ND	ND	ND	4.7	ND	**ND (<100)**	**ND (<53)**	**ND (<0.98)**
	7/18/2019	441.83	8.18	0.00	433.65	Not sampled									
	11/13/2019	441.83	9.01	0.00	432.82	Not sampled									
YP-5	9/23/2014	433.65	4.01	0.00	429.64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/2014	433.65	4.33	0.00	429.32	ND	ND	ND	ND	ND	0.66 (J)	ND	ND	**137**	ND
Casing:	3/25/2015	433.65	3.90	0.00	429.75	ND	ND	ND	ND	ND	17.7	51.2	ND	**ND (<80)**	ND
0 to 5 feet	6/23/2015	433.65	4.49	0.00	429.16	0.28 (J)	ND	ND	ND	0.28 (J)	**32.3**	106	ND	**117**	ND
	9/22/2015	433.65	4.12	0.00	429.53	1.2	ND	ND	ND	1.2	**45.7**	139	ND	**236**	ND
Screen:	12/10/2015	433.65	3.88	0.00	429.77	ND	ND	ND	ND	ND	**33.2**	8.7 (J)	ND	**ND (<64)**	ND
5 to 10 feet	3/9/2016	433.65	3.97	0.00	429.68	ND	ND	ND	ND	ND	1.6	ND	**ND (<55)**	**ND (<64)**	ND
	6/8/2016	433.65	4.31	0.00	429.34	ND	ND	ND	ND	ND	2.2	7.5 (J)	**ND (<55)**	**232**	ND
	9/14/2016	433.65	4.33	0.00	429.32	ND	ND	ND	ND	ND	10.4	32.6	**ND (<100)**	**ND (<64)**	ND
	11/22/2016	433.65	4.37	0.00	429.28	ND	ND	ND	ND	ND	**29.7**	34.5	**ND (<100)**	**ND (<64)**	ND
	3/10/2017	433.65	4.18	0.00	429.47	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	6/8/2017	433.65	4.31	0.00	429.34	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<64)**	**ND (<1.0)**
	9/7/2017	433.65	3.31	0.00	430.34	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**140**	**ND (<1.1)**
	11/1/2017	433.65	4.33	0.00	429.32	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**299**	**ND (<1.1)**
	3/7/2018	433.65	3.84	0.00	429.81	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**105**	**ND (<1.1)**
	6/21/2018	433.65	3.93	0.00	429.72	ND	ND	ND	ND	ND	ND	ND	**ND (<100)**	**ND (<83)**	**ND (<1.1)**
	9/6/2018	433.65	4.01	0.00	429.64	ND	ND	ND	ND	ND	0.62 (J)	ND	**ND (<100)**	**ND (<53)**	**ND (<0.98)**
	7/18/2019	433.65	3.83	0.00	429.82	ND (<0.43)	ND (<0.53)	ND (<0.60)	ND (<0.59)	ND (<2.15)	ND (<0.51)	ND (<5.8)	ND (<42)	**ND (<53)**	**ND (<0.98)**
	11/13/2019	433.65	3.96	0.00	429.69	ND (<0.43)	ND (<0.53)	ND (<0.60)	ND (<0.59)	ND (<2.15)	ND (<0.51)	ND (<5.8)	**ND (<100)**	**ND (<53)**	**ND (<2.5)**
					MDE MEAT GNCSG**	**5**	**1,000**	**700**	**10,000**	**NA**	**20**	**NA**	**47**	**47**	**0.7**

Table Notes:

*Elevation is relative to a designated benchmark
(Current Casing elevations surveyed on August 25, 2010.)
**Generic Numeric Cleanup Standards for Groundwater (GNCSG) from Appendix F of the Maryland Department of the Environments (MDE) Maryland Environmental Assessment Technology (MEAT) for Leaking Undergound Storage Tanks
***The June 18, 2014 TPH-DRO parameters were analyzed out of laboratory holding times; Follow-up samples were collected on June 30, 2014, for analysis of TPH-DRO only
ǂ-The June 8, 2017 TPH-DRO sample was lost in transit. Follow-up sample was collected on June 21, 2017, for analysis of TPH-DRO only
ND (<MDL) = Not Detected above Method Detection Limit. (As of 2012 this changed to mean "Not Detected above Method Dection Limit".)
Groundwater elevations corrected for the presence of LPH using the following formula: Water Table Elevation = Water Elevation+(0.75*LPH Thickness)

Values in boldface type exceed applicable MDE MEAT GNCSG
ND = Not Detected
NA = Not Applicable
Total BTEX = sum of Benzene, Toluene, Ethylbenzene, and Xylenes
MTBE = Methyl-tertiary-Butyl Ether
NS = Not Sampled for indicated analyte

LPH = Liquid Phase Hydrocarbons
¥ = Bottleware broken in shipment.
J = Laboratory Estimated Value
µg/L = micrograms per liter
† = Samples damaged in shipment, resampled for TPH-DRO on 5/24/12
E= Value Exceeded Laboratory Calibration Range

NM = Not Measured
NSVD - Not Surveyed

TABLE 2
GROUNDWATER GAUGING
RESULTS SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
MDE-4	1/19/2015	443.18	0.00	9.89	433.29
	2/25/2015	443.18	0.00	9.99	433.19
Casing:	3/24/2015	443.18	0.00	9.58	433.60
0 to 3 feet	4/20/2015	443.18	0.00	9.41	433.77
	5/27/2015	443.18	0.00	9.51	433.67
Screen:	6/22/2015	443.18	0.00	9.25	433.93
3 to 13 feet	7/28/2015	443.18	0.00	8.94	434.24
	8/24/2015	443.18	0.00	9.14	434.04
	9/21/2015	443.18	0.00	9.28	433.90
	10/29/2015	443.18	0.00	9.03	434.15
	11/18/2015	443.18	0.00	9.73	433.45
	12/9/2015	443.18	0.00	9.58	433.60
	1/12/2016	443.18	0.00	9.31	433.87
	3/8/2016	443.18	0.00	8.98	434.20
	6/7/2016	443.18	0.00	9.03	434.15
	9/13/2016	443.18	0.00	9.48	433.70
	11/21/2016	443.18	0.00	9.90	433.28
	3/9/2017	443.18	0.00	10.42	432.76
	6/7/2017	443.18	0.00	9.72	433.46
	9/6/2017	443.18	0.00	9.77	433.41
	11/1/2017	443.18	0.00	9.97	433.21
	3/6/2018	443.18	0.00	9.84	433.34
	6/20/2018	443.18	0.00	8.72	434.46
	9/5/2018	443.18	0.00	8.64	434.54
	7/18/2019	443.18	0.00	8.11	435.07
	11/13/2019	443.18	0.00	9.23	433.95
MW-1	1/19/2015	453.92	NM	NM	NM
	2/25/2015	453.92	NM	NM	NM
Casing:	3/24/2015	453.92	NM	NM	NM
Unknown	4/20/2015	453.92	0.00	16.71	437.21
	5/27/2015	453.92	0.00	18.75	435.17
Screen:	6/22/2015	453.92	0.00	18.24	435.68
Unknown	7/28/2015	453.92	0.00	17.20	436.72
	8/24/2015	453.92	0.00	17.42	436.50
	9/21/2015	453.92	0.00	18.49	435.43
	10/29/2015	453.92	0.00	18.36	435.56
	11/18/2015	453.92	0.00	19.40	434.52
	12/9/2015	453.92	0.00	19.24	434.68
	1/12/2016	453.92	0.00	18.45	435.47
	3/8/2016	453.92	0.00	18.28	435.64
	6/7/2016	453.92	0.00	18.21	435.71
	9/13/2016	453.92	0.00	18.92	435.00
	11/21/2016	453.92	0.00	19.83	434.09
	3/9/2017	453.92	0.00	20.49	433.43
	6/7/2017	453.92	0.00	19.38	434.54
	9/6/2017	453.92	0.00	19.04	434.88
	11/1/2017	453.92	0.00	19.67	434.25
	3/6/2018	453.92	0.00	20.16	433.76
	6/20/2018	453.92	0.00	17.45	436.47
	9/5/2018	453.92	0.00	16.71	437.21
	7/18/2019	453.92	0.00	16.52	437.40
	11/13/2019	453.92	0.00	18.44	435.48

TABLE 2
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RESULTS SUMMARY
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Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
MW-4	1/19/2015	455.10	NM	NM	NM
	2/25/2015	455.10	NM	NM	NM
Casing:	3/24/2015	455.10	NM	NM	NM
0 to 10 feet	4/20/2015	455.10	0.00	20.72	434.38
	5/27/2015	455.10	0.00	20.68	434.42
Screen:	6/22/2015	455.10	0.00	20.38	434.72
10 to 25 feet	7/28/2015	455.10	0.00	19.86	435.24
	8/24/2015	455.10	0.00	20.08	435.02
	9/21/2015	455.10	0.00	20.57	434.53
	10/29/2015	455.10	0.00	20.26	434.84
	11/18/2015	455.10	0.00	21.29	433.81
	12/9/2015	455.10	0.00	21.08	434.02
	1/12/2016	455.10	0.00	20.54	434.56
	3/8/2016	455.10	0.00	20.29	434.81
	6/7/2016	455.10	0.00	20.28	434.82
	9/13/2016	455.10	0.00	20.87	434.23
	11/21/2016	455.10	0.00	21.56	433.54
	3/9/2017	455.10	0.00	22.05	433.05
	9/6/2017	455.10	0.00	20.94	434.16
	6/7/2017	455.10	0.00	21.18	433.92
	11/1/2017	455.10	0.00	21.41	433.69
	3/6/2018	455.10	0.00	21.75	433.35
	6/20/2018	455.10	0.00	19.73	435.37
	9/5/2018	455.10	0.00	19.34	435.76
	7/18/2019	455.10	0.00	18.82	436.28
	11/13/2019	455.10	0.00	20.42	434.68
MW-7	1/19/2015	452.69	0.00	19.21	433.48
	2/25/2015	452.69	0.00	19.06	433.63
Casing:	3/24/2015	452.69	0.00	18.67	434.02
0 to 8 feet	4/20/2015	452.69	0.00	18.47	434.22
	5/27/2015	452.69	0.00	15.60	437.09
Screen:	6/22/2015	452.69	0.00	18.29	434.40
8 to 33 feet	7/28/2015	452.69	0.00	17.90	434.79
	8/24/2015	452.69	0.00	18.11	434.58
	9/21/2015	452.69	0.00	18.42	434.27
	10/29/2015	452.69	0.00	18.20	434.49
	11/18/2015	452.69	0.00	18.99	433.70
	12/9/2015	452.69	0.00	18.81	433.88
	1/12/2016	452.69	0.00	18.71	433.98
	3/8/2016	452.69	0.00	18.16	434.53
	6/7/2016	452.69	0.00	18.19	434.50
	9/13/2016	452.69	0.00	18.62	434.07
	11/21/2016	452.69	0.00	19.14	433.55
	3/9/2017	452.69	0.00	19.63	433.06
	6/7/2017	452.69	0.00	18.89	433.80
	9/6/2017	452.69	0.00	18.78	433.91
	11/1/2017	452.69	0.00	19.07	433.62
	3/6/2018	452.69	0.00	19.31	433.38
	6/20/2018	452.69	0.00	17.74	434.95
	9/5/2018	452.69	0.00	17.38	435.31
	7/18/2019	452.69	0.00	16.97	435.72
	11/13/2019	452.69	0.00	18.28	434.41

TABLE 2
GROUNDWATER GAUGING
RESULTS SUMMARY
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Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
OW-1	1/19/2015	455.31	0.00	19.33	435.98
	2/25/2015	455.31	0.00	21.66	433.65
Casing:	3/24/2015	455.31	0.00	21.08	434.23
0 to 9 feet	4/20/2015	455.31	0.00	20.66	434.65
	5/27/2015	455.31	0.00	20.59	434.72
Screen:	6/22/2015	455.31	0.00	20.58	434.73
9 to 34 feet	7/28/2015	455.31	0.00	20.18	435.13
	8/24/2015	455.31	0.00	20.40	434.91
	9/21/2015	455.31	0.00	20.73	434.58
	10/29/2015	455.31	0.00	20.55	434.76
	11/18/2015	455.31	0.00	21.38	433.93
	12/9/2015	455.31	0.00	21.23	434.08
	1/12/2016	455.31	0.00	21.06	434.25
	3/8/2016	455.31	0.00	20.54	434.77
	6/7/2016	455.31	0.00	20.58	434.73
	9/13/2016	455.31	0.00	21.03	434.28
	11/21/2016	455.31	0.00	21.82	433.49
	3/9/2017	455.31	0.00	22.04	433.27
	9/6/2017	455.31	0.00	21.27	434.04
	6/7/2017	455.31	0.00	21.22	434.09
	11/1/2017	455.31	0.00	21.53	433.78
	3/6/2018	455.31	0.00	21.77	433.54
	6/20/2018	455.31	0.00	20.03	435.28
	9/5/2018	455.31	0.00	19.61	435.70
	7/18/2019	455.31	0.00	19.23	436.08
	11/13/2019	455.31	0.00	20.66	434.65
YMW-1	1/19/2015	433.64	0.00	3.66	429.98
	2/25/2015	433.64	0.00	4.01	429.63
Casing:	3/24/2015	433.64	0.00	3.02	430.62
0 to 2 feet	4/20/2015	433.64	0.00	3.34	430.30
	5/27/2015	433.64	0.00	4.08	429.56
Screen:	6/22/2015	433.64	0.00	3.04	430.60
2 to 14 feet	7/28/2015	433.64	0.00	3.04	430.60
	8/24/2015	433.64	0.00	1.51	432.13
	9/21/2015	433.64	0.00	4.94	428.70
	10/29/2015	433.64	0.00	4.63	429.01
	11/18/2015	433.64	0.00	4.45	429.19
	12/9/2015	433.64	0.00	4.37	429.27
	1/12/2016	433.64	0.00	3.31	430.33
	3/8/2016	433.64	0.00	3.31	430.33
	6/7/2016	433.64	0.00	3.90	429.74
	9/13/2016	433.64	0.00	5.47	428.17
	11/21/2016	433.64	0.00	6.21	427.43
	3/9/2017	433.64	0.00	5.40	428.24
	6/7/2017	433.64	0.00	4.25	429.39
	9/6/2017	433.64	0.00	4.44	429.20
	11/1/2017	433.64	0.00	5.37	428.27
	3/6/2018	433.64	0.00	4.16	429.48
	6/20/2018	433.64	0.00	3.08	430.56
	9/5/2018	433.64	0.00	3.35	430.29
	7/18/2019	433.64	0.00	2.73	430.91
	11/13/2019	433.64	0.00	4.19	429.45

TABLE 2
GROUNDWATER GAUGING
RESULTS SUMMARY
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Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
YMW-2	1/19/2015	431.37	0.00	2.86	428.51
	2/25/2015	431.37	0.00	2.84	428.53
Casing:	3/24/2015	431.37	0.00	2.78	428.59
0 to 2 feet	4/20/2015	431.37	0.00	2.71	428.66
	5/27/2015	431.37	0.00	2.78	428.59
Screen:	6/22/2015	431.37	0.00	2.51	428.86
2 to 14 feet	7/28/2015	431.37	0.00	2.41	428.96
	8/24/2015	431.37	0.00	0.61	430.76
	9/21/2015	431.37	0.00	2.58	428.79
	10/29/2015	431.37	0.00	2.31	429.06
	11/18/2015	431.37	0.00	4.02	427.35
	12/9/2015	431.37	0.00	3.94	427.43
	1/12/2016	431.37	0.00	2.90	428.47
	3/8/2016	431.37	0.00	2.97	428.40
	6/7/2016	431.37	0.00	2.84	428.53
	9/13/2016	431.37	0.00	2.44	428.93
	11/21/2016	431.37	0.00	2.94	428.43
	3/9/2017	431.37	0.00	2.94	428.43
	6/7/2017	431.37	0.00	3.10	428.27
	9/6/2017	431.37	0.00	2.65	428.72
	11/1/2017	431.37	0.00	2.67	428.70
	3/6/2018	431.37	0.00	2.85	428.52
	6/20/2018	431.37	0.00	2.58	428.79
	9/5/2018	431.37	0.00	2.51	428.86
	7/18/2019	431.37	0.00	3.01	428.36
	11/13/2019	431.37	0.00	2.61	428.76
YMW-3	1/19/2015	440.39	0.00	8.63	431.76
	2/25/2015	440.39	0.00	8.87	431.52
Casing:	3/24/2015	440.39	0.00	8.17	432.22
0 to 4.5 feet	4/20/2015	440.39	0.00	8.19	432.20
	5/27/2015	440.39	0.00	8.54	431.85
Screen:	6/22/2015	440.39	0.00	8.54	431.85
4.5 to 19.5 feet	7/28/2015	440.39	0.00	7.76	432.63
	8/24/2015	440.39	0.00	7.97	432.42
	9/21/2015	440.39	0.00	9.21	431.18
	10/29/2015	440.39	0.00	9.00	431.39
	11/18/2015	440.39	0.00	9.09	431.30
	12/9/2015	440.39	0.00	8.83	431.56
	1/12/2016	440.39	0.00	7.97	432.42
	3/8/2016	440.39	0.00	8.63	431.76
	6/7/2016	440.39	0.00	8.86	431.53
	9/13/2016	440.39	0.00	9.54	430.85
	11/21/2016	440.39	0.00	10.44	429.95
	3/9/2017	440.39	0.00	9.55	430.84
	6/7/2017	440.39	0.00	8.82	431.57
	9/6/2017	440.39	0.00	8.84	431.55
	11/1/2017	440.39	0.00	9.34	431.05
	3/6/2018	440.39	0.00	7.97	432.42
	6/20/2018	440.39	0.00	8.27	432.12
	9/5/2018	440.39	0.00	8.48	431.91
	7/18/2019	440.39	0.00	8.12	432.27
	11/13/2019	440.39	0.00	8.56	431.83

TABLE 2
GROUNDWATER GAUGING
RESULTS SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
Towson, MD
Case No. 1991-2100-BA

Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
YMW-4	1/19/2015	433.72	0.00	4.29	429.43
	2/25/2015	433.72	0.00	4.02	429.70
Casing:	3/24/2015	433.72	0.00	4.06	429.66
0 to 2 feet	4/20/2015	433.72	0.00	4.09	429.63
	5/27/2015	433.72	0.00	4.33	429.39
Screen:	6/22/2015	433.72	0.00	3.96	429.76
2 to 17 feet	7/28/2015	433.72	0.00	4.13	429.59
	8/24/2015	433.72	0.00	2.34	431.38
	9/21/2015	433.72	0.00	4.45	429.27
	10/29/2015	433.72	0.00	4.24	429.48
	11/18/2015	433.72	0.00	4.55	429.17
	12/9/2015	433.72	0.00	4.34	429.38
	1/12/2016	433.72	0.00	4.71	429.01
	3/8/2016	433.72	0.00	4.18	429.54
	6/7/2016	433.72	0.00	4.18	429.54
	9/13/2016	433.72	0.00	4.46	429.26
	11/21/2016	433.72	0.00	4.85	428.87
	3/9/2017	433.72	0.00	4.30	429.42
	6/7/2017	433.72	0.00	4.26	429.46
	9/6/2017	433.72	0.00	4.18	429.54
	11/1/2017	433.72	0.00	4.41	429.31
	3/6/2018	433.72	0.00	4.24	429.48
	6/20/2018	433.72	0.00	3.89	429.83
	9/5/2018	433.72	0.00	4.01	429.71
	7/18/2019	433.72	0.00	3.79	429.93
	11/13/2019	433.72	0.00	4.16	429.56
YMW-5	1/19/2015	430.70	0.00	3.26	427.44
	2/25/2015	430.70	0.00	3.15	427.55
Casing:	3/24/2015	430.70	0.00	3.05	427.65
0 to 1 feet	4/20/2015	430.70	0.00	3.19	427.51
	5/27/2015	430.70	0.00	3.25	427.45
Screen:	6/22/2015	430.70	0.00	3.05	427.65
1 to 16 feet	7/28/2015	430.70	0.00	3.23	427.47
	8/24/2015	430.70	0.00	1.43	429.27
	9/21/2015	430.70	0.00	3.52	427.18
	10/29/2015	430.70	0.00	3.23	427.47
	11/18/2015	430.70	0.00	3.32	427.38
	12/9/2015	430.70	0.00	3.16	427.54
	1/12/2016	430.70	0.00	2.91	427.79
	3/8/2016	430.70	0.00	2.99	427.71
	6/7/2016	430.70	0.00	3.01	427.69
	9/13/2016	430.70	0.00	3.39	427.31
	11/21/2016	430.70	0.00	3.74	426.96
	3/9/2017	430.70	0.00	3.14	427.56
	6/7/2017	430.70	0.00	3.07	427.63
	9/6/2017	430.70	0.00	2.98	427.72
	11/1/2017	430.70	0.00	3.23	427.47
	3/6/2018	430.70	0.00	2.83	427.87
	6/20/2018	430.70	0.00	2.67	428.03
	9/5/2018	430.70	0.00	2.74	427.96
	7/18/2019	430.70	0.00	2.36	428.34
	11/13/2019	430.70	0.00	2.70	428.00

