



Advanced Environmental Concepts, Inc.

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*1751 Pulaski Hwy Havre de Grace, MD 21078 (410) 939-5550*

## **Monitoring Well Supplemental Sampling Report**

Site Location:

High's 98  
13522 Long Green Pike  
Baldwin, MD 21013

Facility I.D. No. 11022

Prepared For:

Herb Meade  
Environmental Director  
Carroll Motor Fuels  
18 Loveton Circle  
Sparks MD 21152

March 23, 2023

## **SIGNATURE SHEET**

*Prepared by:*

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## 1.0 Introduction

### 1.1 Purpose

This monitoring well (MW) sampling report has been prepared to satisfy the requirements set forth by the Maryland Department of the Environment (MDE) for the High's of Baltimore Store number 98 which is located at 13522 Long Green Pike Baldwin, MD 21013 referred to herein as the "site". This report was prepared for the purpose of summarizing groundwater sampling data after the repair and upgrade to MW-3's well head. The repair and upgrade of MW-3 was performed due to the observance of a fractured manhole cover allowing surface water to migrate into the manhole skirt possibly leading to the impact of groundwater.

## 2.0 Groundwater Sampling & Methods

### 2.1 Monitoring Well Sampling

On 03/03/2023 AEC personnel arrived on site to gauge and sample site monitoring well MW-3. Prior to sampling, the well was gauged for presence/absence of liquid phase hydrocarbons (LPH) as well as depth to groundwater with an electronic oil/water interface meter. LPH was not present. After gauging, MW-3 well was purged a total of three well volumes of water. Purged groundwater was treated with activated carbon prior to being discharged to the ground. After purging, groundwater was allowed to recover to a minimum of 90% pre purge levels prior to sample collection. Groundwater samples were collected using pre-packaged, single use, disposable bailers and placed in laboratory supplied VOAs and then placed in a cooler with ice and chain of custody record for delivery to the laboratory.

Groundwater samples collected were delivered to AEC's laboratory for chemical analysis. All samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8260 and for total petroleum hydrocarbons - diesel and gasoline range organics (TPH-DRO/GRO) by EPA Method 8015.

## 3.0 Results of Water Sampling

### 3.1 Groundwater Elevation

After the repair of MW-3, top of casing (TOC) measurements were surveyed using a Sokkia B Series Automatic Level and surveyors stick with gradations of 0.01 feet in order to provide correct groundwater elevation data for the site. The 03/03/23 data indicated the top of casing for MW-3 is now 471.65ft above sea level and the groundwater elevation was 466.82ft above sea level.

A site map which depicts groundwater elevation calculation data from measurements collected in January of 2023 is provided in Appendix A.

### 3.2 Monitoring Well Sampling Results

Method detectable concentrations of VOCs were observed in the groundwater samples collected on 03/03/2023. The following table summarizes the results for sampling which was performed in 2022 and 2023.

Date	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Total BTEX	TPH GRO
1/10/2022	<1	<1	<1	<1	<1	<40
1/10/2023	2.68	2.24	3.68	2.92	11.5	336
3/3/2023	7.15	9.21	38.8	11.4	66.6	760

Analytical results from the monitoring well sampling events are summarized in a monitoring well analytical table which can be found in Appendix B. A full Report of Analysis and Chain of Custody Record can be found in Appendix C.

#### **4.0 Future Activities**

AEC will sample the site's groundwater monitoring well network and domestic supply well on a quarterly frequency for one (1) year. The next quarterly sampling event is scheduled for May 2023.

After one year of quarterly sampling AEC, Inc. on behalf of Carroll Motor Fuels will request a site status letter from MDE's OCP.

