Biannual Groundwater Sampling and Analysis Report April 2019

AMRI - Rensselaer, Inc. Sterling Site 1

CHA Project Number: 21341.2019.44200

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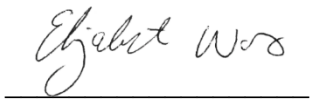

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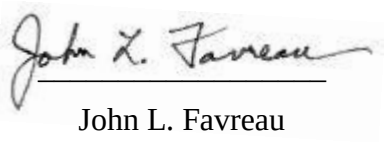

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1.0 INTRODUCTION

CHA was retained by AMRI-Rensselaer, Inc. to perform the Biannual Groundwater Sampling and Analysis Program for Sterling Site 1. This report presents the results of the April 2019 groundwater sampling event, which was conducted on April 16, 17 and 19, 2019. The Biannual Groundwater Sampling and Analysis Program is conducted in accordance with the existing Agreement and Determination dated 1984 between Albany Molecular Research, Inc. (AMRI) and the New York State Department of Environmental Conservation (NYSDEC) as modified. The Agreement and Determination serves as the sampling and analysis plan.

2.0 OBJECTIVES

The objectives of the Biannual Groundwater Sampling and Analysis Program are to collect data from site-related groundwater monitoring wells and to monitor groundwater quality within and adjacent to the site. Wells monitored as part of this program include on-site wells MW-3, MW-5A, MW-6A, MW-8, MW-12 and MW-14A, and off-site wells OS-1A, OS-3, OS-4A and OS-5A. In addition to these wells, on-site monitoring wells MW-11A and MW-17 were voluntarily sampled during this event to monitor groundwater quality in the immediate vicinity of these wells. MW-11A was installed as an upgradient monitoring well on the southeastern edge of the property to provide background groundwater quality data for the groundwater that migrates onto and across the site. MW-17 is near the middle of the site and provides groundwater quality data for the southern side of Building 4.

3.0 GROUNDWATER SAMPLING

Prior to sampling, groundwater elevations at Sterling Site 1 were collected. Each well was then purged of approximately three well volumes, or until dry, to obtain representative groundwater samples. During purging, groundwater from all wells was monitored in the field for turbidity, pH, specific conductance, oxidation-reduction potential and temperature using a YSI 556 MPS water quality meter (or equivalent) and a Hach 2100-P turbidimeter (or equivalent).

CHA personnel collected groundwater samples using disposable polyethylene bailers and transferred the samples to pre-preserved bottles provided by Adirondack Environmental Services, Inc. (Adirondack) in Albany, New York. Upon sample collection, the bottles were labeled and stored in a cooler with ice, and upon completion of sampling activities, were transported by CHA to Adirondack for analysis. Adirondack analyzed all groundwater samples for the site-specific volatile organic compounds (VOCs) benzene, toluene, chlorobenzene and 1,2-dichloroethane by

United States Environmental Protection Agency (EPA) Method 624. Additionally, groundwater samples from wells MW-5A, MW-6A, MW-12 and MW-14A were analyzed for arsenic (EPA Method 206.2), and samples from MW-5A, MW-6A and MW-17 were analyzed for sodium (EPA Method 200.7).

Figure 1 depicts monitoring well locations and the groundwater piezometric surface contours based on the groundwater elevation data recorded on April 16, 2019. Groundwater flow patterns across the site during the April 2019 monitoring event were generally consistent with those observed during previous monitoring events, exhibiting both northwesterly and southeasterly/southerly components of flow, with an apparent divide extending northeastward across the site from the area of MW-7A, through the area of MW-14A to the area of MW-3.

Table 1 provides a summary of the groundwater laboratory and field data, and Appendix A provides the laboratory reports from the current sampling event. Table 2 presents a summary of historical groundwater analytical data for select parameters in on-site and off-site wells. Graphs 1 and 2 depict concentrations of benzene and chlorobenzene at MW-3 over time, and Graphs 3 and 4 depict concentrations of benzene and chlorobenzene at MW-5/MW-5A over time. A summary of the groundwater field measurements and observations is presented in Table 3.

4.0 FIELD OBSERVATIONS

The following physical descriptions of groundwater were derived from field notes taken during the well purging and sampling activities at each monitoring well. Detailed descriptions for each well are included in Table 3.

- Groundwater from MW-3 was clear and colorless with no odor, sheen or effervescence. Suspended black particulates were present in water. Well went dry at 3.5 gallons purged.
- Groundwater from MW-5A was dark orange and moderately turbid with no odor, sheen, or effervescence. Well went dry at 5.75 gallons purged.
- Groundwater from MW-6A was light tan and mildly turbid with no odor, sheen, or effervescence. Well went dry at 3.75 gallons purged.
- Groundwater from MW-8 was light brown and moderately turbid with no odor, sheen or effervescence.
- Groundwater from MW-11A was clear and colorless, with no odor, sheen or effervescence. Well went dry at 2.5 gallons purged.
- Groundwater from MW-12 was light orange and moderately turbid with a faint chemical odor and no sheen or effervescence. Well went dry at 1.5 gallons purged.