TABLE 2
GROUNDWATER GAUGING
RESULTS SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
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Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
YMW-6	1/19/2015	432.68	0.00	5.42	427.26
	2/25/2015	432.68	0.00	5.59	427.09
Casing:	3/24/2015	432.68	0.00	5.11	427.57
0 to 3 feet	4/20/2015	432.68	0.00	5.08	427.60
	5/27/2015	432.68	0.00	5.87	426.81
Screen:	6/22/2015	432.68	0.00	5.11	427.57
3 to 18 feet	7/28/2015	432.68	0.00	5.38	427.30
	8/24/2015	432.68	0.00	3.58	429.10
	9/21/2015	432.68	0.00	6.11	426.57
	10/29/2015	432.68	0.00	6.01	426.67
	11/18/2015	432.68	0.00	5.79	426.89
	12/9/2015	432.68	0.00	5.56	427.12
	1/12/2016	432.68	0.00	5.11	427.57
	3/8/2016	432.68	0.00	5.10	427.58
	6/7/2016	432.68	0.00	5.36	427.32
	9/13/2016	432.68	0.00	6.38	426.30
	11/21/2016	432.68	0.00	7.05	425.63
	3/9/2017	432.68	0.00	6.25	426.43
	6/7/2017	432.68	0.00	5.49	427.19
	9/6/2017	432.68	0.00	6.25	426.43
	11/1/2017	432.68	0.00	6.65	426.03
	3/6/2018	432.68	0.00	5.35	427.33
	6/20/2018	432.68	0.00	4.89	427.79
	9/5/2018	432.68	0.00	5.05	427.63
	7/18/2019	432.68	0.00	4.74	427.94
	11/13/2019	432.68	0.00	5.49	427.19
YMW-7	1/19/2015	449.40	0.00	15.91	433.49
	2/25/2015	449.40	0.00	15.98	433.42
Casing:	3/24/2015	449.40	0.00	15.54	433.86
0 to 18 feet	4/20/2015	449.40	0.00	15.47	433.93
	5/27/2015	449.40	0.00	15.51	433.89
Screen:	6/22/2015	449.40	0.00	15.22	434.18
18 to 28 feet	7/28/2015	449.40	0.00	14.89	434.51
	8/24/2015	449.40	0.00	15.10	434.30
	9/21/2015	449.40	0.00	15.32	434.08
	10/29/2015	449.40	0.00	14.97	434.43
	11/18/2015	449.40	0.00	15.83	433.57
	12/9/2015	449.40	0.00	15.68	433.72
	1/12/2016	449.40	0.00	15.29	434.11
	3/8/2016	449.40	0.00	15.13	434.27
	6/7/2016	449.40	0.00	15.09	434.31
	9/13/2016	449.40	0.00	15.47	433.93
	11/21/2016	449.40	0.00	15.69	433.71
	3/9/2017	449.40	0.00	16.31	433.09
	6/7/2017	449.40	0.00	15.24	434.16
	9/6/2017	449.40	0.00	15.68	433.72
	11/1/2017	449.40	0.00	15.91	433.49
	3/6/2018	449.40	0.00	16.12	433.28
	6/20/2018	449.40	0.00	14.75	434.65
	9/5/2018	449.40	0.00	14.43	434.97
	7/18/2019	449.40	0.00	13.96	435.44
	11/13/2019	449.40	0.00	14.98	434.42

TABLE 2
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RESULTS SUMMARY
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Case No. 1991-2100-BA

Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
YMW-8	1/19/2015	446.91	0.00	13.86	433.05
	2/25/2015	446.91	0.00	14.52	432.39
Casing:	3/24/2015	446.91	0.00	12.91	434.00
0 to 7 feet	4/20/2015	446.91	0.00	13.34	433.57
	5/27/2015	446.91	0.00	13.61	433.30
Screen:	6/22/2015	446.91	0.00	13.44	433.47
7 to 22 feet	7/28/2015	446.91	0.00	13.34	433.57
	8/24/2015	446.91	0.00	13.55	433.36
	9/21/2015	446.91	0.00	13.85	433.06
	10/29/2015	446.91	0.00	13.56	433.35
	11/18/2015	446.91	0.00	14.11	432.80
	12/9/2015	446.91	0.00	13.94	432.97
	1/12/2016	446.91	0.00	13.57	433.34
	3/8/2016	446.91	0.00	13.05	433.86
	6/7/2016	446.91	0.00	13.52	433.39
	9/13/2016	446.91	0.00	14.03	432.88
	11/21/2016	446.91	0.00	14.39	432.52
	3/9/2017	446.91	0.00	14.61	432.30
	6/7/2017	446.91	0.00	14.07	432.84
	9/6/2017	446.91	0.00	14.28	432.63
	11/1/2017	446.91	0.00	14.43	432.48
	3/6/2018	446.91	0.00	14.07	432.84
	6/20/2018	446.91	0.00	12.80	434.11
	9/5/2018	446.91	0.00	12.99	433.92
	7/18/2019	446.91	0.00	12.57	434.34
	11/13/2019	446.91	0.00	13.63	433.28
YMW-9	1/19/2015	436.71	0.00	5.69	431.02
	2/25/2015	436.71	0.00	5.93	430.78
Casing:	3/24/2015	436.71	0.00	5.41	431.30
0 to 2.5 feet	4/20/2015	436.71	0.00	4.80	431.91
	5/27/2015	436.71	0.00	6.02	430.69
Screen:	6/22/2015	436.71	0.00	5.81	430.90
2.5 to 17.5 feet	7/28/2015	436.71	0.00	5.94	430.77
	8/24/2015	436.71	0.00	4.14	432.57
	9/21/2015	436.71	0.00	6.17	430.54
	10/29/2015	436.71	0.00	5.99	430.72
	11/18/2015	436.71	0.00	6.13	430.58
	12/9/2015	436.71	0.00	5.86	430.85
	1/12/2016	436.71	0.00	5.04	431.67
	3/8/2016	436.71	0.00	5.43	431.28
	6/7/2016	436.71	0.00	5.93	430.78
	9/13/2016	436.71	0.00	6.44	430.27
	11/21/2016	436.71	0.00	6.50	430.21
	3/9/2017	436.71	0.00	6.23	430.48
	6/7/2017	436.71	0.00	6.13	430.58
	9/6/2017	436.71	0.00	6.42	430.29
	11/1/2017	436.71	0.00	6.34	430.37
	3/6/2018	436.71	0.00	5.29	431.42
	6/20/2018	436.71	0.00	5.73	430.98
	9/5/2018	436.71	0.00	5.88	430.83
	7/18/2019	436.71	0.00	5.65	431.06
	11/13/2019	436.71	0.00	5.87	430.84

TABLE 2
GROUNDWATER GAUGING
RESULTS SUMMARY
Former Hess Station No. 20204
1613 East Joppa Road
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Case No. 1991-2100-BA

Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
YP-1	1/19/2015	440.41	0.00	9.25	431.16
	2/25/2015	440.41	0.00	9.25	431.16
Casing:	3/24/2015	440.41	0.00	9.26	431.15
0 to 8 feet	4/20/2015	440.41	0.00	9.23	431.18
	5/27/2015	440.41	0.00	9.34	431.07
Screen:	6/22/2015	440.41	0.00	9.18	431.23
8 to 13 feet	7/28/2015	440.41	0.00	8.79	431.62
	8/24/2015	440.41	0.00	8.99	431.42
	9/21/2015	440.41	0.00	9.20	431.21
	10/29/2015	440.41	0.00	8.96	431.45
	11/18/2015	440.41	0.00	9.30	431.11
	12/9/2015	440.41	0.00	9.17	431.24
	1/12/2016	440.41	0.00	9.14	431.27
	3/8/2016	440.41	0.00	9.24	431.17
	6/7/2016	440.41	0.00	9.14	431.27
	9/13/2016	440.41	0.00	8.18	432.23
	11/21/2016	440.41	0.00	9.25	431.16
	3/10/2017	440.41	0.00	9.39	431.02
	6/8/2017	440.41	0.00	9.34	431.07
	9/7/2017	440.41	0.00	9.29	431.12
	11/2/2017	440.41	0.00	9.32	431.09
	3/7/2018	440.41	0.00	9.41	431.00
	6/21/2018	440.41	0.00	9.14	431.27
	9/6/2018	440.41	0.00	9.01	431.40
	7/18/2019	440.41	0.00	8.93	431.48
	11/13/2019	440.41	0.00	9.16	431.25
YP-2	1/19/2015	438.35	0.00	8.27	430.08
	2/25/2015	438.35	0.00	8.09	430.26
Casing:	3/24/2015	438.35	0.00	8.05	430.30
0 to 7 feet	4/20/2015	438.35	0.00	8.01	430.34
	5/27/2015	438.35	0.00	8.36	429.99
Screen:	6/22/2015	438.35	0.00	7.98	430.37
7 to 12 feet	7/28/2015	438.35	0.00	8.08	430.27
	8/24/2015	438.35	0.00	8.28	430.07
	9/21/2015	438.35	0.00	8.13	430.22
	10/29/2015	438.35	0.00	7.91	430.44
	11/18/2015	438.35	0.00	8.36	429.99
	12/9/2015	438.35	0.00	8.25	430.10
	1/12/2016	438.35	0.00	8.17	430.18
	3/8/2016	438.35	0.00	8.15	430.20
	6/7/2016	438.35	0.00	8.07	430.28
	9/13/2016	438.35	0.00	8.07	430.28
	11/21/2016	438.35	0.00	8.11	430.24
	3/10/2017	438.35	0.00	8.11	430.24
	6/8/2017	438.35	0.00	8.23	430.12
	9/7/2017	438.35	0.00	8.10	430.25
	11/2/2017	438.35	0.00	8.08	430.27
	3/7/2018	438.35	0.00	8.12	430.23
	6/21/2018	438.35	0.00	8.13	430.22
	9/6/2018	438.35	0.00	8.16	430.19
	7/18/2019	438.35	0.00	8.03	430.32
	11/13/2019	438.35	0.00	8.16	430.19

TABLE 2
GROUNDWATER GAUGING
RESULTS SUMMARY
Former Hess Station No. 20204
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Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
YP-3	1/19/2015	436.51	0.00	5.09	431.42
	2/25/2015	436.51	0.00	5.01	431.50
Casing:	3/24/2015	436.51	0.00	4.85	431.66
0 to 5.5 feet	4/20/2015	436.51	0.00	5.67	430.84
	5/27/2015	436.51	0.00	5.47	431.04
Screen:	6/22/2015	436.51	0.00	4.75	431.76
5.5 to 10.5 feet	7/28/2015	436.51	0.00	5.08	431.43
	8/24/2015	436.51	0.00	5.11	431.40
	9/21/2015	436.51	0.00	5.19	431.32
	10/29/2015	436.51	0.00	4.88	431.63
	11/18/2015	436.51	0.00	5.40	431.11
	12/9/2015	436.51	0.00	5.27	431.24
	1/12/2016	436.51	0.00	4.93	431.58
	3/8/2016	436.51	0.00	4.74	431.77
	6/7/2016	436.51	0.00	5.02	431.49
	9/13/2016	436.51	0.00	5.32	431.19
	11/21/2016	436.51	0.00	6.65	429.86
	3/10/2017	436.51	0.00	5.62	430.89
	6/8/2017	436.51	0.00	5.21	431.30
	9/7/2017	436.51	0.00	5.16	431.35
	11/2/2017	436.51	0.00	5.94	430.57
	3/7/2018	436.51	0.00	4.95	431.56
	6/21/2018	436.51	0.00	4.62	431.89
	9/6/2018	436.51	0.00	4.76	431.75
	7/18/2019	436.51	0.00	4.49	432.02
	11/13/2019	436.51	0.00	5.03	431.48
YP-4	1/19/2015	441.83	0.00	9.13	432.70
	2/25/2015	441.83	0.00	9.32	432.51
Casing:	3/24/2015	441.83	0.00	8.25	433.58
0 to 8 feet	4/20/2015	441.83	0.00	8.74	433.09
	5/27/2015	441.83	0.00	9.07	432.76
Screen:	6/22/2015	441.83	0.00	8.96	432.87
8 to 13 feet	7/28/2015	441.83	0.00	8.27	433.56
	8/24/2015	441.83	0.00	9.18	432.65
	9/21/2015	441.83	0.00	9.31	432.52
	10/29/2015	441.83	0.00	9.11	432.72
	11/18/2015	441.83	0.00	9.41	432.42
	12/9/2015	441.83	0.00	9.28	432.55
	1/12/2016	441.83	0.00	8.78	433.05
	3/8/2016	441.83	0.00	8.54	433.29
	6/7/2016	441.83	0.00	9.02	432.81
	9/13/2016	441.83	0.00	9.53	432.30
	11/21/2016	441.83	0.00	9.74	432.09
	3/10/2017	441.83	0.00	9.91	431.92
	6/8/2017	441.83	0.00	9.31	432.52
	9/7/2017	441.83	0.00	9.72	432.11
	11/2/2017	441.83	0.00	9.82	432.01
	3/7/2018	441.83	0.00	9.23	432.60
	6/21/2018	441.83	0.00	8.48	433.35
	9/6/2018	441.83	0.00	8.61	433.22
	7/18/2019	441.83	0.00	8.18	433.65
	11/13/2019	441.83	0.00	9.01	432.82

TABLE 2
GROUNDWATER GAUGING
RESULTS SUMMARY
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Towson, MD
Case No. 1991-2100-BA

Monitoring Well/Piezometer Identification	Gauging Date	Top of Casing Elevation (ft)	LPH Thickness (ft)	Depth to Groundwater (ft)	Corrected Groundwater Table Elevation (ft)
YP-5	1/19/2015	433.65	0.00	5.50	428.15
	2/25/2015	433.65	0.00	5.79	427.86
Casing:	3/24/2015	433.65	0.00	3.90	429.75
0 to 5 feet	4/20/2015	433.65	0.00	4.05	429.60
	5/27/2015	433.65	0.00	4.21	429.44
Screen:	6/22/2015	433.65	0.00	4.49	429.16
5 to 10 feet	7/28/2015	433.65	0.00	5.48	428.17
	8/24/2015	433.65	0.00	3.68	429.97
	9/21/2015	433.65	0.00	4.12	429.53
	10/29/2015	433.65	0.00	4.02	429.63
	11/18/2015	433.65	0.00	4.02	429.63
	12/9/2015	433.65	0.00	3.88	429.77
	1/12/2016	433.65	0.00	4.69	428.96
	3/8/2016	433.65	0.00	3.97	429.68
	6/7/2016	433.65	0.00	4.31	429.34
	9/13/2016	433.65	0.00	4.33	429.32
	11/21/2016	433.65	0.00	4.37	429.28
	3/10/2017	433.65	0.00	4.18	429.47
	6/8/2017	433.65	0.00	4.31	429.34
	9/7/2017	433.65	0.00	3.31	430.34
	11/2/2017	433.65	0.00	4.33	429.32
	3/7/2018	433.65	0.00	3.84	429.81
	6/21/2018	433.65	0.00	3.93	429.72
	9/6/2018	433.65	0.00	4.01	429.64
	7/18/2019	433.65	0.00	3.83	429.82
	11/13/2019	433.65	0.00	3.96	429.69

Notes:
ft = feet
LPH = Liquid Phase Hydrocarbons
NM = Not Monitored (Well not accessible)

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Yakona Road Curb Inlet	1/11/2017	0.0	0.0
	1/17/2017	0.0	0.0
	1/25/2017	0.0	0.0
	2/7/2017	0.0	0.0
	2/21/2017	0.0	0.0
	3/1/2017	0.0	0.0
	3/10/2017	0.0	0.0
	3/23/2017	0.0	0.0
	4/4/2017	0.0	0.0
	4/19/2017	0.0	0.0
	5/25/2017	0.0	0.0
	6/1/2017	0.0	0.0
	6/8/2017	0.0	0.0
	6/21/2017	0.0	0.0
	6/29/2017	0.0	0.0
	7/11/2017	0.0	0.0
	7/20/2017	0.0	0.0
	7/28/2017	0.0	0.0
	8/10/2017	0.0	0.0
	8/18/2017	0.0	0.0
	9/8/2017	0.0	0.0
	9/18/2017	0.0	0.0
	10/3/2017	0.0	0.0
	10/17/2017	0.0	0.0
	10/27/2017	0.0	0.0
	11/2/2017	0.0	0.0
	11/9/2017	0.0	0.0
	11/20/2017	0.0	0.0
	11/28/2017	0.0	0.0
	12/8/2017	0.0	0.0
	1/4/2018	0.0	0.0
	1/11/2018	0.0	0.0
	1/22/2018	0.0	0.0
	1/30/2018	0.0	0.0
	2/7/2018	0.0	0.0
	2/14/2018	0.0	0.0
	2/21/2018	0.0	0.0
	2/28/2018	0.0	0.0
	3/7/2018	0.0	0.0
	3/14/2018	0.0	0.0
	3/21/2018	0.0	0.0
	3/29/2018	0.0	0.0
	4/3/2018	0.0	0.0
	4/11/2018	0.0	0.0
	4/18/2018	0.0	0.0
	4/26/2018	0.0	0.0
	5/2/2018	0.0	0.0
	5/9/2018	0.0	0.0
	5/15/2018	0.0	0.0
	5/23/2018	0.0	0.0
	5/31/2018	0.0	0.0
	6/6/2018	0.0	0.0
	6/13/2018	0.0	0.0
	6/21/2018	0.0	0.0
	6/28/2018	0.0	0.0
	7/3/2018	0.0	0.0
	7/12/2018	0.0	0.0
	7/18/2018	0.0	0.0
	8/1/2018	0.0	0.0
	8/8/2018	0.0	0.0
	8/15/2018	0.0	0.0
	8/22/2018	0.0	0.0
	8/29/2018	0.0	0.0
	9/6/2018	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Yakona Road Curb Inlet (continued)	9/12/2018	0.0	0.0
	9/19/2018	0.0	0.0
	9/25/2018	0.0	0.0
	10/3/2018	0.0	0.0
	10/10/2018	0.0	0.0
	10/17/2018	0.0	0.0
	10/24/2018	0.0	0.0
	10/31/2018	0.0	0.0
	11/7/2018	0.0	0.0
	11/14/2018	0.0	0.0
	11/27/2018	0.0	0.0
	12/4/2018	0.0	0.0
	12/12/2018	0.0	0.0
	12/26/2018	0.0	0.0
	1/3/2019	0.0	0.0
	1/10/2019	0.0	0.0
	1/16/2019	0.0	0.0
	1/24/2019	0.0	0.0
	1/30/2019	0.0	0.0
	2/6/2019	0.0	0.0
	2/15/2019	0.0	0.0
	2/21/2019	0.0	0.0
	2/27/2019	0.0	0.0
	3/6/2019	0.0	0.0
	3/13/2019	0.0	0.0
	3/20/2019	0.0	0.0
	3/27/2019	0.0	0.0
	4/3/2019	0.0	0.0
	4/9/2019	0.0	0.0
	4/17/2019	0.0	0.0
	4/24/2019	0.0	0.0
	5/1/2019	0.0	0.0
	5/8/2019	0.0	0.0
	5/15/2019	0.0	0.0
	5/22/2019	0.0	0.0
	5/29/2019	0.0	0.0
	6/5/2019	0.0	0.0
	6/12/2019	0.0	0.0
	6/19/2019	0.0	0.0
	6/26/2019	0.0	0.0
	7/2/2019	0.0	0.0
	7/10/2019	0.0	0.0
	7/19/2019	0.0	0.0
	7/24/2019	0.0	0.0
	7/31/2019	0.0	0.0
	8/5/2019	0.0	0.0
	8/13/2019	0.0	0.0
	8/21/2019	0.0	0.0
	8/28/2019	0.0	0.0
	9/4/2019	0.0	0.0
	9/11/2019	0.0	0.0
	9/18/2019	0.0	0.0
	9/24/2019	0.0	0.0
	10/1/2019	0.0	0.0
	10/9/2019	0.0	0.0
	10/16/2019	0.0	0.0
	10/23/2019	0.0	0.0
	11/14/2019	0.0	0.0
	11/19/2019	0.0	0.0
	11/26/2019	0.0	0.0
	12/4/2019	0.0	0.0
	12/11/2019	0.0	0.0
	12/18/2019	0.0	0.0
	12/23/2019	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 3	1/11/2017	0.0	0.0
	1/17/2017	0.0	0.0
	1/25/2017	0.0	0.0
	2/7/2017	0.0	0.0
	2/21/2017	0.0	0.0
	3/1/2017	0.0	0.0
	3/10/2017	0.0	0.0
	3/23/2017	0.0	0.0
	4/4/2017	0.0	0.0
	4/19/2017	0.0	0.0
	5/25/2017	0.0	0.0
	6/1/2017	0.0	0.0
	6/8/2017	0.0	0.0
	6/21/2017	0.0	0.0
	6/29/2017	0.0	0.0
	7/11/2017	0.0	0.0
	7/20/2017	0.0	0.0
	7/28/2017	0.0	0.0
	8/10/2017	0.0	0.0
	8/18/2017	0.0	0.0
	9/8/2017	0.0	0.0
	9/18/2017	0.0	0.0
	10/3/2017	0.0	0.0
	10/17/2017	0.0	0.0
	10/27/2017	0.0	0.0
	11/2/2017	0.0	0.0
	11/9/2017	0.0	0.0
	11/20/2017	0.0	0.0
	11/28/2017	0.0	0.0
	12/8/2017	0.0	0.0
	1/4/2018	0.0	0.0
	1/11/2018	0.0	0.0
	1/22/2018	0.0	0.0
	1/30/2018	0.0	0.0
	2/7/2018	0.0	0.0
	2/14/2018	0.0	0.0
	2/21/2018	0.0	0.0
	2/28/2018	0.0	0.0
	3/7/2018	0.0	0.0
	3/14/2018	0.0	0.0
	3/21/2018	0.0	0.0
	3/29/2018	0.0	0.0
	4/3/2018	0.0	0.0
	4/11/2018	0.0	0.0
	4/18/2018	0.0	0.0
	4/26/2018	0.0	0.0
	5/2/2018	0.0	0.0
	5/9/2018	0.0	0.0
	5/15/2018	0.0	0.0
	5/23/2018	0.0	0.0
	5/31/2018	0.0	0.0
	6/6/2018	0.0	0.0
	6/13/2018	0.0	0.0
	6/21/2018	0.0	0.0
	6/28/2018	0.0	0.0
	7/3/2018	0.0	0.0
	7/12/2018	0.0	0.0
	7/18/2018	0.0	0.0
	8/1/2018	0.0	0.0
	8/8/2018	0.0	0.0
	8/15/2018	0.0	0.0
	8/22/2018	0.0	0.0
	8/29/2018	0.0	0.0
	9/6/2018	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 3 (continued)	9/12/2018	0.0	0.0
	9/19/2018	0.0	0.0
	9/25/2018	0.0	0.0
	10/3/2018	0.0	0.0
	10/10/2018	0.0	0.0
	10/17/2018	0.0	0.0
	10/24/2018	0.0	0.0
	10/31/2018	0.0	0.0
	11/7/2018	0.0	0.0
	11/14/2018	0.0	0.0
	11/27/2018	0.0	0.0
	12/4/2018	0.0	0.0
	12/12/2018	0.0	0.0
	12/26/2018	0.0	0.0
	1/3/2019	0.0	0.0
	1/10/2019	0.0	0.0
	1/16/2019	0.0	0.0
	1/24/2019	0.0	0.0
	1/30/2019	0.0	0.0
	2/6/2019	0.0	0.0
	2/15/2019	0.0	0.0
	2/21/2019	0.0	12.8
	2/27/2019	0.0	74.2
	3/6/2019	0.0	54.9
	3/13/2019	0.0	0.0
	3/20/2019	0.0	0.0
	3/27/2019	0.0	0.0
	4/3/2019	0.0	0.0
	4/9/2019	0.0	0.0
	4/17/2019	0.0	0.0
	4/24/2019	0.0	0.0
	5/1/2019	0.0	0.0
	5/8/2019	0.0	0.0
	5/15/2019	0.0	0.0
	5/22/2019	0.0	0.0
	5/29/2019	0.0	0.0
	6/5/2019	0.0	0.0
	6/12/2019	0.0	0.0
	6/19/2019	0.0	0.0
	6/26/2019	0.0	0.0
	7/2/2019	0.0	0.0
	7/12/2019	0.0	0.0
	7/19/2019	0.0	0.0
	7/24/2019	0.0	0.0
	7/31/2019	0.0	0.0
	8/5/2019	0.0	0.0
	8/13/2019	0.0	0.0
	8/21/2019	0.0	0.0
	8/28/2019	0.0	0.0
	9/4/2019	0.0	0.0
	9/11/2019	0.0	0.0
	9/18/2019	0.0	0.0
	9/24/2019	0.0	0.0
	10/1/2019	0.0	0.0
	10/9/2019	0.0	0.0
	10/16/2019	0.0	0.0
	10/23/2019	0.0	0.0
	11/14/2019	0.0	0.0
	11/19/2019	0.0	0.0
	11/26/2019	0.0	0.0
	12/4/2019	0.0	0.0
	12/11/2019	0.0	0.0
	12/18/2019	0.0	0.0
	12/23/2019	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 21	1/11/2017	0.0	5.8
	1/17/2017	0.0	2.6
	1/25/2017	0.0	1.6
	2/7/2017	0.0	1.1
	2/21/2017	0.0	4.3
	3/1/2017	0.0	20.8
	3/10/2017	0.0	2.4
	3/23/2017	0.0	2.6
	4/4/2017	0.0	270.4
	4/19/2017	0.0	20.1
	5/25/2017	0.0	115.0
	6/1/2017	0.0	71.0
	6/8/2017	0.0	7.0
	6/21/2017	0.0	59.7
	6/29/2017	0.0	83.1
	7/11/2017	0.0	75.2
	7/20/2017	0.0	61.3
	7/28/2017	0.0	1.7
	8/10/2017	0.0	41.6
	8/18/2017	0.0	58.7
	9/8/2017	0.0	36.1
	9/18/2017	0.0	81.9
	10/3/2017	0.0	2.8
	10/17/2017	0.0	0.9
	10/27/2017	0.0	6.8
	11/2/2017	0.0	28.7
	11/9/2017	0.0	0.5
	11/20/2017	0.0	1.8
	11/28/2017	0.0	3.4
	12/8/2017	0.0	3.8
	1/4/2018	0.0	1.1
	1/11/2018	0.0	3.1
	1/22/2018	0.0	9.4
	1/30/2018	0.0	0.2
	2/7/2018	0.0	2.2
	2/14/2018	0.0	7.9
	2/21/2018	0.0	29.6
	2/28/2018	0.0	38.4
	3/7/2018	0.0	1.8
	3/14/2018	0.0	4.1
	3/21/2018	0.0	2.2
	3/29/2018	0.0	14.6
	4/3/2018	0.0	13.2
	4/11/2018	0.0	4.1
	4/18/2018	0.0	31.8
	4/26/2018	0.0	4.6
	5/2/2018	0.0	8.2
	5/9/2018	0.0	29.7
	5/15/2018	0.0	39.6
	5/23/2018	0.0	36.2
	5/31/2018	0.0	1.5
	6/6/2018	0.0	4.4
	6/13/2018	0.0	5.8
	6/21/2018	0.0	29.6
	6/28/2018	0.0	28.4
	7/3/2018	0.0	19.2
	7/12/2018	0.0	31.5
	7/18/2018	0.0	0.2
	8/1/2018	0.0	24.9
	8/8/2018	0.0	20.3
	8/15/2018	0.0	30.7
	8/22/2018	0.0	20.4
	8/29/2018	0.0	30.8
	9/6/2018	0.0	37.1