#### **5.0 Limitations**

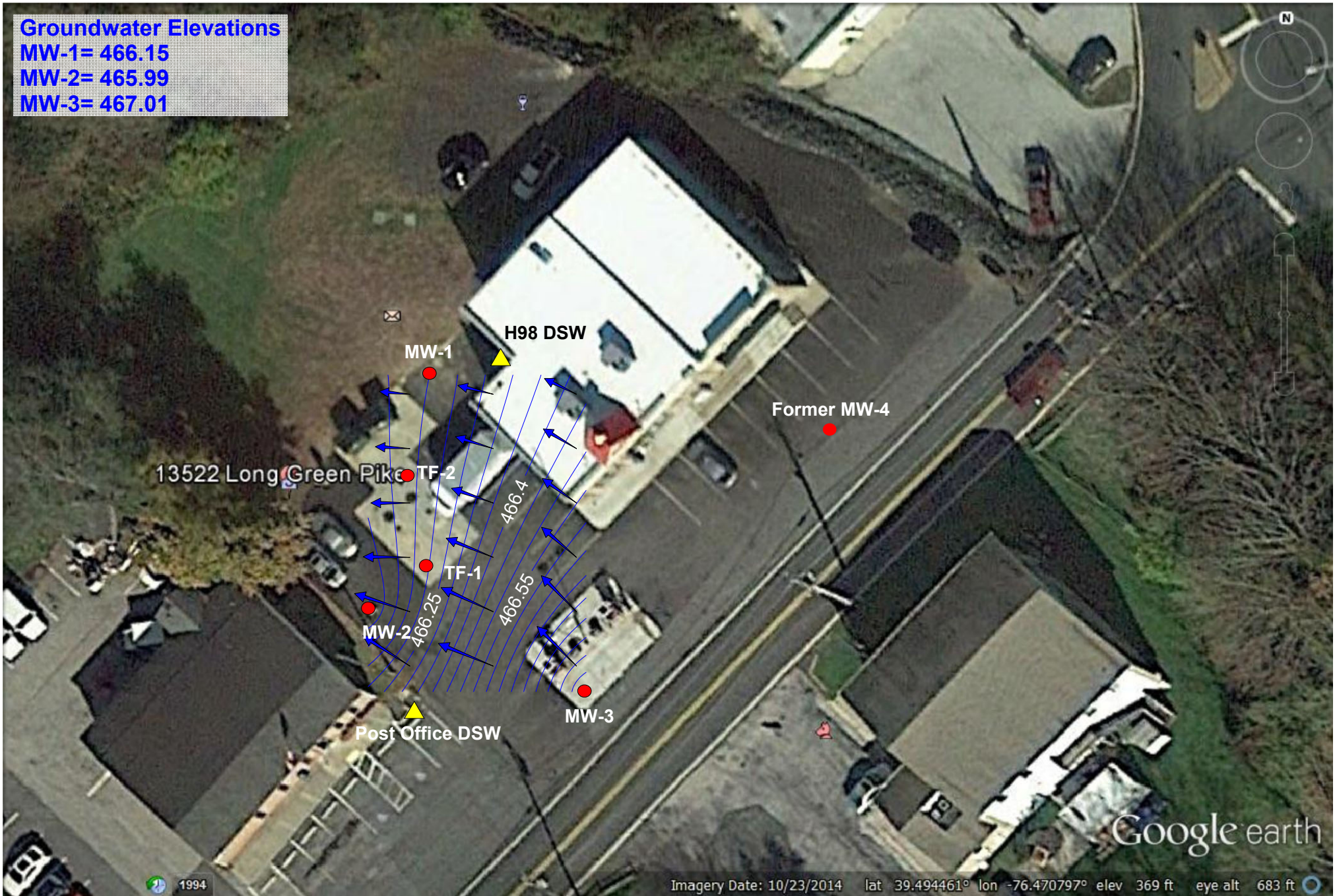
The scope of work is limited to the activities and results contained in this report. Industry standard hydro-geologic investigative procedures and protocol were used in order to complete the scope of work. No other warranty expressed or implied is made.

#### **6.0 Appendices**

**Appendix A**  
**Site Maps**



**Groundwater Elevations**  
MW-1= 466.15  
MW-2= 465.99  
MW-3= 467.01



**Appendix B**  
**Groundwater Gauging & Analytical Tables**



Historical Well Gauging Table  
 Highs Store 98  
 13522 Long Green Pike, Baldwin  
 Facility 11022  
 MDE Case No. 17-0166BA

MW ID	Date	Depth to Product (ft)	Depth to Groundwater (ft)	Product Thickness (ft)	Groundwater Elevation (ft)
MW-1	7/18/2007	NA	NA	ND	NA
TOC Elevation = 472.62	2/29/2008	NA	NA	ND	NA
	8/24/2008	NA	NA	ND	NA
	2/26/2009	NA	NA	ND	NA
	2/25/2010	NA	NA	ND	NA
	5/31/2011	ND	5.80	ND	466.82
	1/18/2013	ND	5.89	ND	466.73
	10/22/2013	ND	7.62	ND	465.00
	9/29/2014	ND	7.90	ND	464.72
	9/10/2015	ND	7.22	ND	465.40
	10/15/2015	ND	6.90	ND	465.72
	11/16/2015	ND	7.29	ND	465.33
	9/15/2016	ND	8.49	ND	464.13
	9/16/2016	ND	8.52	ND	464.10
	9/22/2016	ND	8.48	ND	464.14
	9/29/2016	ND	8.21	ND	464.41
	10/6/2016	ND	8.17	ND	464.45
	10/13/2016	ND	8.14	ND	464.48
	10/21/2016	ND	8.16	ND	464.46
	10/26/2016	ND	8.80	ND	463.82
	12/1/2016	ND	8.50	ND	464.12
	2/2/2017	ND	7.76	ND	464.86
	3/29/2017	ND	7.76	ND	464.86
	4/7/2017	ND	5.85	ND	466.77
	5/12/2017	ND	6.53	ND	466.09
	6/9/2017	ND	7.07	ND	465.55
	7/20/2017	ND	8.03	ND	464.59
	8/8/2017	ND	6.79	ND	465.83
	9/21/2017	ND	7.72	ND	464.90
	10/2/2017	ND	8.20	ND	464.42
	10/5/2017	ND	8.24	ND	464.38
	10/13/2017	ND	8.44	ND	464.18
	10/18/2017	ND	8.23	ND	464.39
	10/31/2017	ND	8.18	ND	464.44
	11/7/2017	ND	8.16	ND	464.46
	11/28/2017	ND	8.20	ND	464.42
	2/28/2018	ND	6.13	ND	466.49
	5/29/2018	ND	5.20	ND	467.42
	7/23/2018	ND	5.60	ND	467.02
	8/16/2018	ND	5.62	ND	467.00
	9/24/2018	ND	4.90	ND	467.72
	10/15/2018	ND	5.75	ND	466.87
	11/12/2018	ND	5.31	ND	467.31
	12/7/2018	ND	5.26	ND	467.36
	2/22/2019	ND	6.01	ND	466.61
	1/30/2020	ND	6.02	ND	466.60
	1/6/2021	ND	5.48	ND	467.14
	1/10/2022	ND	5.53	ND	467.09
	1/10/2023	ND	6.47	ND	466.15
472.62					

Historical Well Gauging Table  
 Highs Store 98  
 13522 Long Green Pike, Baldwin  
 Facility 11022  
 MDE Case No. 17-0166BA

MW ID	Date	Depth to Product (ft)	Depth to Groundwater (ft)	Product Thickness (ft)	Groundwater Elevation (ft)
MW-2	7/18/2007	NA	NA	ND	NA
TOC Elevation =	2/29/2008	NA	NA	ND	NA
471.13	8/24/2008	NA	NA	ND	NA
	2/26/2009	NA	NA	ND	NA
	2/25/2010	NA	NA	ND	NA
	5/31/2011	ND	5.68	ND	465.45
	1/18/2013	ND	4.15	ND	466.98
	10/22/2013	ND	5.83	ND	465.30
	9/29/2014	ND	5.98	ND	465.15
	9/10/2015	ND	5.79	ND	465.34
	10/15/2015	ND	5.48	ND	465.65
	11/16/2015	ND	5.90	ND	465.23
	9/15/2016	ND	6.82	ND	464.31
	9/16/2016	ND	7.21	ND	463.92
	9/22/2016	ND	6.80	ND	464.33
	9/29/2016	ND	6.41	ND	464.72
	10/6/2016	ND	6.29	ND	464.84
	10/13/2016	ND	6.22	ND	464.91
	10/21/2016	ND	6.23	ND	464.90
	10/26/2016	ND	7.50	ND	463.63
	12/1/2016	ND	6.63	ND	464.50
	2/2/2017	ND	6.33	ND	464.80
	3/29/2017	ND	6.33	ND	464.80
	4/7/2017	ND	4.50	ND	466.63
	5/12/2017	ND	5.11	ND	466.02
	6/9/2017	ND	5.59	ND	465.54
	7/20/2017	ND	6.76	ND	464.37
	8/8/2017	ND	5.32	ND	465.81
	9/21/2017	ND	6.32	ND	464.81
	10/2/2017	ND	6.82	ND	464.31
	10/5/2017	ND	6.92	ND	464.21
	10/13/2017	ND	7.03	ND	464.10
	10/18/2017	ND	6.85	ND	464.28
	10/31/2017	ND	6.82	ND	464.31
	11/7/2017	ND	6.80	ND	464.33
	11/28/2017	ND	6.86	ND	464.27
	5/29/2018	ND	4.82	ND	466.31
	5/29/2018	ND	3.91	ND	467.22
	7/23/2018	ND	4.40	ND	466.73
	8/16/2018	ND	4.15	ND	466.98
	9/24/2018	ND	3.45	ND	467.68
	10/15/2018	ND	4.4	ND	466.73
	11/12/2018	ND	3.72	ND	467.41
	12/7/2018	ND	4.12	ND	467.01
	2/22/2019	ND	3.67	ND	467.46
	1/30/2020	ND	4.69	ND	466.44
	1/6/2021	ND	4.11	ND	467.02
	1/10/2022	ND	4.17	ND	466.96
	1/10/2023	ND	5.14	ND	465.99
471.63					

Historical Well Gauging Table  
 Highs Store 98  
 13522 Long Green Pike, Baldwin  
 Facility 11022  
 MDE Case No. 17-0166BA

MW ID	Date	Depth to Product (ft)	Depth to Groundwater (ft)	Product Thickness (ft)	Groundwater Elevation (ft)
MW-3	7/18/2007	NA	NA	ND	NA
TOC Elevation =	2/29/2008	NA	NA	ND	NA
471.33	8/24/2008	NA	NA	ND	NA
	2/26/2009	NA	NA	ND	NA
	2/25/2010	NA	NA	ND	NA
	5/31/2011	ND	4.69	ND	466.64
	1/18/2013	ND	4.24	ND	467.09
	10/22/2013	ND	5.63	ND	465.70
	9/29/2014	ND	5.84	ND	465.49
	9/10/2015	ND	5.23	ND	466.10
	10/15/2015	ND	4.02	ND	467.31
	11/16/2015	ND	4.48	ND	466.85
	9/15/2016	ND	5.37	ND	465.96
	9/16/2016	ND	6.34	ND	464.99
	9/22/2016	ND	5.37	ND	465.96
	9/29/2016	ND	5.08	ND	466.25
	10/6/2016	ND	5.03	ND	466.30
	10/13/2016	ND	4.99	ND	466.34
	10/21/2016	ND	4.92	ND	466.41
	10/26/2016	ND	6.71	ND	464.62
	12/1/2016	ND	6.54	ND	464.79
	2/2/2017	ND	5.64	ND	465.69
	3/29/2017	ND	5.64	ND	465.69
	4/7/2017	ND	3.95	ND	467.38
	5/12/2017	ND	3.88	ND	467.45
	6/9/2017	ND	4.15	ND	467.18
	7/20/2017	ND	5.22	ND	466.11
	8/8/2017	ND	3.88	ND	467.45
	9/21/2017	ND	5.65	ND	465.68
	10/2/2017	ND	6.09	ND	465.24
	10/5/2017	ND	6.12	ND	465.21
	10/13/2017	ND	5.87	ND	465.46
	10/18/2017	ND	6.12	ND	465.21
	10/31/2017	ND	6.09	ND	465.24
	11/7/2017	ND	6.07	ND	465.26
	11/28/2017	ND	6.15	ND	465.18
	2/28/2018	ND	4.34	ND	466.99
	5/29/2018	ND	3.19	ND	468.14
	7/23/2018	ND	3.70	ND	467.63
	8/16/2018	ND	4.32	ND	467.01
	9/24/2018	ND	3.93	ND	467.40
	10/15/2018	ND	5.20	ND	466.13
	11/12/2018	ND	3.15	ND	468.18
	12/7/2018	ND	3.66	ND	467.67
	2/22/2019	ND	3.31	ND	468.02
	1/30/2020	ND	4.16	ND	467.17
	1/6/2021	ND	3.56	ND	467.77
	1/10/2022	ND	4.02	ND	467.31
New Elevation	1/10/2023	ND	4.32	ND	467.01
471.65	3/03/2003	ND	4.83	ND	466.82