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 21 (continued)	9/12/2018	0.0	29.7
	9/19/2018	0.0	21.7
	9/25/2018	0.0	168.3
	10/3/2018	0.0	56.8
	10/10/2018	0.0	17.7
	10/17/2018	0.0	43.8
	10/24/2018	0.0	52.7
	10/31/2018	0.0	68.2
	11/7/2018	0.0	174.0
	11/14/2018	0.0	192.7
	11/27/2018	0.0	153.0
	12/4/2018	0.0	6.5
	12/12/2018	0.0	158.0
	12/26/2018	0.0	49.6
	1/3/2019	0.0	193.0
	1/10/2019	0.0	97.1
	1/16/2019	0.0	214.0
	1/24/2019	0.0	244.0
	1/30/2019	0.0	172.0
	2/6/2019	0.0	407.1
	2/15/2019	0.0	168.2
	2/21/2019	0.0	0.9
	2/27/2019	0.0	15.1
	3/6/2019	0.0	19.4
	3/13/2019	0.0	101.2
	3/20/2019	0.0	190.4
	3/27/2019	0.0	42.7
	4/3/2019	0.0	68.7
	4/9/2019	0.0	28.7
	4/17/2019	0.0	19.7
	4/24/2019	0.0	38.1
	5/1/2019	0.0	29.8
	5/8/2019	0.0	42.1
	5/15/2019	0.0	42.7
	5/22/2019	0.0	35.9
	5/29/2019	0.0	62.4
	6/5/2019	0.0	26.8
	6/12/2019	0.0	15.8
	6/19/2019	0.0	21.4
	6/26/2019	0.0	20.9
	7/2/2019	0.0	2.4
	7/10/2019	0.0	9.5
	7/19/2019	0.0	5.9
	7/24/2019	0.0	1.4
	7/31/2019	0.0	0.8
	8/5/2019	0.0	0.3
	8/13/2019	0.0	0.7
	8/21/2019	0.0	0.9
	8/28/2019	0.0	0.5
	9/4/2019	0.0	0.4
	9/11/2019	0.0	3.6
	9/18/2019	0.0	4.3
	9/24/2019	0.0	0.5
	10/1/2019	0.0	1.1
	10/9/2019	0.0	1.1
	10/16/2019	0.0	18.7
	10/23/2019	0.0	7.1
	11/14/2019	0.0	7.3
	11/19/2019	0.0	2.4
	11/26/2019	0.0	0.6
	12/4/2019	0.0	3.6
	12/11/2019	0.0	2.1
	12/18/2019	0.0	0.0
	12/23/2019	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 22	1/11/2017	0.0	17.7
	1/17/2017	0.0	23.7
	1/25/2017	0.0	525.0
	2/7/2017	0.0	105.7
	2/21/2017	0.0	210.8
	3/1/2017	0.0	754.6
	3/10/2017	0.0	79.8
	3/23/2017	0.0	82.6
	4/4/2017	0.0	1.9
	4/19/2017	0.0	0.5
	5/25/2017	0.0	0.0
	6/1/2017	0.0	0.0
	6/8/2017	0.0	40.1
	6/21/2017	0.0	0.0
	6/29/2017	0.0	0.0
	7/11/2017	0.0	0.0
	7/20/2017	0.0	0.0
	7/28/2017	0.0	2.3
	8/10/2017	0.0	0.2
	8/18/2017	0.0	0.0
	9/8/2017	0.0	0.4
	9/18/2017	0.0	3.1
	10/3/2017	0.0	0.5
	10/17/2017	0.0	58.6
	10/27/2017	0.0	24.9
	11/2/2017	0.0	0.7
	11/9/2017	0.0	70.1
	11/20/2017	0.0	52.8
	11/28/2017	0.0	32.7
	12/8/2017	0.0	45.7
	1/4/2018	0.0	0.0
	1/11/2018	0.0	37.4
	1/22/2018	0.0	5.3
	1/30/2018	0.0	4.6
	2/7/2018	0.0	22.5
	2/14/2018	0.0	68.3
	2/21/2018	0.0	115.8
	2/28/2018	0.0	113.5
	3/7/2018	0.0	48.1
	3/14/2018	0.0	70.3
	3/21/2018	0.0	58.2
	3/29/2018	0.0	79.6
	4/3/2018	0.0	200.0
	4/11/2018	0.0	101.9
	4/18/2018	0.0	0.3
	4/26/2018	0.0	2.7
	5/2/2018	0.0	0.1
	5/9/2018	0.0	0.0
	5/15/2018	0.0	0.0
	5/23/2018	0.0	0.0
	5/31/2018	0.0	0.0
	6/6/2018	0.0	0.0
	6/13/2018	0.0	0.0
	6/21/2018	0.0	0.0
	6/28/2018	0.0	0.0
	7/3/2018	0.0	0.0
	7/12/2018	0.0	0.1
	7/18/2018	0.0	0.0
	8/1/2018	0.0	0.0
	8/8/2018	0.0	0.0
	8/15/2018	0.0	0.0
	8/22/2018	0.0	0.0
	8/29/2018	0.0	0.0
	9/6/2018	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 22 (continued)	9/12/2018	0.0	0.0
	9/19/2018	0.0	0.0
	9/25/2018	0.0	0.0
	10/3/2018	0.0	0.0
	10/10/2018	0.0	0.0
	10/17/2018	0.0	0.0
	10/24/2018	0.0	0.0
	10/31/2018	0.0	0.0
	11/7/2018	0.0	81.7
	11/14/2018	0.0	115.0
	11/27/2018	0.0	163.0
	12/4/2018	0.0	58.1
	12/12/2018	0.0	217.0
	12/26/2018	0.0	15.6
	1/3/2019	0.0	473.0
	1/10/2019	0.0	252.0
	1/16/2019	0.0	581.0
	1/24/2019	0.0	407.0
	1/30/2019	0.0	414.0
	2/6/2019	0.0	67.8
	2/15/2019	0.0	180.9
	2/21/2019	0.0	4.6
	2/27/2019	0.0	19.8
	3/6/2019	0.0	34.1
	3/13/2019	0.0	28.9
	3/20/2019	0.0	70.1
	3/27/2019	0.0	1.3
	4/3/2019	0.0	6.1
	4/9/2019	0.0	0.0
	4/17/2019	0.0	0.0
	4/24/2019	0.0	0.0
	5/1/2019	0.0	0.0
	5/8/2019	0.0	0.0
	5/15/2019	0.0	0.0
	5/22/2019	0.0	0.0
	5/29/2019	0.0	0.0
	6/5/2019	0.0	0.0
	6/12/2019	0.0	25.1
	6/19/2019	0.0	29.7
	6/26/2019	0.0	23.4
	7/2/2019	0.0	26.2
	7/10/2019	0.0	20.3
	7/19/2019	0.0	84.7
	7/24/2019	0.0	0.9
	7/31/2019	0.0	0.0
	8/5/2019	0.0	1.8
	8/13/2019	0.0	0.3
	8/21/2019	0.0	3.1
	8/28/2019	0.0	0.8
	9/4/2019	0.0	0.0
	9/11/2019	0.0	0.0
	9/18/2019	0.0	0.0
	9/24/2019	0.0	0.0
	10/1/2019	0.0	0.0
	10/9/2019	0.0	0.2
	10/16/2019	0.0	1.6
	10/23/2019	0.0	0.0
	11/14/2019	0.0	0.0
	11/19/2019	0.0	10.4
	11/26/2019	0.0	35.6
	12/4/2019	0.0	51.7
	12/11/2019	0.0	29.4
	12/18/2019	0.0	0.0
	12/23/2019	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 23	1/11/2017	0.0	25.2
	1/17/2017	0.0	7.3
	1/25/2017	0.0	2.3
	2/7/2017	0.0	6.6
	2/21/2017	0.0	0.7
	3/1/2017	0.0	2.1
	3/10/2017	0.0	33.8
	3/23/2017	0.0	27.4
	4/4/2017	0.0	10.3
	4/19/2017	0.0	0.0
	5/25/2017	0.0	0.0
	6/1/2017	0.0	0.0
	6/8/2017	0.0	14.4
	6/21/2017	0.0	0.0
	6/29/2017	0.0	0.0
	7/11/2017	0.0	0.0
	7/20/2017	0.0	0.2
	7/28/2017	0.0	0.0
	8/10/2017	0.0	0.0
	8/18/2017	0.0	0.0
	9/8/2017	0.0	0.3
	9/18/2017	0.0	3.5
	10/3/2017	0.0	2.3
	10/17/2017	0.0	3.2
	10/27/2017	0.0	1.6
	11/2/2017	0.0	2.8
	11/9/2017	0.0	21.4
	11/20/2017	0.0	1.2
	11/28/2017	0.0	1.3
	12/8/2017	0.0	4.0
	1/4/2018	0.0	0.0
	1/11/2018	0.0	8.1
	1/22/2018	0.0	20.1
	1/30/2018	0.0	13.1
	2/7/2018	0.0	19.1
	2/14/2018	0.0	25.1
	2/21/2018	0.0	9.2
	2/28/2018	0.0	26.1
	3/7/2018	0.0	73.4
	3/14/2018	0.0	6.8
	3/21/2018	0.0	3.7
	3/29/2018	0.0	102.8
	4/3/2018	0.0	88.9
	4/11/2018	0.0	7.8
	4/18/2018	0.0	0.1
	4/26/2018	0.0	2.0
	5/2/2018	0.0	0.0
	5/9/2018	0.0	0.5
	5/15/2018	0.0	1.9
	5/23/2018	0.0	0.6
	5/31/2018	0.0	0.0
	6/6/2018	0.0	0.0
	6/13/2018	0.0	0.0
	6/21/2018	0.0	0.0
	6/28/2018	0.0	0.9
	7/3/2018	0.0	2.3
	7/12/2018	0.0	12.6
	7/18/2018	0.0	9.5
	8/1/2018	0.0	0.0
	8/8/2018	0.0	0.0
	8/15/2018	0.0	0.0
	8/22/2018	0.0	0.0
	8/29/2018	0.0	0.0
	9/6/2018	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 23 (continued)	9/12/2018	0.0	0.0
	9/19/2018	0.0	0.0
	9/25/2018	0.0	0.0
	10/3/2018	0.0	0.0
	10/10/2018	0.0	0.0
	10/17/2018	0.0	0.2
	10/24/2018	0.0	0.0
	10/31/2018	0.0	0.0
	11/7/2018	0.0	425.0
	11/14/2018	0.0	501.0
	11/27/2018	0.0	191.0
	12/4/2018	0.0	29.5
	12/12/2018	0.0	518.0
	12/26/2018	0.0	45.4
	1/3/2019	0.0	590.0
	1/10/2019	0.0	382.0
	1/16/2019	0.0	317.0
	1/24/2019	0.0	723.0
	1/30/2019	0.0	591.0
	2/6/2019	0.0	368.7
	2/15/2019	0.0	205.1
	2/21/2019	0.0	65.7
	2/27/2019	0.0	34.4
	3/6/2019	0.0	61.7
	3/13/2019	0.0	23.1
	3/20/2019	0.0	23.8
	3/27/2019	0.0	1.4
	4/3/2019	0.0	0.4
	4/9/2019	0.0	0.0
	4/17/2019	0.0	0.0
	4/24/2019	0.0	0.4
	5/1/2019	0.0	0.0
	5/8/2019	0.0	0.0
	5/15/2019	0.0	0.0
	5/22/2019	0.0	0.0
	5/29/2019	0.0	0.0
	6/5/2019	0.0	0.0
	6/12/2019	0.0	6.9
	6/19/2019	0.0	2.7
	6/26/2019	0.0	1.1
	7/2/2019	0.0	51.7
	7/10/2019	0.0	5.1
	7/19/2019	0.0	57.9
	7/24/2019	0.0	62.9
	7/31/2019	0.0	49.1
	8/5/2019	0.0	29.7
	8/13/2019	0.0	14.1
	8/21/2019	0.0	17.4
	8/28/2019	0.0	55.7
	9/4/2019	0.0	16.8
	9/11/2019	0.0	0.0
	9/18/2019	0.0	0.0
	9/24/2019	0.0	0.0
	10/1/2019	0.0	0.0
	10/9/2019	0.0	4.9
	10/16/2019	0.0	1.4
	10/23/2019	0.0	0.4
	11/14/2019	0.0	0.2
	11/19/2019	0.0	6.8
	11/26/2019	0.0	18.1
	12/4/2019	0.0	25.2
	12/11/2019	0.0	15.4
	12/18/2019	0.0	0.0
	12/23/2019	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 24	1/11/2017	0.0	38.2
	1/17/2017	0.0	42.1
	1/25/2017	0.0	0.2
	2/7/2017	0.0	1.8
	2/21/2017	0.0	0.5
	3/1/2017	0.0	0.0
	3/10/2017	0.0	2.4
	3/23/2017	0.0	75.1
	4/4/2017	0.0	0.0
	4/19/2017	0.0	0.0
	5/25/2017	0.0	0.0
	6/1/2017	0.0	0.0
	6/8/2017	0.0	1.5
	6/21/2017	0.0	0.0
	6/29/2017	0.0	0.0
	7/11/2017	0.0	0.0
	7/20/2017	0.0	0.0
	7/28/2017	0.0	0.0
	8/10/2017	0.0	0.0
	8/18/2017	0.0	0.0
	9/8/2017	0.0	0.0
	9/18/2017	0.0	0.0
	10/3/2017	0.0	2.1
	10/17/2017	0.0	2.8
	10/27/2017	0.0	2.1
	11/2/2017	0.0	5.7
	11/9/2017	0.0	17.6
	11/20/2017	0.0	6.4
	11/28/2017	0.0	18.2
	12/8/2017	0.0	37.1
	1/4/2018	0.0	9.2
	1/11/2018	0.0	29.7
	1/22/2018	0.0	16.8
	1/30/2018	0.0	40.7
	2/7/2018	0.0	30.6
	2/14/2018	0.0	37.6
	2/21/2018	0.0	0.0
	2/28/2018	0.0	0.7
	3/7/2018	0.0	40.8
	3/14/2018	0.0	55.2
	3/21/2018	0.0	15.9
	3/29/2018	0.0	5.1
	4/3/2018	0.0	28.7
	4/11/2018	0.0	12.6
	4/18/2018	0.0	1.9
	4/26/2018	0.0	1.0
	5/2/2018	0.0	0.0
	5/9/2018	0.0	0.2
	5/15/2018	0.0	0.0
	5/23/2018	0.0	0.0
	5/31/2018	0.0	0.0
	6/6/2018	0.0	0.0
	6/13/2018	0.0	0.0
	6/21/2018	0.0	0.0
	6/28/2018	0.0	0.0
	7/3/2018	0.0	0.0
	7/12/2018	0.0	0.3
	7/18/2018	0.0	0.4
	8/1/2018	0.0	0.0
	8/8/2018	0.0	0.0
	8/15/2018	0.0	0.0
	8/22/2018	0.0	0.0
	8/29/2018	0.0	0.0
	9/6/2018	0.0	0.0

TABLE 3
MONTHLY PID SCREENING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA

Location (Corresponds with Site Plan)	Date	Breathing Zone Readings (ppm)	Below Grade Readings (ppm)
Manhole 24 (continued)	9/12/2018	0.0	0.0
	9/19/2018	0.0	0.0
	9/25/2018	0.0	0.0
	10/3/2018	0.0	0.0
	10/10/2018	0.0	0.0
	10/17/2018	0.0	1.1
	10/24/2018	0.0	0.0
	10/31/2018	0.0	0.0
	11/7/2018	0.0	11.5
	11/14/2018	0.0	83.0
	11/27/2018	0.0	275.0
	12/4/2018	0.0	61.8
	12/12/2018	0.0	327.0
	12/26/2018	0.0	48.5
	1/3/2019	0.0	798.0
	1/10/2019	0.0	515.0
	1/16/2019	0.0	633.0
	1/24/2019	0.0	518.0
	1/30/2019	0.0	382.0
	2/6/2019	0.0	78.0
	2/15/2019	0.0	290.4
	2/21/2019	0.0	28.2
	2/27/2019	0.0	57.1
	3/6/2019	0.0	49.8
	3/13/2019	0.0	20.8
	3/20/2019	0.0	19.1
	3/27/2019	0.0	55.7
	4/3/2019	0.0	0.5
	4/9/2019	0.0	0.0
	4/17/2019	0.0	0.0
	4/24/2019	0.0	0.0
	5/1/2019	0.0	0.0
	5/8/2019	0.0	0.0
	5/15/2019	0.0	0.0
	5/22/2019	0.0	0.0
	5/29/2019	0.0	0.0
	6/5/2019	0.0	0.0
	6/12/2019	0.0	2.2
	6/19/2019	0.0	0.0
	6/26/2019	0.0	0.0
	7/2/2019	0.0	0.0
	7/10/2019	0.0	0.7
	7/19/2019	0.0	0.0
	7/24/2019	0.0	0.6
	7/31/2019	0.0	0.4
	8/5/2019	0.0	0.0
	8/13/2019	0.0	0.0
	8/21/2019	0.0	0.0
	8/28/2019	0.0	0.0
	9/4/2019	0.0	0.0
	9/11/2019	0.0	0.0
	9/18/2019	0.0	0.0
	9/24/2019	0.0	0.0
	10/1/2019	0.0	0.0
	10/9/2019	0.0	5.7
	10/16/2019	0.0	20.1
	10/23/2019	0.0	6.1
	11/14/2019	0.0	0.0
	11/19/2019	0.0	13.1
	11/26/2019	0.0	24.7
	12/4/2019	0.0	13.7
	12/11/2019	0.0	19.8
	12/18/2019	0.0	0.0
	12/23/2019	0.0	0.0

Notes: PID = Photoionization Detector ppm = parts per million

TABLE 4
GROUNDWATER TREATMENT SYSTEM
DISCHARGE SUMMARY
Ridgely Manor Park
Towson, MD
Case No. 1991-2100-BA
NPDES Permit # MDG915958

Month Year	Monthly Discharge Volume (gallons)	Cumulative Discharge Volume (gallons)
January 2015	51,520	51,520
February 2015	41,600	93,120
March 2015	31,090	124,210
April 2015	18,940	143,150
May 2015	23,180	166,330
June 2015	36,940	203,270
July 2015	24,170	227,440
August 2015	29,460	256,900
September 2015	24,570	281,470
October 2015	18,540	300,010
November 2015	27,850	327,860
December 2015	45,180	373,040
January 2016	35,570	408,610
February 2016	33,300	441,910
March 2016	38,030	479,940
April 2016	54,020	533,960
May 2016	75,280	609,240
June 2016	54,560	663,800
July 2016	37,250	701,050
August 2016	32,410	733,460
September 2016	39,190	772,650
October 2016	34,620	807,270
November 2016	42,680	849,950
December 2016	45,380	895,330
January 2017	57,450	952,780
February 2017	30,100	982,880
March 2017	35,940	1,018,820
April 2017	32,050	1,050,870
May 2017	50,660	1,101,530
June 2017	48,510	1,150,040
July 2017	67,450	1,217,490
August 2017	41,410	1,258,900
September 2017	52,870	1,311,770
October 2017	47,560	1,359,330
November 2017	35,300	1,394,630
December 2017	38,470	1,433,100
January 2018	51,060	1,484,160
February 2018	29,770	1,513,930
March 2018	41,760	1,555,690
April 2018	37,050	1,592,740
May 2018	37,120	1,629,860
June 2018	36,080	1,665,940
July 2018	32,020	1,697,960
August 2018	43,500	1,741,460
September 2018	44,960	1,786,420
October 2018	52,550	1,838,970
November 2018	42,510	1,881,480
December 2018	40,490	1,921,970
January 2019	43,930	1,965,900
February 2019	46,710	2,012,610
March 2019	45,230	2,057,840
April 2019	45,490	2,103,330
May 2019	83,670	2,187,000
June 2019	43,460	2,230,460
July 2019	69,230	2,299,690
August 2019	50,770	2,350,460
September 2019	65,450	2,415,910
October 2019	92,570	2,508,480
November 2019	57,370	2,565,850
December 2019	36,980	2,602,830

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	1/19/2015	1.1	7.7	77.6	107	193.4	11.8	1.42	0.898	2.318	49.3
EFF	1/19/2015	ND	ND	ND	ND	ND	2.7	ND	ND	ND	ND
INN	1/26/2015	0.48 (J)	4.4	35.2	68.7	108.78 (J)	ND	0.973	0.454	1.427	35.1
EFF	1/26/2015	0.26 (J)	2.3	15.7	38.5	56.76 (J)	6.8	0.418	0.267	0.685	12.3
INN	2/4/2015	1.2	10.9	96.1	173	281.2	12.4	1.70	1.21	2.91	60.1
EFF	2/4/2015	ND	0.74 (J)	1.6	16.0	18.34 (J)	7.0	ND	ND	ND	0.84 (J)
INN	2/20/2015	0.90	8.7	81.5	167	258.10	14.5	1.79	0.826	2.616	62.5
EFF	2/20/2015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	3/3/2015	0.77	8.6	71.1	152	232.47	10.9	1.51	0.573	2.083	47.3
EFF	3/3/2015	ND	ND	ND	ND	ND	0.88 (J)	ND	ND	ND	ND
INF	3/30/2015	1.6	15.3	100	352	468.9	11.5	2.33	0.779	3.109	51.3
EFF	3/30/2015	ND	ND	ND	ND	ND	0.97 (J)	ND	ND	ND	ND
INF	4/7/2015	1.9	16.7	143	439	600.6	12.5	3.52	0.870	4.390	94.1
EFF	4/7/2015	ND	ND	ND	ND	ND	0.59 (J)	ND	ND	ND	ND
INF	4/27/2015	1.7	ND	ND	ND	1.7	ND	2.51	1.24	3.75	79.7
EFF	4/27/2015	ND	ND	ND	ND	ND	0.41 (J)	ND	ND	ND	ND
INN	5/4/2015	1.4	15.3	117	340	473.7	11.9	2.02	0.873	2.893	76.6
EFF	5/4/2015	ND	ND	ND	ND	ND	1.0	ND	0.192	0.192	ND
INF	5/18/2015	1.7	20.9	141	417	580.6	12.8	3.58	1.17	4.75	71.3
EFF	5/18/2015	ND	ND	ND	0.37 (J)	0.37 (J)	2.2	ND	ND	ND	ND
INF	6/2/2015	0.83	8.7	75.3	250	334.83	6.2	1.45	0.461	1.911	38.2
EFF	6/2/2015	ND	ND	ND	ND	ND	1.5	ND	0.114	0.114	ND
INF	6/23/2015	1.6	14.7	116	343	475.3	ND	1.45	0.937	2.387	69.3
EFF	6/23/2015	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	7/6/2015	1.7	13.1	109	355	478.8	11.6	2.20	1.02	3.22	67.4
EFF	7/6/2015	ND	ND	ND	0.27 (J)	0.27 (J)	3.8	ND	0.212	0.212	ND
INF	7/21/2015	1.4	10.4	81.4	278	371.2	7.0	2.03	0.943	2.973	58.7
EFF	7/21/2015	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND
INN	8/3/2015	2.3	17.7	125	430	575.0	12.4	3.08	0.812	3.892	72.9
EFF	8/3/2015	ND	ND	ND	ND	ND	3.0	ND	ND	ND	ND
INF	8/20/2015	1.1	5.9	22.4	81.3	110.7	5.3	0.476	0.206	0.682	3.6 (J)
EFF	8/20/2015	ND	ND	ND	ND	ND	2.5	ND	0.239	0.239	ND
INF	9/9/2015	3.1	25.5	144	446	618.6	11.2	3.15	1.27	4.42	50.8
EFF	9/9/2015	ND	ND	ND	ND	ND	2.4	ND	0.448	0.448	ND
INN	9/22/2015	2.6	14.4	93.4	272	382.4	8.5	3.16	0.971	4.131	65.8
EFF	9/22/2015	ND	ND	ND	ND	ND	2.6	ND	0.0953	0.0953	ND
INF	10/7/2015	3.1	14.7	105	298	420.8	10.3	2.09	0.290	2.380	58.1
EFF	10/7/2015	ND	ND	ND	ND	ND	2.1	ND	0.0987	0.0987	ND
INF	10/13/2015	2.8	11.7	88.8	263	366.3	10.2	2.82	1.40	4.22	48.0
EFF	10/13/2015	ND	ND	ND	ND	ND	1.9	ND	0.105	0.105	ND
INN	11/10/2015	2.0	9.1	71.9	177	260.0	ND	1.98	0.807	2.787	35.7
EFF	11/10/2015	ND	ND	ND	ND	ND	1.7	ND	ND	ND	ND
INF	12/2/2015	1.9	4.3	48.7	106	160.9	7.3	1.02	0.502	1.522	39.7
EFF	12/2/2015	ND	ND	ND	ND	ND	3.8	ND	ND	ND	ND
INF	12/16/2015	1.8	5.0	57.4	111	175.2	7.6	1.17	0.527	1.697	51.0
EFF	12/16/2015	ND	ND	ND	ND	ND	1.0	ND	ND	ND	ND
INF	1/6/2016	2.4	7.0	86.8	144	240.2	7.2	1.90	0.627	2.527	41.2
EFF	1/6/2016	ND	ND	ND	ND	ND	3.4	ND	ND	ND	ND
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	1/12/2016	1.2	3.7	36.5	83.2	124.6	5.4	1.31	0.376	1.686	21.0
EFF	1/12/2016	ND	ND	ND	ND	ND	3.1	ND	ND	ND	ND
INF	2/3/2016	0.86	3.3	26.6	66.1	96.86	3.2	0.668	0.340	1.008	17.5
EFF	2/3/2016	ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND
INF	2/9/2016	2.6	11.8	96.2	219	329.6	7.1	1.79	0.665	2.455	49.6
EFF	2/9/2016	ND	ND	ND	ND	ND	2.1	ND	0.0850	0.0850	ND
INF	3/3/2016	3.1	12.2	112	367	494.3	7.6	2.71	0.717	3.427	68.5
EFF	3/3/2016	ND	ND	ND	ND	ND	5.3	ND	ND	ND	ND
INF	3/9/2016	3.1	14.1	125	377	519.2	6.6	3.03	0.665	3.695	76.7
EFF	3/9/2016	ND	ND	ND	0.78 (J)	0.78 (J)	6.2	ND	ND	ND	ND
INN	4/6/2016	4.6	35.1	156	505	700.7	7.3	3.78	0.947	4.727	75.3
EFF	4/6/2016	ND	0.32 (J)	0.75 (J)	2.3	3.37 (J)	2.4	ND	ND	ND	ND
INF	4/12/2016	4.3	29.0	109	439	581.3	7.4	2.83	0.994	3.824	74.9
EFF	4/12/2016	ND	0.17 (J)	0.41 (J)	1.4	1.98 (J)	1.4	ND	ND	ND	ND
INN	5/4/2016	2.7	23.1	123	358	506.8	5.0	2.43	0.656	3.086	63.2
EFF	5/4/2016	ND	0.40 (J)	0.94 (J)	3.6	4.94 (J)	3.7	ND	ND	ND	ND
INN	5/12/2016	3.8	29.2	166	388	587.0	7.4	3.28	1.40	4.68	76.1
EFF	5/12/2016	0.22 (J)	0.58 (J)	1.2	3.1	5.1 (J)	5.8	ND	0.269	0.269	ND
INN	6/8/2016	4.6	33.2	187	466	690.8	7.3	3.24	0.777	4.017	86.0
EFF	6/8/2016	0.50	1.4	3.5	10.4	15.80	7.2	0.226	ND	0.226	ND
INN	6/14/2016	4.9	30.1	164	422	621.0	7.2	2.94	0.822	3.762	74.4
EFF	6/14/2016	0.83	3.0	8.1	20.5	32.43	4.9	0.316	ND	0.316	ND
INN	7/7/2016	3.9	22.1	144	353	523.0	ND	2.64	1.11	3.75	73.8
EFF	7/7/2016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	7/12/2016	2.2	11.6	68.8	203	285.6	3.5	1.66	0.957	2.617	42.9
EFF	7/12/2016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	8/3/2016	3.0	7.0	36.3	147	193.3	4.7	1.28	0.810	2.090	41.4
EFF	8/3/2016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	8/17/2016	3.5	12.4	81.5	273	370.4	5.2	2.10	0.792	2.892	63.1
EFF	8/17/2016	ND	ND	ND	ND	0.00	0.70 (J)	ND	ND	ND	ND
INN	9/8/2016	4.3	10.2	88.9	263	366.4	5.6	2.26	0.802	3.062	61.0
EFF	9/8/2016	ND	ND	0.36 (J)	0.40 (J)	0.76 (J)	1.4	ND	ND	ND	ND
INN	9/14/2016	3.8	8.4	84.9	218	315.1	4.7	1.92	1.06	2.980	58.2
EFF	9/14/2016	ND	ND	0.30 (J)	0.59 (J)	0.89 (J)	0.84	ND	ND	ND	ND
INN	10/12/2016	4.4	5.0	15.4	79.2	104.0	5.4	1.24	0.704	1.94	6.1
EFF	10/12/2016	ND	ND	ND	ND	ND	1.4	ND	ND	ND	ND
INN	10/18/2016	4.9	6.8	46.0	177	234.7	4.9	2.72	1.06	3.78	53.7
EFF	10/18/2016	ND	ND	0.36 (J)	0.50 (J)	0.86 (J)	1.80	ND	ND	ND	ND
INN	11/3/2016	6.7	7.4	61.0	164	239.1	4.4	2.89	1.01	3.90	65.3
EFF	11/3/2016	ND	ND	0.35 (J)	ND	0.35 (J)	1.70	ND	ND	ND	ND
INN	11/8/2016	7.5	8.1	28.3	193	236.9	4.1	3.75	1.36	5.11	83.1
EFF	11/8/2016	ND	ND	ND	ND	ND	1.40	ND	ND	ND	ND
INN	12/7/2016	2.2	1.4	10.4	23.9	37.9	3.5	0.971	0.329	1.300	8.3
EFF	12/7/2016	ND	ND	ND	ND	ND	3.10	ND	ND	ND	ND
INN	12/15/2016	2.9	2.3	24.2	26.7	56.1	4.3	ND	0.486	0.486	18.2
EFF	12/15/2016	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND
INN	1/4/2017	2.7	5.3	26.6	34.7	69.3	4.7	1.12	0.46	1.58	13.8
EFF	1/4/2017	ND	ND	ND	ND	ND	1.40	ND	ND	ND	ND
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	1/11/2017	3.5	4.7	44.2	43.1	95.5	5.4	1.12	0.367	1.49	18.8
EFF	1/11/2017	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND
INN	2/7/2017	3.9	4.3	53.6	59.0	120.8	5.5	1.58	0.464	2.04	21.1
EFF	2/7/2017	ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND
INN	2/21/2017	3.1	3.3	47.1	60.5	114.0	5.2	1.62	0.394	2.01	17.5
EFF	2/21/2017	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND
INN	3/1/2017	3.0	3.3	49.6	65.0	120.9	5.3	1.54	0.322	1.86	17.0
EFF	3/1/2017	ND	ND	0.24 (J)	ND	0.24 (J)	2.5	ND	ND	ND	ND
INN	3/10/2017	2.9	3.0	40.3	59.1	105.3	5.8	1.09	0.444	1.53	21.0
EFF	3/10/2017	0.28 (J)	ND	0.58 (J)	1.2	2.06 (J)	2.5	0.123	ND	0.123	ND
INN	4/4/2017	2.1	4.7	53	187	246.8	6.8	2.07	0.708	2.778	24.9
EFF	4/4/2017	0.31 (J)	ND	0.51 (J)	2.8	3.62 (J)	3.9	0.113	ND	0.113	ND
INN	4/11/2017	2.3	6.2	59.2	168	235.7	8.1	1.63	1.140	2.770	31.8
EFF	4/11/2017	0.55	0.37 (J)	0.95 (J)	4.9	6.77 (J)	3.4	ND	0.114	0.114	ND
INN	5/3/2017	2.0	2.6	43.7	114	162.3	6.2	1.53	0.905	2.435	34.0
EFF	5/3/2017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	5/16/2017	1.6	2.2	31.6	107	142.4	6.3	1.09	0.813	1.903	34.3
EFF	5/16/2017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	6/1/2017	2.5	4.0	50.5	202	259.0	5.9	1.95	1.03	2.98	47.1
EFF	6/1/2017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	6/8/2017	2.7	6.0	76	440	524.7	5.1	3.34	1.84	5.18	72.5
EFF	6/8/2017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	7/11/2017	1.4	2.8	29.6	159	192.8	4.5	0.857	1.63	2.49	41.4
EFF	7/11/2017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	7/20/2017	1.4	2.8	31.3	167	202.5	4.2	1.23	1.47	2.70	58.5
EFF	7/20/2017	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9
INN	8/10/2017	1.8	3.2	30.6	129	164.6	4.8	1.06	0.991	2.051	33.8
EFF	8/10/2017	ND	ND	ND	ND	ND	2.2	ND	ND	ND	ND
INN	8/18/2017	0.7	1.4	11.9	47.3	61.3	3.4	0.39	0.64	1.02	23.5
EFF	8/18/2017	ND	ND	ND	ND	ND	1.9	ND	ND	ND	ND
INN	9/7/2017	2.5	4.6	42.6	238	287.7	ND	1.97	2.19	4.16	82.5
EFF	9/7/2017	ND	1.4	0.38 (J)	2.4	4.18 (J)	243.0	ND	ND	ND	ND
INN	9/18/2017	3.6	6.5	57.0	167	234.1	4.2	1.23	1.47	2.70	68.9
EFF	9/18/2017	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND
INN	10/3/2017	3.4	5.5	44.2	157	210.1	3.7	1.82	1.22	3.04	64.3
EFF	10/3/2017	ND	ND	ND	ND	ND	1.6	ND	ND	ND	ND
INN	10/17/2017	2.3	3.5	31.4	95.2	132.4	3.9	1.24	0.755	2.00	34.8
EFF	10/17/2017	ND	ND	ND	ND	ND	1.6	ND	ND	ND	ND
INN	11/2/2017	2.7	3.0	19.3	86.1	111.1	5.9	1.05	2.780	3.83	24.9
EFF	11/2/2017	ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND
INN	11/9/2017	1.4	1.5	10.3	47.1	60.3	4.4	0.643	1.20	1.84	13.4
EFF	11/9/2017	ND	ND	ND	ND	ND	1.7	ND	ND	ND	ND
INN	12/8/2017	2.9	3.3	42.1	75.2	123.5	5.4	1.18	1.04	2.22	33.8
EFF	12/8/2017	ND	ND	ND	0.22 (J)	0.22 (J)	2.3	ND	ND	ND	ND
INN	12/21/2017	3.4	3.3	33.0	54.4	94.1	5.7	0.871	4.72	5.59	29.0
EFF	12/21/2017	ND	ND	ND	ND	ND	1.7	ND	ND	ND	ND
INN	1/11/2018	1.1	0.98 (J)	9.3	17.2	28.6 (J)	5.2	0.315	1.72	2.035	17.5
EFF	1/11/2018	ND	ND	0.24 (J)	0.42 (J)	0.66 (J)	2.7	ND	0.0893	0.0893	ND
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	1/22/2018	2.5	2.2	22.3	32.2	59.2	5.2	0.358	1.48	1.838	15.2
EFF	1/22/2018	ND	ND	ND	ND	ND	2.2	ND	0.133	0.133	ND
INN	2/7/2018	2.0	2.1	18.7	33.1	55.9	5.8	0.656	1.22	1.876	14.3
EFF	2/7/2018	ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND
INN	2/14/2018	1.3	2.5	17.1	44.9	65.8	6.3	0.731	1.05	1.781	8.4
EFF	2/14/2018	ND	ND	0.33 (J)	0.99 (J)	1.32 (J)	3.3	ND	0.108	0.108	ND
INN	3/7/2018	2.1	7.8	49.3	137	196.2	6.3	0.970	2.49	3.460	22.9
EFF	3/7/2018	ND	ND	0.33 (J)	1.2	1.5 (J)	3.5	ND	ND	ND	ND
INN	3/14/2018	2.3	7.6	55.2	149	214.1	5.8	1.29	1.01	2.30	28.3
EFF	3/14/2018	0.29 (J)	0.58 (J)	0.63 (J)	15.4	16.9 (J)	3.6	0.196 (J)	0.173	0.369 (J)	ND
INN	4/3/2018	2.3	6.3	59.2	162	230	6.3	1.35	0.755	2.11	27.8
EFF	4/3/2018	0.19 (J)	ND	0.60 (J)	2.5	3.3 (J)	3.0	0.110 (J)	0.0990	0.209 (J)	ND
INN	4/11/2018	2.5	5.8	70.6	188	267	5.4	1.41	0.933	2.34	31.1
EFF	4/11/2018	0.53	1.1	5.5	31.4	38.5	3.1	0.301	0.304	0.605	2.5 (J)
INN	5/2/2018	1.7	4.9	51.1	190	248	4.9	1.84	0.889	2.73	40.8
EFF	5/2/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	5/9/2018	2.8	7.6	80.5	302	393	6.8	2.15	1.46	3.61	50.6
EFF	5/9/2018	ND	ND	ND	ND	ND	ND	ND	0.179	0.179	ND
INN	6/6/2018	2.1	7.3	48.2	241	299	4.8	1.54	0.907	2.45	35.2
EFF	6/6/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	6/13/2018	2.0	6.8	39.5	214	262	4.4	1.47	0.728	2.20	34.3
EFF	6/13/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	7/3/2018	2.4	9.2	47.9	256	316	4.5	1.81	0.913	2.72	43.2
EFF	7/3/2018	ND	ND	ND	0.29 (J)	0.29 (J)	0.39 (J)	ND	ND	ND	ND
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	7/12/2018	3.0	9.5	50.9	271	334	5.2	1.82	0.728	2.55	55.6
EFF	7/12/2018	ND	ND	ND	ND	ND	0.41 (J)	ND	ND	ND	ND
INN	8/1/2018	3.0	6.6	36.2	181	227	4.6	1.58	ND	1.58	35.0
EFF	8/1/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	8/8/2018	3.9	9.0	52.8	234	300	5.6	1.81	0.851	2.66	47.2
EFF	8/8/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	9/4/2018	4.6	8.0	59.1	191	263	4.5	1.88	0.716	2.60	42.9
EFF	9/4/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	9/12/2018	4.0	5.8	43.0	181	234	4.5	1.61	0.315	1.93	34.7
EFF	9/12/2018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
INN	10/3/2018	4.1	6.7	39.6	263	313	3.8	1.88	0.974	2.85	55.5
EFF	10/3/2018	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND	0.65 (J)	ND (< 0.10)	ND (< 0.050)	ND (< 0.15)	ND (< 0.98)
INN	10/10/2018	4.0	6.3	44.6	263	317.9	3.7	1.69	0.677	2.37	52.7
EFF	10/10/2018	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND	0.95 (J)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
INN	11/7/2018	3.9	6.2	45.4	210	265.5	3.2	1.23	0.614	1.84	36.5
EFF	11/7/2018	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND	0.65 (J)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
INN	11/14/2018	2.6	3.9	25.3	158	189.8	2.4	0.850	0.672	1.522	26.3
EFF	11/14/2018	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND	0.60 (J)	ND (< 0.10)	ND (< 0.050)	ND (< 0.15)	ND (< 0.98)
INN	12/4/2018	5.7	11.8	90.7	363	471.2	4.2	2.51	1.63	4.14	34.7
EFF	12/4/2018	ND (< 0.43)	ND (< 0.53)	1.3	5.0	6.3	0.73 (J)	ND (< 0.10)	ND (< 0.048)	ND (< 0.15)	ND (< 0.98)
INN	12/12/2018	5.7	12.3	101	437	556.0	4.8	2.05	1.12	3.17	76.9
EFF	12/12/2018	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND	1.1	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
INN	1/3/2019	5.1	9.9	55.4	377	447	3.9	1.94	0.707	2.65	58.1
EFF	1/3/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.98 (J)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
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Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	1/10/2019	4.8	12.3	119	439	575	3.5	2.25	1.32	3.57	76.9
EFF	1/10/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.94 (J)	ND (< 0.10)	ND (< 0.052)	ND (< 0.15)	ND (< 0.98)
INN	2/6/2019	4.1	9.9	96.2	374	484	3.3	2.19	0.871	3.06	75.0
EFF	2/6/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.80 (J)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
INN	2/15/2019	2.9	6.7	61.0	280	351	2.9	2.25	0.963	3.21	39.3
EFF	2/15/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	4.5	< 6.1	1.0	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
INN	3/6/2019	1.9	2.5	9.5	230	244	2.9	1.56	0.992	2.55	9.8
EFF	3/6/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	1.7	< 3.3	1.0	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
INN	3/13/2019	3.5	7.4	44.8	350	406	3.5	2.36	1.18	3.54	43.3
EFF	3/13/2019	ND (< 0.43)	ND (< 0.53)	0.93 (J)	8.3	< 10.2	1.1	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
INN	4/3/2019	4.5	13.8	112	419	549	2.5	3.29	1.08	4.37	76.7
EFF	4/3/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	1.4	< 3.0	0.97 (J)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
INN	4/17/2019	4.9	13.9	118	532	669	3.0	3.13	0.972	4.10	67.4
EFF	4/17/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	ND (< 0.51)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 0.98)
INN	5/1/2019	4.8	12.4	102	492	611	2.7	3.04	1.50	4.54	63.6
EFF	5/1/2019	ND (< 0.43)	0.80 (J)	ND (< 0.60)	ND (< 0.59)	< 2.42	ND (< 0.51)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	5/8/2019	6.3	17.1	142	499	664	3.5	3.17	1.11	4.28	87.6
EFF	5/8/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	ND (< 0.51)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	6/5/2019	4.4	11.2	91.9	455	563	3.3	2.60	1.06	3.66	69.3
EFF	6/5/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	0.63 (J)	< 2.19	ND (< 0.51)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	6/12/2019	4.8	12.3	100	456	573	2.9	2.94	1.14	4.08	77.0
EFF	6/12/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	3.0	4.6	ND (< 0.51)	ND (< 0.042)	ND (< 0.050)	ND (< 0.092)	ND (< 0.98)
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	7/10/2019	4.0	7.7	48.9	328	389	2.7	1.88	0.92	2.80	57.5
EFF	7/10/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	ND (< 0.51)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	7/19/2019	3.2	6.1	49.0	270	328.3	2.3	1.81	0.77	2.58	50.3
EFF	7/19/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	ND (< 0.51)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	8/5/2019	3.4	5.3	24.6	203	236.3	0.68 (J)	1.77	0.81	2.58	57.6
EFF	8/5/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.68 (J)	ND (< 0.042)	0.109	0.151	ND (< 0.98)
INN	8/13/2019	2.9	3.1	10.5	90.6	107.1	2.9	1.10	0.693	1.79	27.9
EFF	8/13/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.62 (J)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	9/4/2019	2.6	1.9	7.3	32.2	44.0	3.2	0.720	0.356	1.08	17.0
EFF	9/4/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	ND (< 0.51)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	9/11/2019	3.1	2.2	26.6	35.9	67.8	2.9	0.895	0.435	1.330	11.7
EFF	9/11/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.74 (J)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	10/1/2019	4.1	4.3	10.6	71.9	90.9	2.6	1.25	0.625	1.875	29.4
EFF	10/1/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.84 (J)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	10/9/2019	3.6	2.9	19.1	57.0	82.6	2.6	1.24	0.386	1.626	23.2
EFF	10/9/2019	0.48 (J)	ND (< 0.53)	ND (< 0.60)	1.0	<2.61	0.85 (J)	ND (< 0.042)	ND (< 0.053)	ND (< 0.095)	ND (< 0.98)
INN	11/14/2019	2.7	3.6	37.0	104	147	3.4	1.47	0.628	2.098	45.1
EFF	11/14/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.59 (J)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 2.5)
INN	11/19/2019	2.9	4.2	43.2	117	167	3.4	1.33	0.646	1.976	47.5
EFF	11/19/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	0.79 (J)	<2.35	0.78 (J)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 2.5)
INN	12/4/2019	1.4	2.2	26.4	56.4	86.4	2.0	0.695	0.158	0.853	16.9
EFF	12/4/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.67 (J)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 2.5)
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