Historical Well Gauging Table  
 Highs Store 98  
 13522 Long Green Pike, Baldwin  
 Facility 11022  
 MDE Case No. 17-0166BA

MW ID	Date	Depth to Product (ft)	Depth to Groundwater (ft)	Product Thickness (ft)	Groundwater Elevation (ft)
MW-4	1/18/2013	ND	5.06	ND	467.56
TOC Elevation = 472.00	10/22/2013	ND	6.62	ND	466.00
		Abandoned			
TF-1	7/18/2007	ND	NA	ND	NA
	2/29/2008	ND	NA	ND	NA
	8/24/2008	ND	NA	ND	NA
	2/26/2009	ND	NA	ND	NA
	5/31/2011	ND	5.23	ND	NA
	1/18/2013	ND	4.84	ND	NA
	9/10/2015	ND	7.66	ND	NA
	10/15/2015	ND	7.35	ND	NA
	11/16/2015	ND	7.47	ND	NA
	9/15/2016	8.50	8.55	0.05	NA
	9/16/2016	7.42	7.59	0.17	NA
TF-1	9/22/2016	ND	7.55	ND	NA
	9/29/2016	ND	7.02	ND	NA
	10/6/2016	ND	6.55	ND	NA
	10/13/2016	ND	7.50	ND	NA
	10/21/2016	ND	7.57	ND	NA
	10/26/2016	ND	7.74	ND	NA
	12/1/2016	8.59	8.61	0.02	NA
	2/2/2017	6.60	6.65	0.05	NA
	3/29/2017	6.60	6.65	0.05	NA
	4/7/2017	4.71	4.76	0.05	NA
	5/12/2017	5.81	5.89	0.08	NA
	6/9/2017	5.81	5.85	0.04	NA
	7/20/2017	6.47	6.50	0.03	NA
	8/8/2017	5.65	5.99	0.34	NA
	9/21/2017	6.55	6.97	0.42	NA
	10/2/2017	7.00	7.42	0.42	NA
	10/5/2017	7.14	7.22	0.08	NA
	10/13/2017	7.16	7.24	0.08	NA
	10/18/2017	8.25	8.26	0.01	NA
	10/31/2017	6.32	6.42	0.10	NA
	11/7/2017	ND	6.80	ND	NA
	11/28/2017	ND	7.01	ND	NA
	2/28/2018	ND	5.04	ND	NA
	5/29/2018	ND	4.09	ND	NA
	7/23/2018	ND	4.55	ND	NA
	8/16/2018	ND	5.72	ND	NA
	9/24/2018	ND	4.20	ND	NA
	10/15/2018	ND	4.60	ND	NA
	11/12/2018	ND	4.08	ND	NA
	12/7/2018	ND	4.01	ND	NA
	2/22/2019	ND	3.90	ND	NA
	1/30/2020	ND	4.84	ND	NA
	1/6/2021	ND	4.29	ND	NA
	1/10/2023	ND	4.87	ND	NA

Historical Well Gauging Table  
 Highs Store 98  
 13522 Long Green Pike, Baldwin  
 Facility 11022  
 MDE Case No. 17-0166BA

MW ID	Date	Depth to Product (ft)	Depth to Groundwater (ft)	Product Thickness (ft)	Groundwater Elevation (ft)	
TF-2	7/18/2007	ND	NA	ND	NA	
	2/29/2008	ND	NA	ND	NA	
	8/24/2008	ND	NA	ND	NA	
	2/26/2009	ND	NA	ND	NA	
	5/31/2011	ND	6.84	ND	NA	
	1/18/2013	ND	5.94	ND	NA	
	10/22/2013	ND	7.74	ND	NA	
	9/10/2015	Sheen	7.38	ND	NA	
	10/15/2015	ND	7.06	ND	NA	
	11/16/2015	ND	7.74	ND	NA	
	9/15/2016	8.47	8.59	0.12	NA	
	9/16/2016	8.53	8.70	0.17	NA	
	9/22/2016	ND	8.68	ND	NA	
	9/29/2016	ND	8.13	ND	NA	
	10/6/2016	ND	7.33	ND	NA	
	10/13/2016	ND	8.61	ND	NA	
	10/21/2016	ND	8.43	ND	NA	
	10/26/2016	ND	8.90	ND	NA	
	12/1/2016	7.48	7.50	0.02	NA	
	2/2/2017	7.70	7.79	0.09	NA	
	TF-2	3/29/2017	7.70	7.79	0.09	NA
		4/7/2017	5.84	5.89	0.05	NA
		5/12/2017	6.92	6.96	0.04	NA
6/9/2017		6.92	6.94	0.02	NA	
7/20/2017		7.70	7.71	0.01	NA	
8/8/2017		6.77	7.10	0.33	NA	
9/21/2017		7.66	8.03	0.37	NA	
10/2/2017		8.11	8.55	0.44	NA	
10/5/2017		8.26	8.34	0.08	NA	
10/13/2017		7.85	7.91	0.06	NA	
10/18/2017		7.12	7.17	0.05	NA	
10/31/2017		6.74	6.95	0.21	NA	
11/7/2017		ND	7.91	ND	NA	
11/28/2017		ND	8.24	ND	NA	
2/28/2018		ND	6.16	ND	NA	
5/29/2018		ND	4.15	ND	NA	
7/23/2018		ND	5.8	ND	NA	
8/16/2018		ND	4.51	ND	NA	
9/24/2018		ND	4.85	ND	NA	
10/15/2018		ND	5.70	ND	NA	
11/12/2018	ND	5.10	ND	NA		
12/7/2018	ND	5.23	ND	NA		
2/22/2019	ND	4.98	ND	NA		
1/30/2020	ND	5.97	ND	NA		
1/6/2021	ND	5.39	ND	NA		
1/10/2023	ND	5.48	ND	NA		