TABLE 5
GROUNDWATER TREATMENT SYSTEM SAMPLING RESULTS SUMMARY
Ridgely Manor Park
Towson, MD
Case # 1991-2100-BA
NPDES Permit # MDG915958

Groundwater Treatment System Sample Identification	Groundwater Treatment System Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (Total) (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total TPH (mg/L)	Naphthalene (µg/L)
INN	12/11/2019	1.7	2.6	31.5	62.4	98.2	2.0	0.778	0.334	1.112	19.4
EFF	12/11/2019	ND (< 0.43)	ND (< 0.53)	ND (< 0.60)	ND (< 0.59)	ND (< 2.15)	0.62 (J)	ND (< 0.10)	ND (< 0.053)	ND (< 0.15)	ND (< 2.5)
	NPDES Permit Limits*	**5**	**NL**	**NL**	**NL**	**100**	**NL**	**NL**	**NL**	**15**	**NL**

*Effluent Limitations listed in NPDES Permit # MDG915958
EFF = Effluent Sample (Post-filtration)
INF = Influent Sample (Pre-filtration)
INN = Influent Sample (Pre-filtration)
ND = Constituent Compound Not Detected
NL = No limit listed in NPDES permit
NA = Not Analyzed
(J) = Laboratory-Estimated Value

µg/L = micrograms/Liter
MTBE = Methyl-Tertiary-Butyl Ether
Total BTEX = sum of Benzene, Toluene, Ethylbenzene, and Xylenes
TPH = Total Petroleum Hydrocarbons
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
ND (< MDL) = Not Detected above Method Detection Limit

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

EMS Environmental, Inc.

HESS #20204, 1613 East Joppa Road, Towson, MD

5713

SGS Job Number: JC98692

Sampling Date: 11/13/19

Report to:

EMS Environmental, Inc.
4550 Bath Pike
Bethlehem, PA 18017
jfox@emsenv.com

ATTN: Jeremy Fox

Total number of pages in report: 61

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Beth Wasserman 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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SGS North America Inc.

Sample Summary

EMS Environmental, Inc.

Job No: JC98692

HESS #20204, 1613 East Joppa Road, Towson, MD
Project No: 5713

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC98692-1	11/13/19	15:00	RL	11/15/19	AQ	Ground Water	MW-4
JC98692-2	11/13/19	14:30	RL	11/15/19	AQ	Ground Water	MW-7
JC98692-3	11/13/19	11:30	RL	11/15/19	AQ	Ground Water	YMW-1
JC98692-4	11/13/19	12:15	RL	11/15/19	AQ	Ground Water	YMW-2
JC98692-5	11/13/19	11:50	RL	11/15/19	AQ	Ground Water	YMW-3
JC98692-6	11/13/19	13:00	RL	11/15/19	AQ	Ground Water	YMW-4
JC98692-7	11/13/19	12:40	RL	11/15/19	AQ	Ground Water	YMW-8
JC98692-8	11/13/19	13:45	RL	11/15/19	AQ	Ground Water	YP-1
JC98692-9	11/13/19	14:10	RL	11/15/19	AQ	Ground Water	YP-2
JC98692-10	11/13/19	13:20	RL	11/15/19	AQ	Ground Water	YP-5

2

Summary of Hits

Job Number: JC98692
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 11/13/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC98692-1	**MW-4**					
Benzene		8.4	0.50	0.43	ug/l	SW846 8260C
Di-Isopropyl ether		1.7 J	2.0	0.68	ug/l	SW846 8260C
Ethylbenzene		37.5	1.0	0.60	ug/l	SW846 8260C
Isopropylbenzene		2.6	1.0	0.65	ug/l	SW846 8260C
Methyl Tert Butyl Ether		0.64 J	1.0	0.51	ug/l	SW846 8260C
Naphthalene		19.9	5.0	2.5	ug/l	SW846 8260C
n-Propylbenzene		4.5	2.0	0.60	ug/l	SW846 8260C
Tert Butyl Alcohol		16.8	10	5.8	ug/l	SW846 8260C
tert-Butyl Ethyl Ether		1.3 J	2.0	0.56	ug/l	SW846 8260C
Toluene		4.5	1.0	0.53	ug/l	SW846 8260C
1,2,4-Trimethylbenzene		19.3	2.0	1.0	ug/l	SW846 8260C
1,3,5-Trimethylbenzene		1.1 J	2.0	1.0	ug/l	SW846 8260C
m,p-Xylene		5.5	1.0	0.78	ug/l	SW846 8260C
o-Xylene		1.1	1.0	0.59	ug/l	SW846 8260C
Xylene (total)		6.6	1.0	0.59	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.507	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.168	0.083	0.053	mg/l	SW846 8015D
JC98692-2	**MW-7**					
Benzene		15.7	0.50	0.43	ug/l	SW846 8260C
n-Butylbenzene		2.2	2.0	0.52	ug/l	SW846 8260C
sec-Butylbenzene		2.9	2.0	0.62	ug/l	SW846 8260C
Di-Isopropyl ether		1.3 J	2.0	0.68	ug/l	SW846 8260C
Ethylbenzene		112	1.0	0.60	ug/l	SW846 8260C
Isopropylbenzene		14.9	1.0	0.65	ug/l	SW846 8260C
p-Isopropyltoluene		0.88 J	2.0	0.66	ug/l	SW846 8260C
Methyl Tert Butyl Ether		0.80 J	1.0	0.51	ug/l	SW846 8260C
Naphthalene		55.7	5.0	2.5	ug/l	SW846 8260C
n-Propylbenzene		43.5	2.0	0.60	ug/l	SW846 8260C
Tert Butyl Alcohol		8.0 J	10	5.8	ug/l	SW846 8260C
Toluene		12.5	1.0	0.53	ug/l	SW846 8260C
1,2,4-Trimethylbenzene		176	20	10	ug/l	SW846 8260C
1,3,5-Trimethylbenzene		26.8	2.0	1.0	ug/l	SW846 8260C
m,p-Xylene		91.5	1.0	0.78	ug/l	SW846 8260C
o-Xylene		5.4	1.0	0.59	ug/l	SW846 8260C
Xylene (total)		96.9	1.0	0.59	ug/l	SW846 8260C
TPH-GRO (C6-C10)		2.54	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		1.38	0.083	0.053	mg/l	SW846 8015D
JC98692-3	**YMW-1**					
Isopropylbenzene		0.98 J	1.0	0.65	ug/l	SW846 8260C

Summary of Hits

Job Number: JC98692
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 11/13/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TPH-GRO (C6-C10)		0.128 J	0.20	0.10	mg/l	SW846 8015D
JC98692-4	**YMW-2**					
Di-Isopropyl ether		1.4 J	2.0	0.68	ug/l	SW846 8260C
Methyl Tert Butyl Ether		9.4	1.0	0.51	ug/l	SW846 8260C
Tert Butyl Alcohol		27.5	10	5.8	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.337	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.178	0.083	0.053	mg/l	SW846 8015D
JC98692-5	**YMW-3**					
No hits reported in this sample.						
JC98692-6	**YMW-4**					
Benzene		8.7	0.50	0.43	ug/l	SW846 8260C
sec-Butylbenzene		1.3 J	2.0	0.62	ug/l	SW846 8260C
Di-Isopropyl ether		4.6	2.0	0.68	ug/l	SW846 8260C
Isopropylbenzene		1.1	1.0	0.65	ug/l	SW846 8260C
Methyl Tert Butyl Ether		6.6	1.0	0.51	ug/l	SW846 8260C
n-Propylbenzene		0.90 J	2.0	0.60	ug/l	SW846 8260C
Tert Butyl Alcohol		120	10	5.8	ug/l	SW846 8260C
Toluene		0.60 J	1.0	0.53	ug/l	SW846 8260C
m,p-Xylene		2.5	1.0	0.78	ug/l	SW846 8260C
Xylene (total)		2.5	1.0	0.59	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.764	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.582	0.083	0.053	mg/l	SW846 8015D
JC98692-7	**YMW-8**					
Benzene [a]		26.8	2.5	2.1	ug/l	SW846 8260C
n-Butylbenzene [a]		13.3	10	2.6	ug/l	SW846 8260C
sec-Butylbenzene [a]		8.8 J	10	3.1	ug/l	SW846 8260C
1,2-Dichloroethane [a]		3.2 J	5.0	3.0	ug/l	SW846 8260C
Ethylbenzene [a]		673	5.0	3.0	ug/l	SW846 8260C
Isopropylbenzene [a]		55.9	5.0	3.2	ug/l	SW846 8260C
p-Isopropyltoluene [a]		11.5	10	3.3	ug/l	SW846 8260C
Methyl Tert Butyl Ether [a]		19.8	5.0	2.5	ug/l	SW846 8260C
Naphthalene [a]		217	25	13	ug/l	SW846 8260C
n-Propylbenzene [a]		176	10	3.0	ug/l	SW846 8260C
Toluene [a]		46.1	5.0	2.7	ug/l	SW846 8260C
1,2,4-Trimethylbenzene [a]		846	10	5.0	ug/l	SW846 8260C
1,3,5-Trimethylbenzene [a]		181	10	5.0	ug/l	SW846 8260C
m,p-Xylene [a]		926	5.0	3.9	ug/l	SW846 8260C

Summary of Hits

Job Number: JC98692
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 11/13/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
o-Xylene [a]		76.8	5.0	3.0	ug/l	SW846 8260C
Xylene (total) [a]		1000	5.0	3.0	ug/l	SW846 8260C
TPH-GRO (C6-C10)		9.19	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		2.94	0.083	0.053	mg/l	SW846 8015D
JC98692-8	**YP-1**					
Acetone [a]		26.2	20	12	ug/l	SW846 8260C
Benzene [a]		4.6	1.0	0.85	ug/l	SW846 8260C
n-Butylbenzene [a]		15.5	4.0	1.0	ug/l	SW846 8260C
sec-Butylbenzene [a]		9.5	4.0	1.2	ug/l	SW846 8260C
Ethylbenzene		602	20	12	ug/l	SW846 8260C
Isopropylbenzene [a]		50.2	2.0	1.3	ug/l	SW846 8260C
p-Isopropyltoluene [a]		2.8 J	4.0	1.3	ug/l	SW846 8260C
Methyl Tert Butyl Ether [a]		2.0	2.0	1.0	ug/l	SW846 8260C
Naphthalene [a]		237	10	5.0	ug/l	SW846 8260C
n-Propylbenzene [a]		166	4.0	1.2	ug/l	SW846 8260C
Tert Butyl Alcohol [a]		13.5 J	20	12	ug/l	SW846 8260C
Toluene [a]		9.8	2.0	1.1	ug/l	SW846 8260C
1,2,4-Trimethylbenzene [a]		106	4.0	2.0	ug/l	SW846 8260C
1,3,5-Trimethylbenzene [a]		70.5	4.0	2.0	ug/l	SW846 8260C
m,p-Xylene [a]		154	2.0	1.6	ug/l	SW846 8260C
o-Xylene [a]		2.8	2.0	1.2	ug/l	SW846 8260C
Xylene (total) [a]		157	2.0	1.2	ug/l	SW846 8260C
TPH-GRO (C6-C10)		6.35	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		2.02	0.083	0.053	mg/l	SW846 8015D
JC98692-9	**YP-2**					
Benzene		6.5	0.50	0.43	ug/l	SW846 8260C
sec-Butylbenzene		1.6 J	2.0	0.62	ug/l	SW846 8260C
Di-Isopropyl ether		1.0 J	2.0	0.68	ug/l	SW846 8260C
1,2-Dichloroethane		0.95 J	1.0	0.60	ug/l	SW846 8260C
Isopropylbenzene		0.70 J	1.0	0.65	ug/l	SW846 8260C
Methyl Tert Butyl Ether		16.1	1.0	0.51	ug/l	SW846 8260C
Naphthalene		6.3	5.0	2.5	ug/l	SW846 8260C
Tert Butyl Alcohol		15.0	10	5.8	ug/l	SW846 8260C
1,2,4-Trimethylbenzene		6.1	2.0	1.0	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.422	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.248	0.083	0.053	mg/l	SW846 8015D
JC98692-10	**YP-5**					
Acetone		8.8 J	10	6.0	ug/l	SW846 8260C

Summary of Hits

Job Number: JC98692
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 11/13/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method

(a) Diluted due to high concentration of target compound.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC98692-1	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C171822.D	1	11/22/19 03:22	BK	n/a	n/a	V2C7722
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	6.0	ug/l	
71-43-2	Benzene	8.4	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
108-20-3	Di-Isopropyl ether	1.7	2.0	0.68	ug/l	J
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.2	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.4	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC98692-1	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.82	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	37.5	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.56	ug/l	
98-82-8	Isopropylbenzene	2.6	1.0	0.65	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.64	1.0	0.51	ug/l	J
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	19.9	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	4.5	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.70	ug/l	
75-65-0	Tert Butyl Alcohol	16.8	10	5.8	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.47	ug/l	
637-92-3	tert-Butyl Ethyl Ether	1.3	2.0	0.56	ug/l	J
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	4.5	1.0	0.53	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.84	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	19.3	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	1.1	2.0	1.0	ug/l	J
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	5.5	1.0	0.78	ug/l	
95-47-6	o-Xylene	1.1	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	6.6	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC98692-1	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	95%		80-120%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC98692-1	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101930.D	1	11/20/19 12:31	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.507	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	JC98692-1	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78137.D	1	11/20/19 00:18	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.168	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	65%		22-140%
438-22-2	5a-Androstane	57%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC98692-2	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C171823.D	1	11/22/19 03:51	BK	n/a	n/a	V2C7722
Run #2	3B157321.D	10	11/27/19 14:29	JP	n/a	n/a	V3B7075

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	6.0	ug/l	
71-43-2	Benzene	15.7	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	2.2	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	2.9	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
108-20-3	Di-Isopropyl ether	1.3	2.0	0.68	ug/l	J
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.2	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.4	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC98692-2	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.82	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	112	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.56	ug/l	
98-82-8	Isopropylbenzene	14.9	1.0	0.65	ug/l	
99-87-6	p-Isopropyltoluene	0.88	2.0	0.66	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	0.80	1.0	0.51	ug/l	J
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	55.7	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	43.5	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.70	ug/l	
75-65-0	Tert Butyl Alcohol	8.0	10	5.8	ug/l	J
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.47	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.56	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	12.5	1.0	0.53	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.84	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	176 [b]	20	10	ug/l	
108-67-8	1,3,5-Trimethylbenzene	26.8	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	91.5	1.0	0.78	ug/l	
95-47-6	o-Xylene	5.4	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	96.9	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	100%	80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC98692-2	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	94%	100%	81-124%
2037-26-5	Toluene-D8	101%	102%	80-120%
460-00-4	4-Bromofluorobenzene	99%	93%	80-120%