ND - Non Detect  
 NA - Not Applicable

**High's of Baltimore Store 98**  
**13522 Long Green Pike Baldwin MD**  
**Historical Monitoring Well Sampling Data**

MW ID	Date	Benzene	Toluene	Ehtylbenzene	Xylenes (Total)	Total BTEX	MTBE	TAA	TBA	TPH GRO	TPH DRO
<b>MDE GNCS</b>	<b>NA</b>	<b>5</b>	<b>1,000</b>	<b>700</b>	<b>10,000</b>	<b>NA</b>	<b>20</b>	<b>NA</b>	<b>NA</b>		
MW-1	7/18/2007	ND	ND	ND	ND	ND	ND	NA	NA		
TOC Elevation = 472.62	2/29/2008	2	ND	ND	ND	2	ND	NA	NA		
	8/24/2008	ND	ND	ND	ND	ND	ND	NA	NA		
	2/26/2009	ND	ND	ND	ND	ND	ND	NA	NA		
	2/25/2010	ND	2	ND	3	5	ND	NA	NA		
	5/31/2011	ND	ND	ND	ND	ND	ND	NA	NA		
	1/18/2013	ND	ND	ND	ND	ND	ND	NA	NA		
	10/22/2013	ND	ND	ND	ND	ND	ND	ND	ND		
	9/29/2014	ND	ND	ND	ND	ND	ND	ND	ND		
	9/10/2015	ND	ND	ND	ND	ND	ND	ND	ND		
	10/15/2015	NS	NS	NS	NS	NS	NS	NS	NS		
	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS		
	9/15/2016	<b>95.4</b>	6.57	ND	24.1	126	ND	60.4	ND		
	4/7/2017	ND	ND	ND	ND	ND	ND	ND	ND		
	7/20/2017	<b>120</b>	ND	ND	ND	ND	ND	ND	ND		
	10/2/2017	<b>10.7</b>	7.77	ND	ND	18.5	ND	ND	ND		
	2/28/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	5/29/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	8/16/2018	ND	ND	7.55	ND	ND	ND	ND	ND		
	11/12/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	2/22/2019	ND	ND	ND	ND	ND	ND	ND	ND	<40	<40
	1/30/2020	<5	<5	<5	<5	<5	<5	<50	<50	<40	<40
	1/6/2021	<5	<5	<5	<5	<5	<5	<50	<50	<40	<40
	1/10/2022	<1	<1	<1	<1	<1	<1	<25	<25	<40	<40
	1/10/2023	<1	<1	<1	<3	<6	<1	<25	<25	<40	<40

**High's of Baltimore Store 98**  
**13522 Long Green Pike Baldwin MD**  
**Historical Monitoring Well Sampling Data**

MW ID	Date	Benzene	Toluene	Ehtylbenzene	Xylenes (Total)	Total BTEX	MTBE	TAA	TBA	TPH GRO	TPH DRO
MW-2	7/18/2007	ND	ND	ND	ND	ND	ND	NA	NA		
TOC Elevation = 471.13	2/29/2008	ND	1	ND	ND	1	ND	NA	NA		
	8/24/2008	ND	ND	ND	ND	ND	ND	NA	NA		
	2/26/2009	ND	ND	ND	ND	ND	ND	NA	NA		
	2/25/2010	ND	ND	ND	ND	ND	ND	NA	NA		
	5/31/2011	ND	ND	ND	ND	ND	ND	NA	NA		
	1/18/2013	ND	ND	ND	ND	ND	ND	NA	NA		
	10/22/2013	ND	ND	ND	ND	ND	ND	ND	ND		
	9/29/2014	ND	ND	ND	ND	ND	ND	ND	ND		
	9/10/2015	ND	ND	ND	ND	ND	ND	ND	ND		
	10/15/2015	NS	NS	NS	NS	NS	NS	NS	NS		
	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS		
	9/15/2016	ND	ND	ND	ND	ND	ND	ND	ND		
	4/7/2017	ND	ND	ND	ND	ND	ND	ND	ND		
	7/20/2017	ND	ND	ND	ND	ND	ND	ND	ND		
	10/2/2017	ND	ND	ND	ND	ND	ND	ND	ND		
	2/28/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	5/29/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	8/16/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	11/12/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	2/22/2019	ND	39.6	ND	ND	ND	ND	ND	ND	<40	<40
	1/30/2020	<5	<5	<5	<5	<5	<5	<50	<50	<40	<40
	1/6/2021	<5	<5	<5	<5	<5	<5	<50	<50	<40	<40
	1/10/2022	<1	<1	<1	<1	<1	<1	<25	<25	<40	<40
	1/10/2023	<1	<1	<1	<3	<6	<1	<25	<25	<40	<40



**High's of Baltimore Store 98**  
**13522 Long Green Pike Baldwin MD**  
**Historical Monitoring Well Sampling Data**

MW ID	Date	Benzene	Toluene	Ehtylbenzene	Xylenes (Total)	Total BTEX	MTBE	TAA	TBA	TPH GRO	TPH DRO
MW-3	10/2/2017	ND	ND	ND	ND	ND	ND	ND	ND		
TOC Elevation =	7/18/2007	ND	ND	ND	ND	ND	4	NA	NA		
471.33	2/29/2008	<b>13</b>	1	ND	1	16	ND	NA	NA		
	8/24/2008	ND	ND	ND	ND	ND	ND	NA	NA		
	2/26/2009	<b>11</b>	ND	ND	ND	11	ND	NA	NA		
	2/25/2010	1	ND	ND	ND	1	ND	NA	NA		
	5/31/2011	<b>15</b>	ND	3	ND	18	ND	NA	NA		
	1/18/2013	ND	ND	ND	ND	ND	ND	NA	NA		
	10/22/2013	ND	ND	ND	ND	ND	ND	85.9	507		
	9/29/2014	ND	ND	ND	ND	ND	ND	ND	150		
	9/10/2015	ND	ND	ND	ND	ND	ND	ND	ND		
	10/15/2015	NS	NS	NS	NS	NS	NS	NS	NS		
	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS		
	9/15/2016	ND	ND	ND	ND	ND	ND	ND	ND		
	4/7/2017	ND	ND	ND	ND	ND	ND	ND	ND		
	7/20/2017	ND	ND	ND	ND	ND	ND	ND	ND		
	10/2/2017	ND	ND	ND	ND	ND	ND	ND	ND		
	2/28/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	5/29/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	8/16/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	11/12/2018	ND	ND	ND	ND	ND	ND	ND	ND		
	2/22/2019	ND	42.8	ND	ND	ND	ND	ND	89.5	174	<40
	1/30/2020	<5	<5	<5	<5	<5	<5	<50	<50	<40	<40
	1/6/2021	<5	<5	<5	<5	<5	<5	<50	<50	<40	<40
Well Repair	1/10/2022	<1	<1	<1	<1	<1	<1	<25	<25	<40	<40
New Elevation	1/10/2023	2.68	2.24	3.68	2.92	11.5	<1	<25	<25	336	<40
471.65	3/3/2023	7.15	9.21	38.8	11.4	66.6	<1	<25	<25	760	<40
MW-4	1/18/2013	<b>510</b>	7.26	31.2	29.9	578	<b>392</b>	NA	NA		
TOC Elevation =	10/22/2013	<b>171</b>	16.6	51.9	53.5	293	<b>793</b>	620	8980		
472.00			Abandoned								

**High's of Baltimore Store 98**  
**13522 Long Green Pike Baldwin MD**  
**Historical Monitoring Well Sampling Data**

MW ID	Date	Benzene	Toluene	Ehtylbenzene	Xylenes (Total)	Total BTEX	MTBE	TAA	TBA	TPH GRO	TPH DRO
TF-1	7/18/2007	NS	NS	NS	NS	NS	NS	NA	NA		
	2/29/2008	ND	2	ND	ND	2	ND	NA	NA		
	8/24/2008	ND	ND	ND	ND	ND	ND	NA	NA		
	2/26/2009	ND	ND	ND	ND	ND	14	NA	NA		
	5/31/2011	NS	NS	NS	NS	NS	NS	NA	NA		
	1/18/2013	ND	ND	ND	ND	ND	ND	NA	NA		
	9/10/2015	ND	ND	ND	ND	ND	ND	ND	ND		
	10/15/2015	NS	NS	NS	NS	NS	NS	NS	NS		
	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS		
	9/15/2016	LPH Identified as Weathered Gasoline									
	4/7/2017	LPH									
	7/20/2017	LPH									
	10/2/2017	LPH									
TF-2	7/18/2007	NS	NS	NS	NS	NS	NS	NA	NA		
	2/29/2008	ND	2	ND	ND	2	ND	NA	NA		
	8/24/2008	ND	ND	ND	ND	3	ND	NA	NA		
	2/26/2009	ND	ND	ND	ND	ND	ND	NA	NA		
	5/31/2011	NS	NS	NS	NS	NS	NS	NA	NA		
TF-2	1/18/2013	ND	ND	ND	ND	ND	ND	NA	NA		
	10/22/2013	ND	ND	ND	ND	ND	ND	ND	ND		
	9/10/2015	ND	33.3	244	803	1080.3	ND	ND	ND		
	10/15/2015	ND	43.6	440	1256	1739.6	ND	ND	ND		
	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS		
	9/15/2016	LPH Identified as Weathered Gasoline									
	4/7/2017	LPH									
7/20/2017	LPH										
10/2/2017	LPH										