(a) Associated CCV outside of control limits high, sample was ND.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC98692-2	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101937.D	1	11/20/19 15:24	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	2.54	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	JC98692-2	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78138.D	1	11/20/19 00:52	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1.38	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	55%		22-140%
438-22-2	5a-Androstane	39%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-1		
Lab Sample ID:	JC98692-3	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C171838.D	1	11/22/19 11:14	BK	n/a	n/a	V2C7723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	6.0	ug/l	
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.68	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.2	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane [a]	ND	2.0	1.4	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-1		
Lab Sample ID:	JC98692-3	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.82	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.56	ug/l	
98-82-8	Isopropylbenzene	0.98	1.0	0.65	ug/l	J
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.51	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.70	ug/l	
75-65-0	Tert Butyl Alcohol	ND	10	5.8	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.47	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.56	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene [b]	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.84	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	ND	1.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-1		
Lab Sample ID:	JC98692-3	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	95%		80-120%

(a) Associated CCV outside of control limits low.
(b) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-1		
Lab Sample ID:	JC98692-3	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101931.D	1	11/20/19 12:53	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.128	0.20	0.10	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	95%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-1		
Lab Sample ID:	JC98692-3	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78139.D	1	11/20/19 01:26	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	62%		22-140%
438-22-2	5a-Androstane	48%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-2		
Lab Sample ID:	JC98692-4	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C171825.D	1	11/22/19 04:48	BK	n/a	n/a	V2C7722
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	6.0	ug/l	
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
108-20-3	Di-Isopropyl ether	1.4	2.0	0.68	ug/l	J
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.2	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.4	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-2		
Lab Sample ID:	JC98692-4	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.82	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.56	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.65	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	9.4	1.0	0.51	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.70	ug/l	
75-65-0	Tert Butyl Alcohol	27.5	10	5.8	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.47	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.56	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.84	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	ND	1.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%

ND = Not detected MDL = Method Detection Limit
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E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-2		
Lab Sample ID:	JC98692-4	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	93%		80-120%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-2		
Lab Sample ID:	JC98692-4	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101932.D	1	11/20/19 13:22	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.337	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	97%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-2		
Lab Sample ID:	JC98692-4	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78140.D	1	11/20/19 02:00	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.178	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	66%		22-140%
438-22-2	5a-Androstane	49%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-3		
Lab Sample ID:	JC98692-5	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C171826.D	1	11/22/19 05:17	BK	n/a	n/a	V2C7722
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	6.0	ug/l	
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.68	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.2	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.4	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-3		
Lab Sample ID:	JC98692-5	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.82	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.56	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.65	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.51	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.70	ug/l	
75-65-0	Tert Butyl Alcohol	ND	10	5.8	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.47	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.56	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.84	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	ND	1.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-3		
Lab Sample ID:	JC98692-5	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	94%		80-120%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-3		
Lab Sample ID:	JC98692-5	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101933.D	1	11/20/19 13:43	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	95%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	YMW-3		
Lab Sample ID:	JC98692-5	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78141.D	1	11/20/19 02:35	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	50%		22-140%
438-22-2	5a-Androstane	34%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-4		
Lab Sample ID:	JC98692-6	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C171827.D	1	11/22/19 05:45	BK	n/a	n/a	V2C7722
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	6.0	ug/l	
71-43-2	Benzene	8.7	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	1.3	2.0	0.62	ug/l	J
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
108-20-3	Di-Isopropyl ether	4.6	2.0	0.68	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.2	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.4	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-4		
Lab Sample ID:	JC98692-6	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.82	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.56	ug/l	
98-82-8	Isopropylbenzene	1.1	1.0	0.65	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	6.6	1.0	0.51	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	0.90	2.0	0.60	ug/l	J
100-42-5	Styrene	ND	1.0	0.70	ug/l	
75-65-0	Tert Butyl Alcohol	120	10	5.8	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.47	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.56	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	0.60	1.0	0.53	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.84	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	2.5	1.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	2.5	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-4		
Lab Sample ID:	JC98692-6	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	95%		80-120%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-4		
Lab Sample ID:	JC98692-6	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101934.D	1	11/20/19 14:12	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.764	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	97%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-4		
Lab Sample ID:	JC98692-6	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78142.D	1	11/20/19 03:09	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.582	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	68%		22-140%
438-22-2	5a-Androstane	53%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-8		
Lab Sample ID:	JC98692-7	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2C171828.D	5	11/22/19 06:14	BK	n/a	n/a	V2C7722
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	30	ug/l	
71-43-2	Benzene	26.8	2.5	2.1	ug/l	
108-86-1	Bromobenzene	ND	5.0	2.7	ug/l	
74-97-5	Bromochloromethane	ND	5.0	2.4	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.9	ug/l	
75-25-2	Bromoform	ND	5.0	3.2	ug/l	
74-83-9	Bromomethane	ND	10	8.2	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	34	ug/l	
104-51-8	n-Butylbenzene	13.3	10	2.6	ug/l	
135-98-8	sec-Butylbenzene	8.8	10	3.1	ug/l	J
98-06-6	tert-Butylbenzene	ND	10	3.4	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.8	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.8	ug/l	
75-00-3	Chloroethane	ND	5.0	3.6	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
74-87-3	Chloromethane	ND	5.0	3.8	ug/l	
95-49-8	o-Chlorotoluene	ND	10	3.2	ug/l	
106-43-4	p-Chlorotoluene	ND	10	3.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	10	3.4	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	6.0	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	2.8	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	2.4	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	2.7	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	2.7	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	6.8	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	2.8	ug/l	
107-06-2	1,2-Dichloroethane	3.2	5.0	3.0	ug/l	J
75-35-4	1,1-Dichloroethene	ND	5.0	3.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	2.7	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	2.5	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-8		
Lab Sample ID:	JC98692-7	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	2.1	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	2.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	4.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	2.4	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.2	ug/l	
100-41-4	Ethylbenzene	673	5.0	3.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	2.8	ug/l	
98-82-8	Isopropylbenzene	55.9	5.0	3.2	ug/l	
99-87-6	p-Isopropyltoluene	11.5	10	3.3	ug/l	
1634-04-4	Methyl Tert Butyl Ether	19.8	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	25	9.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	2.4	ug/l	
75-09-2	Methylene chloride	ND	10	5.0	ug/l	
91-20-3	Naphthalene	217	25	13	ug/l	
103-65-1	n-Propylbenzene	176	10	3.0	ug/l	
100-42-5	Styrene	ND	5.0	3.5	ug/l	
75-65-0	Tert Butyl Alcohol	ND	50	29	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	10	2.4	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	10	2.8	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	3.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	3.3	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	4.5	ug/l	
108-88-3	Toluene	46.1	5.0	2.7	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene [b]	ND	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.7	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.7	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.6	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	4.2	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10	3.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	846	10	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	181	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	5.0	3.9	ug/l	
	m,p-Xylene	926	5.0	3.9	ug/l	
95-47-6	o-Xylene	76.8	5.0	3.0	ug/l	
1330-20-7	Xylene (total)	1000	5.0	3.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-8		
Lab Sample ID:	JC98692-7	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	98%		80-120%

(a) Diluted due to high concentration of target compound.
(b) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-8		
Lab Sample ID:	JC98692-7	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101935.D	1	11/20/19 14:34	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	9.19	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	102%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YMW-8		
Lab Sample ID:	JC98692-7	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78143.D	1	11/20/19 03:43	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.94	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	68%		22-140%
438-22-2	5a-Androstane	55%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-1		
Lab Sample ID:	JC98692-8	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2C171829.D	2	11/22/19 06:42	BK	n/a	n/a	V2C7722
Run #2	2C171848.D	20	11/22/19 16:01	BK	n/a	n/a	V2C7723

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	26.2	20	12	ug/l	
71-43-2	Benzene	4.6	1.0	0.85	ug/l	
108-86-1	Bromobenzene	ND	2.0	1.1	ug/l	
74-97-5	Bromochloromethane	ND	2.0	0.96	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.2	ug/l	
75-25-2	Bromoform	ND	2.0	1.3	ug/l	
74-83-9	Bromomethane	ND	4.0	3.3	ug/l	
78-93-3	2-Butanone (MEK)	ND	20	14	ug/l	
104-51-8	n-Butylbenzene	15.5	4.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	9.5	4.0	1.2	ug/l	
98-06-6	tert-Butylbenzene	ND	4.0	1.4	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.1	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.1	ug/l	
75-00-3	Chloroethane	ND	2.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	1.5	ug/l	
95-49-8	o-Chlorotoluene	ND	4.0	1.3	ug/l	
106-43-4	p-Chlorotoluene	ND	4.0	1.2	ug/l	
108-20-3	Di-Isopropyl ether	ND	4.0	1.4	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.0	2.4	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	1.1	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.95	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	1.1	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	1.1	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4.0	2.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.1	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.2	ug/l	
75-35-4	1,1-Dichloroethene	ND	2.0	1.2	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	1.1	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-1		
Lab Sample ID:	JC98692-8	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	2.0	0.85	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.0	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	2.0	1.6	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.94	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.86	ug/l	
100-41-4	Ethylbenzene	602 [b]	20	12	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.0	1.1	ug/l	
98-82-8	Isopropylbenzene	50.2	2.0	1.3	ug/l	
99-87-6	p-Isopropyltoluene	2.8	4.0	1.3	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	2.0	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	10	3.7	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.96	ug/l	
75-09-2	Methylene chloride	ND	4.0	2.0	ug/l	
91-20-3	Naphthalene	237	10	5.0	ug/l	
103-65-1	n-Propylbenzene	166	4.0	1.2	ug/l	
100-42-5	Styrene	ND	2.0	1.4	ug/l	
75-65-0	Tert Butyl Alcohol	13.5	20	12	ug/l	J
994-05-8	tert-Amyl Methyl Ether	ND	4.0	0.94	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	4.0	1.1	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.0	1.2	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.3	ug/l	
127-18-4	Tetrachloroethene	ND	2.0	1.8	ug/l	
108-88-3	Toluene	9.8	2.0	1.1	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene [c]	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.1	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.1	ug/l	
79-01-6	Trichloroethene	ND	2.0	1.1	ug/l	
75-69-4	Trichlorofluoromethane	ND	4.0	1.7	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	4.0	1.4	ug/l	
95-63-6	1,2,4-Trimethylbenzene	106	4.0	2.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	70.5	4.0	2.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	1.6	ug/l	
	m,p-Xylene	154	2.0	1.6	ug/l	
95-47-6	o-Xylene	2.8	2.0	1.2	ug/l	
1330-20-7	Xylene (total)	157	2.0	1.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	100%	80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-1		
Lab Sample ID:	JC98692-8	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%	97%	81-124%
2037-26-5	Toluene-D8	100%	102%	80-120%
460-00-4	4-Bromofluorobenzene	99%	93%	80-120%

(a) Diluted due to high concentration of target compound.
(b) Result is from Run# 2
(c) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-1		
Lab Sample ID:	JC98692-8	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101938.D	1	11/20/19 15:46	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	6.35	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	104%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-1		
Lab Sample ID:	JC98692-8	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78144.D	1	11/20/19 04:17	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.02	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	54%		22-140%
438-22-2	5a-Androstane	46%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-2		
Lab Sample ID:	JC98692-9	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C171830.D	1	11/22/19 07:11	BK	n/a	n/a	V2C7722
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	6.0	ug/l	
71-43-2	Benzene	6.5	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	1.6	2.0	0.62	ug/l	J
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
108-20-3	Di-Isopropyl ether	1.0	2.0	0.68	ug/l	J
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.2	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.4	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	0.95	1.0	0.60	ug/l	J
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-2		
Lab Sample ID:	JC98692-9	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.82	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.56	ug/l	
98-82-8	Isopropylbenzene	0.70	1.0	0.65	ug/l	J
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	16.1	1.0	0.51	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	6.3	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.70	ug/l	
75-65-0	Tert Butyl Alcohol	15.0	10	5.8	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.47	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.56	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.84	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	6.1	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	ND	1.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-2		
Lab Sample ID:	JC98692-9	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	94%		80-120%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-2		
Lab Sample ID:	JC98692-9	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101936.D	1	11/20/19 14:55	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.422	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	96%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-2		
Lab Sample ID:	JC98692-9	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78148.D	1	11/20/19 06:34	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.248	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	62%		22-140%
438-22-2	5a-Androstane	58%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-5		
Lab Sample ID:	JC98692-10	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C171831.D	1	11/22/19 07:40	BK	n/a	n/a	V2C7722
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	8.8	10	6.0	ug/l	J
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.55	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.48	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.58	ug/l	
75-25-2	Bromoform	ND	1.0	0.63	ug/l	
74-83-9	Bromomethane	ND	2.0	1.6	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	6.9	ug/l	
104-51-8	n-Butylbenzene	ND	2.0	0.52	ug/l	
135-98-8	sec-Butylbenzene	ND	2.0	0.62	ug/l	
98-06-6	tert-Butylbenzene	ND	2.0	0.69	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.55	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.56	ug/l	
75-00-3	Chloroethane	ND	1.0	0.73	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.76	ug/l	
95-49-8	o-Chlorotoluene	ND	2.0	0.63	ug/l	
106-43-4	p-Chlorotoluene	ND	2.0	0.60	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.68	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.2	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.56	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.48	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.53	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.54	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.51	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.4	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.57	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.60	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.59	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.51	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-5		
Lab Sample ID:	JC98692-10	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	1.0	0.43	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.52	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.82	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.47	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.56	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.65	ug/l	
99-87-6	p-Isopropyltoluene	ND	2.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.51	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.9	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.48	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	2.0	0.60	ug/l	
100-42-5	Styrene	ND	1.0	0.70	ug/l	
75-65-0	Tert Butyl Alcohol	ND	10	5.8	ug/l	
994-05-8	tert-Amyl Methyl Ether	ND	2.0	0.47	ug/l	
637-92-3	tert-Butyl Ethyl Ether	ND	2.0	0.56	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.65	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.90	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.54	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.53	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.53	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.84	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.79	ug/l	
	m,p-Xylene	ND	1.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.59	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-5		
Lab Sample ID:	JC98692-10	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	93%		80-120%

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	YP-5		
Lab Sample ID:	JC98692-10	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101941.D	1	11/20/19 17:05	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	95%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	YP-5		
Lab Sample ID:	JC98692-10	**Date Sampled:**	11/13/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78149.D	1	11/20/19 07:08	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	64%		22-140%
438-22-2	5a-Androstane	45%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

GW

CHAIN OF CUSTODY

ACCUTEST Laboratories
2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

Page 1 of 1

FED-EX Tracking #
Bottle Order Control # JW-06419-209
Accutest Quote #
Accutest Job # JC98692

Client / Reporting Information

Company Name: EMS Environmental, Inc.
Address: 4550 Bath Pike
City: Bethlehem State: PA Zip: 18017
Project Contact: Jeremy Fox E-mail: jfox@emsserv.com
Phone #: 610-866-7799
Samplers's Name: Robert Lloyd

Project Information

Project Name: Former Hess 20204
Street: 1613 E Joppa Road
City: Towson State: MD
Project #: 5713
Fax #: 610-866-8195
Client Purchase Order #: 5713

Requested Analysis

Matrix Codes: DW- Drinking Water; GW- Ground Water; WW- Water; SW- Surface Water; SO- Soil; SL-Sludge; OI-Oil; LIQ- Other Liquid; AIR- Air; SOL-Other Solid; WP-Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: IC	MeOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	8260 ☐ 624 ☐ 8021 ☐ 602 ☐ BTEX ☐ MTBE ☐ TBA ☐ NAP ☐	8260 ☐ 624 ☐ TCL ☐ PPL ☐ STARS ☐ MTBE ☐ TBA ☐ NAP ☐ +10 ☐ +15 ☐	8270 ☐ 625 ☐ TCL ☐ PPL ☐ STARS ☐ ABN ☐ AED BND PAH ☐ +TICs ☐	Full Scan VOC's + Fuel Oxygenates by 8260B	TPH-GRO by 8015B	TPH-DRO by 8015B						LAB USE ONLY
1	MW-4		11/13/2019	15:00		GW	7	7										X	X	X						
2	MW-7		11/13/2019	14:30		GW	7	7										X	X	X						E15
3	YMW-1		11/13/2019	11:30		GW	7	7										X	X	X						V371
4	YMW-2		11/13/2019	12:15		GW	7	7										X	X	X						
5	YMW-3		11/13/2019	11:50		GW	7	7										X	X	X						
6	YMW-4		11/13/2019	13:00		GW	7	7										X	X	X						
7	YMW-8		11/13/2019	12:40		GW	7	7										X	X	X						
8	YP-1		11/13/2019	13:45		GW	7	7										X	X	X						
9	YP-2		11/13/2019	14:10		GW	7	7										X	X	X						
10	YP-5		11/13/2019	13:20		GW	7	7										X	X	X						

Turnaround Time (Business days)

- ☐ Std. 15 Business Days — Approved By:/ Date:
- ☐ 10 Day *RUSH*
- ☐ 5 Day *RUSH*
- ☐ 3 Day *EMERGENCY*
- ☐ 2 Day *EMERGENCY*
- ☐ 1 Day *EMERGENCY*
- [x] Other 14 Day Hess Standard

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [X] Commercial "A"
- ☐ Commercial "B"
- ☐ NJ Reduced
- ☐ NJ Full
- ☐ Other Full TIER 1
- ☐ FULL CLP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format

Commercial "A" = Results Only

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Brad Kelly	11-15-19 08:00	1	2	11/15/19 1320	2 P Shah
Relinquished by: 3 P Shah	Date Time: 11/15/19 18:50	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☑	On Ice ☒ Cooler Temp. 3.4 °C 3.3

JC98692: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC98692 **Client:** EMS ENVIRONMENTAL, INC. **Project:** HESS #20204, 1613 EAST JOPPA ROAD, TOWS

Date / Time Received: 11/15/2019 6:50:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4); Cooler 2: (3.3);

Cooler Temps (Corrected) °C: Cooler 1: (3.2); Cooler 2: (3.1);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	2	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JC98692: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

EMS Environmental, Inc.

HESS #20204, 1613 East Joppa Road, Towson, MD

5713

SGS Job Number: JC96122

Sampling Date: 10/01/19

Report to:

EMS Environmental, Inc.

rlloyd@emsenv.com

ATTN: Robert Lloyd

Total number of pages in report: 17

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Beth Wasserman 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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SGS LabLink@1057382 14:34 12-Nov-2019

Sample Summary

EMS Environmental, Inc.

Job No: JC96122

HESS #20204, 1613 East Joppa Road, Towson, MD
Project No: 5713

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC96122-1	10/01/19	12:20	BR	10/03/19	AQ	Influent	INF
JC96122-2	10/01/19	12:10	BR	10/03/19	AQ	Water	MID
JC96122-3	10/01/19	12:00	BR	10/03/19	AQ	Effluent	EFF

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

Summary of Hits

Job Number: JC96122
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 10/01/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC96122-1	**INF**					
Benzene		4.1	0.50	0.43	ug/l	SW846 8260C
Toluene		4.3	1.0	0.53	ug/l	SW846 8260C
Ethylbenzene		10.6	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		71.9	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		2.6	1.0	0.51	ug/l	SW846 8260C
Naphthalene		29.4	5.0	0.98	ug/l	SW846 8260C
TPH-GRO (C6-C10)		1.25	0.20	0.042	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.625	0.083	0.053	mg/l	SW846 8015D
JC96122-2	**MID**					
Benzene		0.50	0.50	0.43	ug/l	SW846 8260C
Ethylbenzene		0.72 J	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		3.3	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		0.92 J	1.0	0.51	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.205	0.20	0.042	mg/l	SW846 8015D
JC96122-3	**EFF**					
Methyl Tert Butyl Ether		0.84 J	1.0	0.51	ug/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC96122-1	**Date Sampled:**	10/01/19
Matrix:	AQ - Influent	**Date Received:**	10/03/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A194981.D	1	10/09/19 04:28	CSF	n/a	n/a	V1A8394
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4.1	0.50	0.43	ug/l	
108-88-3	Toluene	4.3	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	10.6	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	71.9	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.6	1.0	0.51	ug/l	
91-20-3	Naphthalene	29.4	5.0	0.98	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		80-120%
17060-07-0	1,2-Dichloroethane-D4	106%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	104%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC96122-1	**Date Sampled:**	10/01/19
Matrix:	AQ - Influent	**Date Received:**	10/03/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101847.D	1	10/07/19 10:39	XPL	n/a	n/a	GLM4228
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	1.25	0.20	0.042	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	93%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC96122-1	**Date Sampled:**	10/01/19
Matrix:	AQ - Influent	**Date Received:**	10/03/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y99437.D	1	10/08/19 15:40	SH	10/08/19 10:00	OP23205	G2Y3788
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.625	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		22-140%
438-22-2	5a-Androstane	87%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC96122-2	**Date Sampled:**	10/01/19
Matrix:	AQ - Water	**Date Received:**	10/03/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A194982.D	1	10/09/19 04:53	CSF	n/a	n/a	V1A8394
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.50	0.50	0.43	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	0.72	1.0	0.60	ug/l	J
1330-20-7	Xylene (total)	3.3	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.92	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	0.98	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		80-120%
17060-07-0	1,2-Dichloroethane-D4	107%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	106%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC96122-2	**Date Sampled:**	10/01/19
Matrix:	AQ - Water	**Date Received:**	10/03/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101846.D	1	10/07/19 10:10	XPL	n/a	n/a	GLM4228
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.205	0.20	0.042	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	93%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC96122-2	**Date Sampled:**	10/01/19
Matrix:	AQ - Water	**Date Received:**	10/03/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y99438.D	1	10/08/19 16:15	SH	10/08/19 10:00	OP23205	G2Y3788
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		22-140%
438-22-2	5a-Androstane	85%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC96122-3	**Date Sampled:**	10/01/19
Matrix:	AQ - Effluent	**Date Received:**	10/03/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1A194973.D	1	10/09/19 01:10	CSF	n/a	n/a	V1A8394
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.84	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	0.98	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		80-120%
17060-07-0	1,2-Dichloroethane-D4	107%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	108%		80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC96122-3	**Date Sampled:**	10/01/19
Matrix:	AQ - Effluent	**Date Received:**	10/03/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101845.D	1	10/07/19 09:42	XPL	n/a	n/a	GLM4228
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.042	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	93%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC96122-3	**Date Sampled:**	10/01/19
Matrix:	AQ - Effluent	**Date Received:**	10/03/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y99439.D	1	10/08/19 16:49	SH	10/08/19 10:00	OP23205	G2Y3788
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		22-140%
438-22-2	5a-Androstane	80%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

WW

CHAIN OF CUSTODY

ACCUTEST Laboratories

2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

Page 1

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: JC96122

Client / Reporting Information

Company Name: EMS Environmental, Inc.
Address: 4550 Bath Pike
City: Bethlehem State: PA Zip: 18017
Project Contact: Jeremy Fox E-mail: jfox@emsenv.com
Phone #: 610-866-7799
Samplers's Name: Brad Rohrbaugh

Project Information

Project Name: Former Hess - 20204
Street: 1613 E. Joppa Road
City: Towson State: MD
Project #: 5713
Fax #: 610-866-8195
Client Purchase Order #: 5713

Requested Analysis

624 ☐ 8021 ☐ 602 ☐ 8260 ☐ BTEX ☐ MTBE ☐ TBA☐ NAP ☐
8260 ☐ 624 ☐ TCL ☐ PPL ☐ STARS ☐ MTBE ☐ TBA ☐ NAP☐ +10 ☐ +15 ☐
8270 ☐ 625 ☐ TCL ☐ PPL ☐ STARS☐ ABN☐ AEO BN☐ PAH☐ +TICs☐
BTEX, MTBE and Naphthalene by 8260B
TPH-GRO by 8015B
TPH-DRO by 8015B

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL- Sludge
OI- Oil
LIQ- Other Liquid
AIR- Air
SOL- Other Solid
WP- Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	8260 BTEX MTBE TBA NAP	8260 624 TCL PPL STARS MTBE TBA NAP +10 +15	8270 625 TCL PPL STARS ABN AEO BN PAH +TICs	BTEX, MTBE and Naphthalene by 8260B	TPH-GRO by 8015B	TPH-DRO by 8015B						LAB USE ONLY
1	INF		10/1/2019	1220	BR	WW	7	7											X	X	X						E105
2	MID		10/1/2019	1210	BR	WW	7	7											X	X	X						V1155
3	EFF		10/1/2019	1200	BR	WW	7	7											X	X	X						

INITIAL ASSESSMENT YB 10/3
LABEL VERIFICATION

Turnaround Time (Business days)

- ☐ Std. 15 Business Days — Approved By:/ Date:
- ☐ 10 Day *RUSH*
- ☐ 5 Day *RUSH*
- ☐ 3 Day *EMERGENCY*
- ☐ 2 Day *EMERGENCY*
- ☐ 1 Day *EMERGENCY*
- [X] Other 14 Day Hess Standard

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [X] Commercial "A"
- ☐ Commercial "B"
- ☐ NJ Reduced
- ☐ NJ Full
- ☐ Other Full TIER 1
- ☐ FULL CLP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format_____

Commercial "A" = Results Only

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Brad Rohrbaugh	10-3-19 0800	1	2	10/3/19	2
Relinquished By: 3	Date Time: 10/3/19 15:45	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 4.1°C

IR-7

JC96122: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC96122 **Client:** _____ **Project:** _____

Date / Time Received: 10/3/2019 3:45:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (4.1);

Cooler Temps (Corrected) °C: Cooler 1: (4.0);

Cooler Security	Y	or N		Y	or N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	or N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	or N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	or N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	or N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	or N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JC96122: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

EMS Environmental, Inc.

HESS #20204, 1613 East Joppa Road, Towson, MD

5713

SGS Job Number: JC96541

Sampling Date: 10/09/19

Report to:

EMS Environmental, Inc.

rlloyd@emsenv.com

ATTN: Robert Lloyd

Total number of pages in report: 17

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Beth Wasserman 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

SGS North America Inc. • 2235 Route 130 • Dayton, NJ 08810 • tel: 732-329-0200 • fax: 732-329-3499

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how we can serve you better at:
EHS.US.CustomerCare@sgs.com

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SGS LabLink@1057382 14:33 12-Nov-2019

Sample Summary

EMS Environmental, Inc.

Job No: JC96541

HESS #20204, 1613 East Joppa Road, Towson, MD
Project No: 5713

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC96541-1	10/09/19	11:20	BR	10/10/19	AQ	Influent	INF
JC96541-2	10/09/19	11:10	BR	10/10/19	AQ	Ground Water	MID
JC96541-3	10/09/19	11:00	BR	10/10/19	AQ	Effluent	EFF

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

Summary of Hits

Job Number: JC96541
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 10/09/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC96541-1	**INF**					
Benzene		3.6	0.50	0.43	ug/l	SW846 8260C
Toluene		2.9	1.0	0.53	ug/l	SW846 8260C
Ethylbenzene		19.1	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		57.0	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		2.6	1.0	0.51	ug/l	SW846 8260C
Naphthalene		23.2	5.0	0.98	ug/l	SW846 8260C
TPH-GRO (C6-C10)		1.24	0.20	0.042	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.386	0.083	0.053	mg/l	SW846 8015D
JC96541-2	**MID**					
Benzene		0.96	0.50	0.43	ug/l	SW846 8260C
Toluene		0.56 J	1.0	0.53	ug/l	SW846 8260C
Ethylbenzene		2.4	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		8.1	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		0.87 J	1.0	0.51	ug/l	SW846 8260C
Naphthalene		2.0 J	5.0	0.98	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.282	0.20	0.042	mg/l	SW846 8015D
JC96541-3	**EFF**					
Benzene		0.48 J	0.50	0.43	ug/l	SW846 8260C
Xylene (total)		1.0	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		0.85 J	1.0	0.51	ug/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC96541-1	**Date Sampled:**	10/09/19
Matrix:	AQ - Influent	**Date Received:**	10/10/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3B156427.D	1	10/18/19 00:19	JP	n/a	n/a	V3B7031
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3.6	0.50	0.43	ug/l	
108-88-3	Toluene	2.9	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	19.1	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	57.0	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.6	1.0	0.51	ug/l	
91-20-3	Naphthalene	23.2	5.0	0.98	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		80-120%
17060-07-0	1,2-Dichloroethane-D4	103%		81-124%
2037-26-5	Toluene-D8	92%		80-120%
460-00-4	4-Bromofluorobenzene	86%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC96541-1	**Date Sampled:**	10/09/19
Matrix:	AQ - Influent	**Date Received:**	10/10/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF153027.D	1	10/15/19 11:10	XPL	n/a	n/a	GPF4998
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	1.24	0.20	0.042	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC96541-1	**Date Sampled:**	10/09/19
Matrix:	AQ - Influent	**Date Received:**	10/10/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y99557.D	1	10/16/19 18:02	SH	10/16/19 10:00	OP23325	G2Y3791
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.386	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	75%		22-140%
438-22-2	5a-Androstane	75%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC96541-2	**Date Sampled:**	10/09/19
Matrix:	AQ - Ground Water	**Date Received:**	10/10/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3B156426.D	1	10/17/19 23:51	JP	n/a	n/a	V3B7031
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.96	0.50	0.43	ug/l	
108-88-3	Toluene	0.56	1.0	0.53	ug/l	J
100-41-4	Ethylbenzene	2.4	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	8.1	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.87	1.0	0.51	ug/l	J
91-20-3	Naphthalene	2.0	5.0	0.98	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		80-120%
17060-07-0	1,2-Dichloroethane-D4	106%		81-124%
2037-26-5	Toluene-D8	93%		80-120%
460-00-4	4-Bromofluorobenzene	87%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC96541-2	**Date Sampled:**	10/09/19
Matrix:	AQ - Ground Water	**Date Received:**	10/10/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF153026.D	1	10/15/19 10:43	XPL	n/a	n/a	GPF4998
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.282	0.20	0.042	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	106%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC96541-2	**Date Sampled:**	10/09/19
Matrix:	AQ - Ground Water	**Date Received:**	10/10/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y99555.D	1	10/16/19 16:42	SH	10/16/19 10:00	OP23325	G2Y3791
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%		22-140%
438-22-2	5a-Androstane	73%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC96541-3	**Date Sampled:**	10/09/19
Matrix:	AQ - Effluent	**Date Received:**	10/10/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3B156424.D	1	10/17/19 22:55	JP	n/a	n/a	V3B7031
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.48	0.50	0.43	ug/l	J
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	1.0	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.85	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	0.98	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		80-120%
17060-07-0	1,2-Dichloroethane-D4	110%		81-124%
2037-26-5	Toluene-D8	90%		80-120%
460-00-4	4-Bromofluorobenzene	86%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC96541-3	**Date Sampled:**	10/09/19
Matrix:	AQ - Effluent	**Date Received:**	10/10/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF153036.D	1	10/15/19 15:30	XPL	n/a	n/a	GPF4998
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.042	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	110%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC96541-3	**Date Sampled:**	10/09/19
Matrix:	AQ - Effluent	**Date Received:**	10/10/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y99556.D	1	10/16/19 17:18	SH	10/16/19 10:00	OP23325	G2Y3791
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	71%		22-140%
438-22-2	5a-Androstane	72%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

WW

CHAIN OF CUSTODY

ACCUTEST Laboratories

2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

Page 1

FED-EX Tracking #:
Bottle Order Control #: SW-0619-209
Accutest Quote #:
Accutest Job #: JC96541

Client / Reporting Information

Company Name: EMS Environmental, Inc.
Address: 4550 Bath Pike
City: Bethlehem State: PA Zip: 18017
Project Contact: Jeremy Fox E-mail: jfox@emsenv.com
Phone #: 610-866-7799
Samplers's Name: Brad Rohrbaugh

Project Information

Project Name: Former Hess - 20204
Street: 1613 E. Joppa Road
City: Towson State: MD
Project #: 5713
Fax #: 610-866-8195
Client Purchase Order #: 5713

Requested Analysis

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	MeOH	HNO3	NaOH	NONE	NaHSO4	NaEDA	ENCORE	8260 BTEX □ MTBE □ TBA □ NAP □	8260 □ 624 □ TCL □ PPL □ STARS □ MTBE □ TBA □ NAP □ +10 □ +15 □	8270 □ 625 □ TCL □ PPL □ STARS □ ABN □ AE □ BN □ PAH □ +TICs □	BTEX, MTBE and Naphthalene by 8260B	TPH-GRO by 8015B	TPH-DRO by 8015B						Matrix Codes: LAB USE ONLY
1	INF		10/9/2019	11:20	BR	WW	7	7											X	X	X						E67
2	MID		10/9/2019	11:10	BR	WW	7	7											X	X	X						V1216
3	EFF		10/9/2019	11:00	BR	WW	7	7											X	X	X						

Matrix Codes: DW- Drinking Water; GW- Ground Water; WW- Water; SW- Surface Water; SO- Soil; SL-Sludge; OI-Oil; LIQ- Other Liquid; AIR- Air; SOL-Other Solid; WP-Wipe

INITIAL ASESSMENT 2-Bok

LABEL VERIFICATION_____

Turnaround Time (Business days)

- [ ] Std. 15 Business Days
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [X] Other 14 Day Hess Standard

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [X] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] Other Full TIER 1
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format_____

Commercial "A" = Results Only

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	[signature]	10/10/19	[signature]	[signature]	10/10/19	[signature] 10/10/19 1130
2						
3	[signature] 10/10/19	1513				
4						
5						

Custody Seal #: Preserved where applicable: ☐ On Ice: ☐ Cooler Temp.: 3.3

JC96541: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC96541 **Client:** EMS ENVIRONMENTAL, INC. **Project:** HESS #20204, 1613 EAST JOPPA ROAD, TOW

Date / Time Received: 10/10/2019 3:13:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.3);

Cooler Temps (Corrected) °C: Cooler 1: (3.2);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JC96541: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

EMS Environmental, Inc.

HESS #20204, 1613 East Joppa Road, Towson, MD

5713

SGS Job Number: JC98693

Sampling Date: 11/14/19

Report to:

EMS Environmental, Inc.
4550 Bath Pike
Bethlehem, PA 18017
jfox@emsenv.com

ATTN: Jeremy Fox

Total number of pages in report: 17

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Beth Wasserman 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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3.3: JC98693-3: EFF 12
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SGS North America Inc.

Sample Summary

EMS Environmental, Inc.

Job No: JC98693

HESS #20204, 1613 East Joppa Road, Towson, MD
Project No: 5713

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC98693-1	11/14/19	12:00	BR	11/15/19	AQ	Influent	INF
JC98693-2	11/14/19	11:50	BR	11/15/19	AQ	Ground Water	MID
JC98693-3	11/14/19	11:40	BR	11/15/19	AQ	Effluent	EFF

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

Summary of Hits

Job Number: JC98693
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 11/14/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC98693-1	**INF**					
Benzene		2.7	0.50	0.43	ug/l	SW846 8260C
Toluene		3.6	1.0	0.53	ug/l	SW846 8260C
Ethylbenzene		37.0	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		104	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		3.4	1.0	0.51	ug/l	SW846 8260C
Naphthalene		45.1	5.0	2.5	ug/l	SW846 8260C
TPH-GRO (C6-C10)		1.47	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.628	0.083	0.053	mg/l	SW846 8015D
JC98693-2	**MID**					
Xylene (total)		1.6	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		0.88 J	1.0	0.51	ug/l	SW846 8260C
JC98693-3	**EFF**					
Methyl Tert Butyl Ether		0.59 J	1.0	0.51	ug/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC98693-1	**Date Sampled:**	11/14/19
Matrix:	AQ - Influent	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V63376.D	1	11/23/19 04:25	DG	n/a	n/a	V2V2610
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.7	0.50	0.43	ug/l	
108-88-3	Toluene	3.6	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	37.0	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	104	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	3.4	1.0	0.51	ug/l	
91-20-3	Naphthalene	45.1	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		80-120%
17060-07-0	1,2-Dichloroethane-D4	97%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	102%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC98693-1	**Date Sampled:**	11/14/19
Matrix:	AQ - Influent	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101944.D	1	11/20/19 18:18	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	1.47	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	96%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC98693-1	**Date Sampled:**	11/14/19
Matrix:	AQ - Influent	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78150.D	1	11/20/19 07:42	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.628	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		22-140%
438-22-2	5a-Androstane	45%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC98693-2	**Date Sampled:**	11/14/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V63377.D	1	11/23/19 04:51	DG	n/a	n/a	V2V2610
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	1.6	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.88	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC98693-2	**Date Sampled:**	11/14/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101943.D	1	11/20/19 17:56	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	94%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC98693-2	**Date Sampled:**	11/14/19
Matrix:	AQ - Ground Water	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78151.D	1	11/20/19 08:16	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	58%		22-140%
438-22-2	5a-Androstane	44%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC98693-3	**Date Sampled:**	11/14/19
Matrix:	AQ - Effluent	**Date Received:**	11/15/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2V63364.D	1	11/22/19 23:18	DG	n/a	n/a	V2V2610
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.59	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		80-120%
17060-07-0	1,2-Dichloroethane-D4	99%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	102%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC98693-3	**Date Sampled:**	11/14/19
Matrix:	AQ - Effluent	**Date Received:**	11/15/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM101942.D	1	11/20/19 17:27	XPL	n/a	n/a	GLM4233
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	96%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC98693-3	**Date Sampled:**	11/14/19
Matrix:	AQ - Effluent	**Date Received:**	11/15/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Z78152.D	1	11/20/19 08:50	SH	11/19/19 11:30	OP24095	G2Z2957
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		22-140%
438-22-2	5a-Androstane	55%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

Page 1

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: JC98693

Client / Reporting Information

Company Name: EMS Environmental, Inc.
Address: 4550 Bath Pike
City: Bethlehem State: PA Zip: 18017
Project Contact: Jeremy Fox E-mail: jfox@emsenv.com
Phone #: 610-866-7799
Samplers's Name: Brad Rohrbaugh

Project Information

Project Name: Former Hess - 20204
Street: 1613 E. Joppa Road
City: Towson State: MD
Project #: 5713
Fax #: 610-866-8195
Client Purchase Order #: 5713

Requested Analysis

624 ☐ 8021 ☐ 602 ☐ BTEX ☐ MTBE ☐ TBA☐ NAP ☐
8260 ☐ 624 ☐ TCL ☐ PPL ☐ STARS ☐ MTBE ☐ TBA ☐ NAP☐ +10 ☐ +15 ☐
8270 ☐ 625 ☐ TCL ☐ PPL ☐ STARS☐ ABN☐ AE☐ BN☐ PAH☐ +TIC☐
BTEX, MTBE and Naphthalene by 8260B
TPH-GRO by 8015B
TPH-DRO by 8015B

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL-Sludge
OI-Oil
LIQ- Other Liquid
AIR- Air
SOL-Other Solid
WP-Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	Na2S2O3	MEOH	ENCORE	8260 BTEX MTBE NAP	8260 TBA NAP +10 +15	8270 ABN AE BN PAH +TIC	BTEX, MTBE and Naphthalene by 8260B	TPH-GRO by 8015B	TPH-DRO by 8015B	LAB USE ONLY
1	INF		11/14/2019	12:00	BR	WW	7	7											X	X	X	
2	MID		11/14/2019	11:50	BR	WW	7	7											X	X	X	E83
3	EFF		11/14/2019	11:40	BR	WW	7	7											X	X	X	V372

Turnaround Time (Business days)

- ☐ Std. 15 Business Days
- ☐ 10 Day *RUSH*
- ☐ 5 Day *RUSH*
- ☐ 3 Day *EMERGENCY*
- ☐ 2 Day *EMERGENCY*
- ☐ 1 Day *EMERGENCY*
- ☒ Other 14 Day Hess Standard

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- ☒ Commercial "A"
- ☐ Commercial "B"
- ☐ NJ Reduced
- ☐ NJ Full
- ☐ Other Full TIER 1
- ☐ FULL CLP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format

Commercial "A" = Results Only

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Buddy Rohrbaugh	11-14-19 08:00	2	2	11/15/19 1320	2 P. Shah
Relinquished by: 3 P. Shah	Date Time: 11/15/19 18:50	Received By: 3 DH	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☑	On Ice ☑ Cooler Temp. 3.4C-P 3.3C-P

4.1
4

JC98693: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC98693 **Client:** _____ **Project:** _____

Date / Time Received: 11/15/2019 6:15:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4); Cooler 2: (3.3);

Cooler Temps (Corrected) °C: Cooler 1: (3.2); Cooler 2: (3.1);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JC98693: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

EMS Environmental, Inc.

HESS #20204, 1613 East Joppa Road, Towson, MD

5713

SGS Job Number: JC98988

Sampling Date: 11/19/19

Report to:

EMS Environmental, Inc.
4550 Bath Pike
Bethlehem, PA 18017
jfox@emsenv.com

ATTN: Jeremy Fox

Total number of pages in report: 17

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Beth Wasserman 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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3.3: JC98988-3: EFF 12
Section 4: Misc. Forms **15**
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SGS North America Inc.

Sample Summary

EMS Environmental, Inc.