**High's of Baltimore Store 98**  
**13522 Long Green Pike Baldwin MD**  
**Historical Monitoring Well Sampling Data**

MW ID	Date	Benzene	Toluene	Ehtylbenzene	Xylenes (Total)	Total BTEX	MTBE	TAA	TBA	TPH GRO	TPH DRO	
High's #98 DSW	10/22/2013	ND	ND	ND	ND	ND	ND	ND	ND			
	9/29/2014	ND	ND	ND	ND	ND	ND	ND	ND			
	9/10/2015	ND	ND	ND	ND	ND	ND	ND	ND			
	9/15/2016	ND	ND	ND	ND	ND	ND	ND	ND			
	10/2/2017	ND	ND	ND	ND	ND	ND	ND	ND			
	2/28/2018	ND	ND	ND	ND	ND	ND	ND	ND			
	5/29/2018	ND	ND	ND	ND	ND	ND	ND	ND			
	8/16/2018	ND	ND	ND	ND	ND	ND	ND	ND			
	11/12/2018	ND	ND	ND	ND	ND	ND	ND	ND			
	2/22/2019	ND	ND	ND	ND	ND	ND	ND	ND			
	1/30/2020	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<10	<10		
	1/6/2021	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<10	<10		
	1/10/2022	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<10	<10		
	2/9/2023	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<10	<10		
Post Office DSW	12/21/2016	ND	ND	ND	ND	ND	ND	ND	ND			
	10/2/2017	ND	ND	ND	ND	ND	ND	ND	ND			
ND = Not Detected		NS = Not sampled										
NG = No Guideline		at of the Environment Generic Numeric Cleanup Standards, February 2003										

**Appendix C**  
**Report of Analysis & Chain of Custody Record**

# ADVANCED ENVIRONMENTAL CONCEPTS, INC.

Laboratory Services 1751 Pulaski Highway, Havre de Grace, MD 21078 Phone:410-939-5550 Fax:410-939-5552

## Certificate of Analysis

<b>Sample Identification:</b>	<b>MW-3</b>	<b>Project Identification:</b>	<b>HIGHS 98</b>
<b>MATRIX:</b>	<b>water</b>	<b>Client Identification:</b>	<b>CARROLL FUEL</b>
<b>Sample Date:</b>	<b>3/3/2023</b>	<b>Client Telephone:</b>	
<b>Date Received:</b>	<b>3/3/2023</b>	<b>Client Fax:</b>	
<b>Extraction Date:</b>	<b>na</b>	<b>Analyst:</b>	<b>MM</b>
<b>Analysis Date:</b>	<b>3/4/2023</b>	<b>Lab File:</b>	<b>30423A026</b>

COMPOUND	DETECTION LIMIT	TEST UNIT	TEST VALUE	METHOD
Dichlorodifluoromethane	1	ug/L	ND	EPA 8260
Chloromethane	1	ug/L	ND	EPA 8260
Vinyl Chloride	1	ug/L	ND	EPA 8260
Bromomethane	1	ug/L	ND	EPA 8260
Chloroethane	1	ug/L	ND	EPA 8260
Trichlorofluoromethane	1	ug/L	ND	EPA 8260
1,1-Dichloroethene	1	ug/L	ND	EPA 8260
tert-Butyl Alcohol (TBA)	25	ug/L	ND	EPA 8260
Methylene Chloride	1	ug/L	ND	EPA 8260
trans-1,2-Dichloroethene	1	ug/L	ND	EPA 8260
Methyl tert-Butyl Ether (MtBE)	1	ug/L	ND	EPA 8260
1,1-Dichloroethane	1	ug/L	ND	EPA 8260
Diisopropyl Ether (DIPE)	1	ug/L	ND	EPA 8260
cis-1,2-Dichloroethene	1	ug/L	ND	EPA 8260
Bromochloromethane	1	ug/L	ND	EPA 8260
Chloroform	1	ug/L	ND	EPA 8260
2,2-Dichloropropane	1	ug/L	ND	EPA 8260
Ethyl tert-Butyl Ether (EtBE)	1	ug/L	ND	EPA 8260
1,2-Dichloroethane	1	ug/L	ND	EPA 8260
tert-Amyl Alcohol (TAA)	25	ug/L	ND	EPA 8260
1,1,1-Trichloroethane	1	ug/L	ND	EPA 8260
1,1-Dichloropropene	1	ug/L	ND	EPA 8260
Carbon tetrachloride	1	ug/L	ND	EPA 8260
Benzene	1	ug/L	7.15	EPA 8260
tert-Amyl Methyl Ether (TAME)	1	ug/L	ND	EPA 8260
Dibromomethane	1	ug/L	ND	EPA 8260
1,2-Dichloropropane	1	ug/L	ND	EPA 8260
Trichloroethene	1	ug/L	ND	EPA 8260
Bromodichloromethane	1	ug/L	ND	EPA 8260
tert-Amyl Ethyl Ether (TAEE)	1	ug/L	ND	EPA 8260
cis-1,3-Dichloropropene	1	ug/L	ND	EPA 8260
trans-1,3-Dichloropropene	1	ug/L	ND	EPA 8260
1,1,2-Trichloroethane	1	ug/L	ND	EPA 8260
Toluene	1	ug/L	9.21	EPA 8260
1,3-Dichloropropane	1	ug/L	ND	EPA 8260
Dibromochloromethane	1	ug/L	ND	EPA 8260
1,2-Dibromoethane	1	ug/L	ND	EPA 8260
Tetrachloroethene	1	ug/L	ND	EPA 8260
1,1,1,2-Tetrachloroethene	1	ug/L	ND	EPA 8260
Chlorobenzene	1	ug/L	ND	EPA 8260
Ethylbenzene	1	ug/L	38.8	EPA 8260