Job No: JC98988

HESS #20204, 1613 East Joppa Road, Towson, MD
Project No: 5713

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC98988-1	11/19/19	13:20	BR	11/21/19	AQ	Influent	INF
JC98988-2	11/19/19	13:10	BR	11/21/19	AQ	Water	MID
JC98988-3	11/19/19	13:00	BR	11/21/19	AQ	Effluent	EFF

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

Summary of Hits

Job Number: JC98988
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 11/19/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC98988-1	**INF**					
Benzene		2.9	0.50	0.43	ug/l	SW846 8260C
Toluene		4.2	1.0	0.53	ug/l	SW846 8260C
Ethylbenzene		43.2	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		117	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		3.4	1.0	0.51	ug/l	SW846 8260C
Naphthalene		47.5	5.0	2.5	ug/l	SW846 8260C
TPH-GRO (C6-C10)		1.33	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.646	0.083	0.053	mg/l	SW846 8015D
JC98988-2	**MID**					
Xylene (total)		0.79 J	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		0.78 J	1.0	0.51	ug/l	SW846 8260C
TPH-DRO (C10-C28)		0.0922	0.083	0.053	mg/l	SW846 8015D
JC98988-3	**EFF**					
Benzene		0.79	0.50	0.43	ug/l	SW846 8260C
Toluene		0.77 J	1.0	0.53	ug/l	SW846 8260C
Ethylbenzene		5.4	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		18.9	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		1.3	1.0	0.51	ug/l	SW846 8260C
Naphthalene		5.4	5.0	2.5	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.309	0.20	0.10	mg/l	SW846 8015D

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC98988-1	**Date Sampled:**	11/19/19
Matrix:	AQ - Influent	**Date Received:**	11/21/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D98392.D	1	12/03/19 10:38	JP	n/a	n/a	V4D4351
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.9	0.50	0.43	ug/l	
108-88-3	Toluene	4.2	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	43.2	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	117	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	3.4	1.0	0.51	ug/l	
91-20-3	Naphthalene	47.5	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		80-120%
17060-07-0	1,2-Dichloroethane-D4	106%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	104%		80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC98988-1	**Date Sampled:**	11/19/19
Matrix:	AQ - Influent	**Date Received:**	11/21/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM102025.D	1	11/25/19 10:27	XPL	n/a	n/a	GLM4242
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	1.33	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	90%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC98988-1	**Date Sampled:**	11/19/19
Matrix:	AQ - Influent	**Date Received:**	11/21/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ94409.D	1	11/23/19 21:30	RK	11/23/19 10:00	OP24205	GZZ3407
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.646	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	74%		22-140%
438-22-2	5a-Androstane	79%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC98988-2	**Date Sampled:**	11/19/19
Matrix:	AQ - Water	**Date Received:**	11/21/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D98391.D	1	12/03/19 10:09	JP	n/a	n/a	V4D4351
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	0.79	1.0	0.59	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	0.78	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		80-120%
17060-07-0	1,2-Dichloroethane-D4	101%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	104%		80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC98988-2	**Date Sampled:**	11/19/19
Matrix:	AQ - Water	**Date Received:**	11/21/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM102024.D	1	11/25/19 09:58	XPL	n/a	n/a	GLM4242
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	87%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC98988-2	**Date Sampled:**	11/19/19
Matrix:	AQ - Water	**Date Received:**	11/21/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ94410.D	1	11/23/19 22:04	RK	11/23/19 10:00	OP24205	GZZ3407
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.0922	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	65%		22-140%
438-22-2	5a-Androstane	69%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC98988-3	**Date Sampled:**	11/19/19
Matrix:	AQ - Effluent	**Date Received:**	11/21/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E157725.D	1	11/23/19 17:20	MD	n/a	n/a	V2E7006
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.79	0.50	0.43	ug/l	
108-88-3	Toluene	0.77	1.0	0.53	ug/l	J
100-41-4	Ethylbenzene	5.4	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	18.9	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.3	1.0	0.51	ug/l	
91-20-3	Naphthalene	5.4	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		80-120%
17060-07-0	1,2-Dichloroethane-D4	109%		81-124%
2037-26-5	Toluene-D8	99%		80-120%
460-00-4	4-Bromofluorobenzene	98%		80-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC98988-3	**Date Sampled:**	11/19/19
Matrix:	AQ - Effluent	**Date Received:**	11/21/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM102023.D	1	11/25/19 09:36	XPL	n/a	n/a	GLM4242
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.309	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	89%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC98988-3	**Date Sampled:**	11/19/19
Matrix:	AQ - Effluent	**Date Received:**	11/21/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ94411.D	1	11/23/19 22:38	RK	11/23/19 10:00	OP24205	GZZ3407
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	64%		22-140%
438-22-2	5a-Androstane	68%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST laboratories
2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499 3480

Page 1

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: JC98988

Client / Reporting Information

Company Name: EMS Environmental, Inc.
Address: 4550 Bath Pike
City: Bethlehem State: PA Zip: 18017
Project Contact: Jeremy Fox E-mail: jfox@emsenv.com
Phone #: 610-866-7799
Samplers's Name: Brad Rohrbaugh

Project Information

Project Name: Former Hess - 20204
Street: 1613 E. Joppa Road
City: Towson State: MD
Project #: 5713
Fax #: 610-866-8195
Client Purchase Order #: 5713

Requested Analysis

8260 ☐ 624 ☐ 8021 ☐ 602 ☐ BTEX ☐ MTBE ☐ TBA☐ NAP ☐
8260 ☐ 624 ☐ TCL ☐ PPL ☐ STARS ☐ MTBE ☐ TBA ☐ NAP☐ +10 ☐ +15 ☐
8270 ☐ 625 ☐ TCL ☐ PPL ☐ STARS☐ ABN☐ AE☐ BN☐ PAH☐ +TICs☐

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL- Sludge
OI- Oil
LIQ- Other Liquid
AIR- Air
SOL- Other Solid
WP- Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	Na2S2O3	MEOH	ENCORE	BTEX, MTBE and Naphthalene by 8260B	TPH-GRO by 8015B	TPH-DRO by 8015B	LAB USE ONLY
1	INF		11/19/2019	1320	BR	WW	7	7								X	X	X	
2	MID		11/19/2019	1310	BR	WW	7	7								X	X	X	
3	EFF		11/19/2019	1300	BR	WW	7	7								X	X	X	

EIR
VHB

Turnaround Time (Business days)

- [ ] Std. 15 Business Days — Approved By:/ Date:
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [X] Other 14 Day Hess Standard

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [X] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] Other Full TIER 1
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format

Commercial "A" = Results Only

Comments / Remarks

300mL HCL DRO

Sample Custody — Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler	Date Time	Received By	Relinquished By	Date Time	Received By
1 [signature]	11/21-19 08:00	1	2	11/21/19 12:45	2 [signature]
3 [signature]	11/21/19 14:05	3 [signature]	4		4
5		5			

INITIAL ASSESSMENT [signature]

LABEL VERIFICATION _____

Business Days: Preserved where applicable ☐ On Ice ☒ Cooler Temp. 3.1C-P

4.1
4

JC98988: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC98988 **Client:** _____ **Project:** _____

Date / Time Received: 11/21/2019 2:05:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.1);

Cooler Temps (Corrected) °C: Cooler 1: (2.9);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JC98988: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

EMS Environmental, Inc.

HESS #20204, 1613 East Joppa Road, Towson, MD

5713

SGS Job Number: JC99786

Sampling Date: 12/04/19

Report to:

EMS Environmental, Inc.
4550 Bath Pike
Bethlehem, PA 18017
jfox@emsenv.com

ATTN: Jeremy Fox

Total number of pages in report: 17

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Beth Wasserman 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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3.3: JC99786-3: EFF 12
Section 4: Misc. Forms **15**
4.1: Chain of Custody 16

SGS North America Inc.

Sample Summary

EMS Environmental, Inc.

Job No: JC99786

HESS #20204, 1613 East Joppa Road, Towson, MD
Project No: 5713

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
This report contains results reported as ND = Not detected. The following applies:							
Organics ND	= Not detected above the MDL						
JC99786-1	12/04/19	13:10	BR	12/06/19	AQ	Influent	INF
JC99786-2	12/04/19	13:20	BR	12/06/19	AQ	Water	MID
JC99786-3	12/04/19	13:30	BR	12/06/19	AQ	Effluent	EFF

Summary of Hits

Job Number: JC99786
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 12/04/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC99786-1	**INF**					
Benzene		1.4	0.50	0.43	ug/l	SW846 8260C
Toluene		2.2	1.0	0.53	ug/l	SW846 8260C
Ethylbenzene		26.4	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		56.4	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		2.0	1.0	0.51	ug/l	SW846 8260C
Naphthalene		16.9	5.0	2.5	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.695	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.158	0.083	0.053	mg/l	SW846 8015D
JC99786-2	**MID**					
Ethylbenzene		2.7	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		7.5	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		0.76 J	1.0	0.51	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.150 J	0.20	0.10	mg/l	SW846 8015D
JC99786-3	**EFF**					
Methyl Tert Butyl Ether		0.67 J	1.0	0.51	ug/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC99786-1	**Date Sampled:**	12/04/19
Matrix:	AQ - Influent	**Date Received:**	12/06/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D98784.D	1	12/13/19 05:08	KC	n/a	n/a	V4D4367
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.4	0.50	0.43	ug/l	
108-88-3	Toluene	2.2	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	26.4	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	56.4	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.0	1.0	0.51	ug/l	
91-20-3	Naphthalene	16.9	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		80-120%
17060-07-0	1,2-Dichloroethane-D4	103%		81-124%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	104%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC99786-1	**Date Sampled:**	12/04/19
Matrix:	AQ - Influent	**Date Received:**	12/06/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM102259.D	1	12/11/19 09:53	XPL	n/a	n/a	GLM4254
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.695	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	100%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JC99786-1	**Date Sampled:**	12/04/19
Matrix:	AQ - Influent	**Date Received:**	12/06/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y100293.D	1	12/11/19 12:57	SH	12/10/19 12:30	OP24514	G2Y3825
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.158	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	75%		22-140%
438-22-2	5a-Androstane	62%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC99786-2	**Date Sampled:**	12/04/19
Matrix:	AQ - Water	**Date Received:**	12/06/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D98783.D	1	12/13/19 04:39	KC	n/a	n/a	V4D4367
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	2.7	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	7.5	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.76	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-120%
17060-07-0	1,2-Dichloroethane-D4	100%		81-124%
2037-26-5	Toluene-D8	101%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC99786-2	**Date Sampled:**	12/04/19
Matrix:	AQ - Water	**Date Received:**	12/06/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM102257.D	1	12/11/19 09:03	XPL	n/a	n/a	GLM4254
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.150	0.20	0.10	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JC99786-2	**Date Sampled:**	12/04/19
Matrix:	AQ - Water	**Date Received:**	12/06/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y100294.D	1	12/11/19 13:32	SH	12/10/19 12:30	OP24514	G2Y3825
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		22-140%
438-22-2	5a-Androstane	67%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC99786-3	**Date Sampled:**	12/04/19
Matrix:	AQ - Effluent	**Date Received:**	12/06/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D98770.D	1	12/12/19 22:27	KC	n/a	n/a	V4D4367
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.67	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		80-120%
17060-07-0	1,2-Dichloroethane-D4	100%		81-124%
2037-26-5	Toluene-D8	102%		80-120%
460-00-4	4-Bromofluorobenzene	102%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC99786-3	**Date Sampled:**	12/04/19
Matrix:	AQ - Effluent	**Date Received:**	12/06/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM102256.D	1	12/11/19 08:41	XPL	n/a	n/a	GLM4254
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JC99786-3	**Date Sampled:**	12/04/19
Matrix:	AQ - Effluent	**Date Received:**	12/06/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZZ94609.D	1	12/11/19 16:55	SH	12/11/19 09:00	OP24536	GZZ3417
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		22-140%
438-22-2	5a-Androstane	88%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories
2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

Page 1

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: JC99786

Client / Reporting Information

Company Name: EMS Environmental, Inc.
Address: 4550 Bath Pike
City: Bethlehem State: PA Zip: 18017
Project Contact: Jeremy Fox E-mail: jfox@emsenv.com
Phone #: 610-866-7799
Samplers's Name: Brad Rohrbaugh

Project Information

Project Name: Former Hess - 20204
Street: 1613 E Joppa Road
City: Towson State: MD
Project #: 5713
Fax #: 610-866-8195
Client Purchase Order #: 5713

Requested Analysis

8260 ☐ 624 ☐ 8021 ☐ 602 ☐ BTEX ☐ MTBE ☐ TBA☐ NAP ☐
8260 ☐ 624 ☐ TCL ☐ PPL ☐ STARS ☐ MTBE ☐ TBA ☐ NAP☐ +10 ☐ +15 ☐
8270 ☐ 625 ☐ TCL ☐ PPL ☐ STARS☐ ABN☐ ACE☐ BN☐ PAH☐ +TIC☐
BTEX, MTBE and Naphthalene by 8260B
TPH-GRO by 8015B
TPH-DRO by 8015B

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL- Sludge
OI- Oil
LIQ- Other Liquid
AIR- Air
SOL- Other Solid
WP- Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	BTEX, MTBE and Naphthalene by 8260B	TPH-GRO by 8015B	TPH-DRO by 8015B	LAB USE ONLY
1	INF		12/4/2019	1310	BR	WW	7	7								X	X	X	
2	MID		12/4/2019	1320	BR	WW	7	7								X	X	X	
3	EFF		12/4/2019	1330	BR	WW	7	7								X	X	X	

E78
V570

INITIAL ASSESSMENT IBYH
LABEL VERIFICATION

Turnaround Time (Business days)

- ☐ Std. 15 Business Days
- ☐ 10 Day *RUSH*
- ☐ 5 Day *RUSH*
- ☐ 3 Day *EMERGENCY*
- ☐ 2 Day *EMERGENCY*
- ☐ 1 Day *EMERGENCY*
- X Other 14 Day Hess Standard

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- X Commercial "A"
- ☐ Commercial "B"
- ☐ NJ Reduced
- ☐ NJ Full
- ☐ Other Full TIER 1
- ☐ FULL CLP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format

Commercial "A" = Results Only

Comments / Remarks

2x300mL HCL EXT

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	12-6-19	1	2		2
Relinquished by: 3	Date Time: 12/6/19 1712	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished By: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 2.1°C IR

IR-7

JC99786: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JC99786 **Client:** _____ **Project:** _____

Date / Time Received: 12/6/2019 5:12:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (2.1);

Cooler Temps (Corrected) °C: Cooler 1: (1.9);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JC99786: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

EMS Environmental, Inc.

HESS #20204, 1613 East Joppa Road, Towson, MD

5713

SGS Job Number: JD325

Sampling Date: 12/11/19

Report to:

EMS Environmental, Inc.
4550 Bath Pike
Bethlehem, PA 18017
jfox@emsenv.com

ATTN: Jeremy Fox

Total number of pages in report: 17

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Beth Wasserman 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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SGS North America Inc.

Sample Summary

EMS Environmental, Inc.

Job No: JD325

HESS #20204, 1613 East Joppa Road, Towson, MD
Project No: 5713

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD325-1	12/11/19	13:05	BR	12/13/19	AQ	Influent	INF
JD325-2	12/11/19	12:55	BR	12/13/19	AQ	Water	MID
JD325-3	12/11/19	12:45	BR	12/13/19	AQ	Effluent	EFF

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

Summary of Hits

Job Number: JD325
Account: EMS Environmental, Inc.
Project: HESS #20204, 1613 East Joppa Road, Towson, MD
Collected: 12/11/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD325-1	**INF**					
Benzene		1.7	0.50	0.43	ug/l	SW846 8260C
Toluene		2.6	1.0	0.53	ug/l	SW846 8260C
Ethylbenzene		31.5	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		62.4	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		2.0	1.0	0.51	ug/l	SW846 8260C
Naphthalene		19.4	5.0	2.5	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.778	0.20	0.10	mg/l	SW846 8015D
TPH-DRO (C10-C28)		0.334	0.083	0.053	mg/l	SW846 8015D
JD325-2	**MID**					
Benzene		0.45 J	0.50	0.43	ug/l	SW846 8260C
Ethylbenzene		3.9	1.0	0.60	ug/l	SW846 8260C
Xylene (total)		8.7	1.0	0.59	ug/l	SW846 8260C
Methyl Tert Butyl Ether		0.72 J	1.0	0.51	ug/l	SW846 8260C
TPH-GRO (C6-C10)		0.168 J	0.20	0.10	mg/l	SW846 8015D
JD325-3	**EFF**					
Methyl Tert Butyl Ether		0.62 J	1.0	0.51	ug/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JD325-1	**Date Sampled:**	12/11/19
Matrix:	AQ - Influent	**Date Received:**	12/13/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D99033.D	1	12/21/19 03:52	KC	n/a	n/a	V4D4378
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.7	0.50	0.43	ug/l	
108-88-3	Toluene	2.6	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	31.5	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	62.4	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.0	1.0	0.51	ug/l	
91-20-3	Naphthalene	19.4	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		80-120%
17060-07-0	1,2-Dichloroethane-D4	90%		81-124%
2037-26-5	Toluene-D8	98%		80-120%
460-00-4	4-Bromofluorobenzene	100%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JD325-1	**Date Sampled:**	12/11/19
Matrix:	AQ - Influent	**Date Received:**	12/13/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM102358.D	1	12/17/19 09:15	XPL	n/a	n/a	GLM4259
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.778	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	90%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	JD325-1	**Date Sampled:**	12/11/19
Matrix:	AQ - Influent	**Date Received:**	12/13/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y100384.D	1	12/18/19 14:01	SH	12/17/19 17:30	OP24667	G2Y3830
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.334	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	77%		22-140%
438-22-2	5a-Androstane	54%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JD325-2	**Date Sampled:**	12/11/19
Matrix:	AQ - Water	**Date Received:**	12/13/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D99034.D	1	12/21/19 04:21	KC	n/a	n/a	V4D4378
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.45	0.50	0.43	ug/l	J
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	3.9	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	8.7	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.72	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		80-120%
17060-07-0	1,2-Dichloroethane-D4	89%		81-124%
2037-26-5	Toluene-D8	98%		80-120%
460-00-4	4-Bromofluorobenzene	99%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JD325-2	**Date Sampled:**	12/11/19
Matrix:	AQ - Water	**Date Received:**	12/13/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM102357.D	1	12/17/19 08:54	XPL	n/a	n/a	GLM4259
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.168	0.20	0.10	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	90%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	MID		
Lab Sample ID:	JD325-2	**Date Sampled:**	12/11/19
Matrix:	AQ - Water	**Date Received:**	12/13/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y100385.D	1	12/18/19 14:35	SH	12/17/19 17:30	OP24667	G2Y3830
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	76%		22-140%
438-22-2	5a-Androstane	59%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JD325-3	**Date Sampled:**	12/11/19
Matrix:	AQ - Effluent	**Date Received:**	12/13/19
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4D99023.D	1	12/20/19 23:06	KC	n/a	n/a	V4D4378
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.43	ug/l	
108-88-3	Toluene	ND	1.0	0.53	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.59	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.62	1.0	0.51	ug/l	J
91-20-3	Naphthalene	ND	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		80-120%
17060-07-0	1,2-Dichloroethane-D4	89%		81-124%
2037-26-5	Toluene-D8	98%		80-120%
460-00-4	4-Bromofluorobenzene	101%		80-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JD325-3	**Date Sampled:**	12/11/19
Matrix:	AQ - Effluent	**Date Received:**	12/13/19
Method:	SW846 8015D	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LM102356.D	1	12/17/19 08:23	XPL	n/a	n/a	GLM4259
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	88%		55-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EFF		
Lab Sample ID:	JD325-3	**Date Sampled:**	12/11/19
Matrix:	AQ - Effluent	**Date Received:**	12/13/19
Method:	SW846 8015D SW846 3510C	**Percent Solids:**	n/a
Project:	HESS #20204, 1613 East Joppa Road, Towson, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y100386.D	1	12/18/19 15:09	SH	12/17/19 17:30	OP24667	G2Y3830
Run #2							

	Initial Volume	Final Volume
Run #1	300 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.083	0.053	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	76%		22-140%
438-22-2	5a-Androstane	59%		10-135%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

WW

CHAIN OF CUSTODY

ACCUTEST Laboratories

2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

Page 1

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: J D 325

Client / Reporting Information

Company Name: EMS Environmental, Inc.
Address: 4550 Bath Pike
City: Bethlehem State: PA Zip: 18017
Project Contact: Jeremy Fox E-mail: jfox@emsenv.com
Phone #: 610-866-7799
Samplers's Name: Brad Rohrbaugh

Project Information

Project Name: Former Hess - 20204
Street: 1613 E. Joppa Road
City: Towson State: MD
Project #: 5713
Fax #: 610-866-8195
Client Purchase Order #: 6713

Requested Analysis

8260 ☐ 524 ☐ 8021 ☐ 602 ☐ BTEX ☐ MTBE ☐ TBA☐ NAP ☐
8260 ☐ 624 ☐ TCL ☐ PPL ☐ STARS ☐ MTBE ☐ TBA ☐ NAP☐ +10 ☐ +15 ☐
8270 ☐ 625 ☐ TCL ☐ PPL ☐ STARS☐ ABN☐ AE☐ BN☐ PAH☐ +TICs☐

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL-Sludge
OI-Oil
LIQ- Other Liquid
AIR- Air
SOL-Other Solid
WP-Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	BTEX, MTBE and Naphthalene by 8260B	TPH-GRO by 8015B	TPH-DRO by 8015B	LAB USE ONLY
1	INF		12/11/2019	12:[illegible]	BR	WW	7	7							X	X	X	
2	MID		12/11/2019	1255	BR	WW	7	7							X	X	X	
3	EFF		12/11/2019	1245	BR	WW	7	7							X	X	X	

E64
V615

Turnaround Time (Business days)

- ☐ Std. 15 Business Days — Approved By:/ Date:
- ☐ 10 Day *RUSH*
- ☐ 5 Day *RUSH*
- ☐ 3 Day *EMERGENCY*
- ☐ 2 Day *EMERGENCY*
- ☐ 1 Day *EMERGENCY*
- ☒ Other 14 Day Hess Standard

Emergency T/A data available VIA Lablink

Data Deliverable Information

- ☒ Commercial "A"
- ☐ Commercial "B"
- ☐ NJ Reduced
- ☐ NJ Full
- ☐ Other Full TIER 1
- ☐ FULL CLP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format

Commercial "A" = Results Only

Comments / Remarks

INITIAL ASSESSMENT 3A DW

LABEL VERIFICATION

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	[signature]	1815 12-13-19	[signature]		12/13/19	[signature]
2						
3	Relinquished by: [signature]	Date Time: 12-13-19 1647	Received By:		Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable ☐	On Ice / Cooler Temp.

JR-7 ✓ Ip 3.4°C

HCL pH<2

JD325: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JD325 **Client:** _____ **Project:** _____

Date / Time Received: 12/13/2019 4:47:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (3.2);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JD325: Chain of Custody
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