# ADVANCED ENVIRONMENTAL CONCEPTS, INC.

Laboratory Services 1751 Pulaski Highway, Havre de Grace, MD 21078 Phone:410-939-5550 Fax:410-939-5552

## Certificate of Analysis

Sample Identification:	MW-3	Project Identification:	HIGHS 98
MATRIX:	water	Client Identification:	CARROLL FUEL
Sample Date:	3/3/2023	Client Telephone:	
Date Received:	3/3/2023	Client Fax:	
Extraction Date:	na	Analyst:	MM
Analysis Date:	3/4/2023	Lab File:	30423A026

COMPOUND	DETECTION LIMIT	TEST UNIT	TEST VALUE	METHOD
m&p-Xylene	2	ug/L	11.4	EPA 8260
Bromoform	1	ug/L	ND	EPA 8260
Styrene	1	ug/L	ND	EPA 8260
o-Xylene	1	ug/L	ND	EPA 8260
1,1,2,2-Tetrachloroethane	1	ug/L	ND	EPA 8260
1,2,3-Trichloropropane	1	ug/L	ND	EPA 8260
Isopropylbenzene	1	ug/L	11.3	EPA 8260
Bromobenzene	1	ug/L	ND	EPA 8260
n-Propylbenzene	1	ug/L	15.1	EPA 8260
2-Chlorotoluene	1	ug/L	ND	EPA 8260
4-Chlorotoluene	1	ug/L	ND	EPA 8260
1,3,5-Trimethylbenzene	1	ug/L	1.82	EPA 8260
tert-Butylbenzene	1	ug/L	ND	EPA 8260
1,2,4-Trimethylbenzene	1	ug/L	ND	EPA 8260
sec-Butylbenzene	1	ug/L	ND	EPA 8260
1,3-Dichlorobenzene	1	ug/L	ND	EPA 8260
1,4-Dichlorobenzene	1	ug/L	ND	EPA 8260
1,2-Dichlorobenzene	1	ug/L	ND	EPA 8260
p-iso-Propyltoluene	1	ug/L	1.14	EPA 8260
n-Butylbenzene	1	ug/L	4.69	EPA 8260
1,2-Dibromo-3-chloropropane	1	ug/L	ND	EPA 8260
1,2,4-Trichlorobenzene	1	ug/L	ND	EPA 8260
Naphthalene	1	ug/L	4.75	EPA 8260
Hexachlorobutadiene	1	ug/L	ND	EPA 8260
1,2,3-Trichlorobenzene	1	ug/L	ND	EPA 8260
TPH GRO	100	ug/L	760	EPA 8015B
TPH DRO	500	ug/L	ND	EPA 8015B

### SURROGATE SPIKE

1,2-Dichloroethane-d4	%	109	EPA 8260
Dibromofluoromethane	%	100	EPA 8260
TFT	%	105	EPA 8015B
Toluene-d8	%	97	EPA 8260
Bromofluorobenzene	%	103	EPA 8260

# ADVANCED ENVIRONMENTAL CONCEPTS, INC.

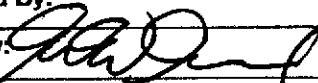
1751-1 Pulaski Hwy., Havre de Grace, MD 21078-2207

Phone: 410-939-5550 Fax: 410-939-5552

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# Chain of Custody Record

Page \_\_\_\_ of \_\_\_\_

<b>Client:</b> CIFCO			<b>Project Name:</b> Highs #98				<b>SDG#</b>					
<b>Address:</b> 18 Loveton Circle Sparks, MD			<b>Project Location:</b> 13522 Long Green Pike				<b>Preservatives</b>					
			<b>Phone:</b>		<b>Fax:</b>		<b>Requested Analysis</b>					
<b>Contact:</b> Herb Meade			<b>Email:</b> Herb.Meade@carrollfuel.net				<b>Observation</b>					
<b>Sample By:</b> JE			<b>Receive Completed Report Via (Circle One)</b> U.S. Mail    Email    Fax									
	<b>Sample #</b>	<b>Sample ID</b>	<b>Date</b>	<b>Time</b>	<b>Matrix</b>	<b>pH</b>	VOCs 8260					
1	2	MW-3	3/3/23		GW		X					
2												
3												
4												
5												
6												
7												
8												
9												
10												
<b>Relinquished/Received By Signature</b>			<b>Date</b>	<b>Time</b>	<b>Delivery Method</b>		<b>Lab Use Only</b>					
Relinquished By:							Temp of Cooler					
Received By:							24°C					
Relinquished By:							Ice Present <input checked="" type="checkbox"/> (Y/N)					
Received By: 			3/3/23									
Relinquished By:							Custody Seal <input checked="" type="checkbox"/> (Y/N)					
Received By:							Date of Extraction					
							n/a					
Matrix Codes: SO = Soil, GW = Ground Water, WW = Waste Water, VP = Vapor, SL = Sludge, DW = Drinking Water, O = Other												
Special Instructions / Comments / QC Requirements:							Turn Around Time:    STD    1 Day    2 Day    3 Day    Other					