- Groundwater from MW-14A was clear and colorless with no odor, sheen or effervescence.
- Groundwater from MW-17 was clear and slightly turbid, with no odor, sheen or effervescence.
- Groundwater from OS-1A was clear and colorless, with no odor, sheen or effervescence.
- Groundwater from OS-3 was clear and slightly turbid with no odor, sheen or effervescence.
- Groundwater from OS-4A was clear and colorless with no odor, sheen or effervescence.
- Groundwater from OS-5A was light brown and moderately turbid with no odor, sheen, or effervescence. Well went dry at 6.5 gallons purged.

5.0 COMPARISON OF ANALYTICAL RESULTS

Analytical results from each monitoring well are presented below and are compared to results from the three most recent sampling events. The New York State Department of Environmental Conservation (NYSDEC) Ambient Water Quality Standards (AWQS), as published in the Division of Water Technical and Operational Guidance Series 1.1.1, June 1998, are also shown for comparison purposes. Concentrations of VOCs are reported in micrograms per liter (µg/L). Concentrations of sodium and arsenic are reported in milligrams per liter (mg/L). Values in bold print exceed their respective AWQS.

- **MW-3:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 1,000	**1,400**	< 1,000	< 500	1
Chlorobenzene	**8,800**	**30,000**	**8,800**	**13,000**	5
Toluene	< 1,000	< 1,000	< 1,000	< 500	5
1,2-Dichloroethane	< 1,000	< 1,000	< 1,000	<500	5

- **MW-5A:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 5.0	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5
Arsenic	0.014	0.011	0.015	0.015	0.025
Sodium	**1,379**	**1,700**	**1,140**	**1,120**	20

- **MW-6A:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 5.0	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5
Arsenic	**0.044**	**0.026**	**0.038**	**0.034**	0.025
Sodium	**424**	**479**	**278**	**460**	20

- **MW-8:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 5.0	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5

- **MW-11A:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 5.0	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5

- **MW-12:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 250	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 250	< 5.0	< 5.0	< 5.0	5
Toluene	< 250	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 250	**75**	**8.6**	< 5.0	5
Arsenic	0.013	0.023	**0.064**	0.019	0.025

- **MW-14A:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 5.0	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5
Arsenic	**0.621**	**1.22**	**1.19**	**0.38**	0.025

- **MW-17:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	**<** 5.0	**<** 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5
Sodium	**374**	**225**	**375**	**160**	20

- **OS-1A:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 5.0	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5

- **OS-3:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 5.0	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5

- **OS-4A:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 5.0	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5

- **OS-5A:**

Parameter	October 2017	April 2018	October 2018	April 2019	NYSDEC AWQS
Benzene	< 5.0	< 5.0	< 5.0	< 5.0	1
Chlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	5
Toluene	< 5.0	< 5.0	< 5.0	< 5.0	5
1,2-Dichloroethane	< 5.0	< 5.0	< 5.0	< 5.0	5

6.0 CONCLUSIONS

The laboratory analytical results for the April 2019 groundwater sampling event show that target VOCs were not detected at concentrations above laboratory reporting limits at on-site monitoring wells except for monitoring well MW-3. Target VOCs were not detected at concentrations above laboratory reporting limits at any of the four off-site well locations.

The VOC chlorobenzene was detected at the location of MW-3 at a concentration of 13,000 µg/L. This concentration represents a slight increase from the most recent sampling event in October 2018 but a significant decrease from the concentration detected at MW-3 during the April 2018 sampling event. It should be noted that MW-3 is upgradient of the groundwater collection trench, and neither benzene nor chlorobenzene was detected at the location of monitoring well OS-5A, which is downgradient of MW-3.

The parameter arsenic was analyzed for and detected in four monitoring wells. Arsenic concentrations were 0.015 mg/L in MW-5A, 0.034 mg/L in MW-6A, 0.019 mg/L in MW-12, and 0.38 mg/L in MW-14A. The detections in MW-6A and MW-14A were in exceedance of the NYSDEC AWQS of 0.025 mg/L. The concentrations of arsenic detected in these four wells at the time of the April 2019 monitoring event were similar to the concentrations detected during the previous three monitoring events. Arsenic concentrations will be evaluated during the next monitoring event for further exceedances of the AWQS and potential increasing trends.

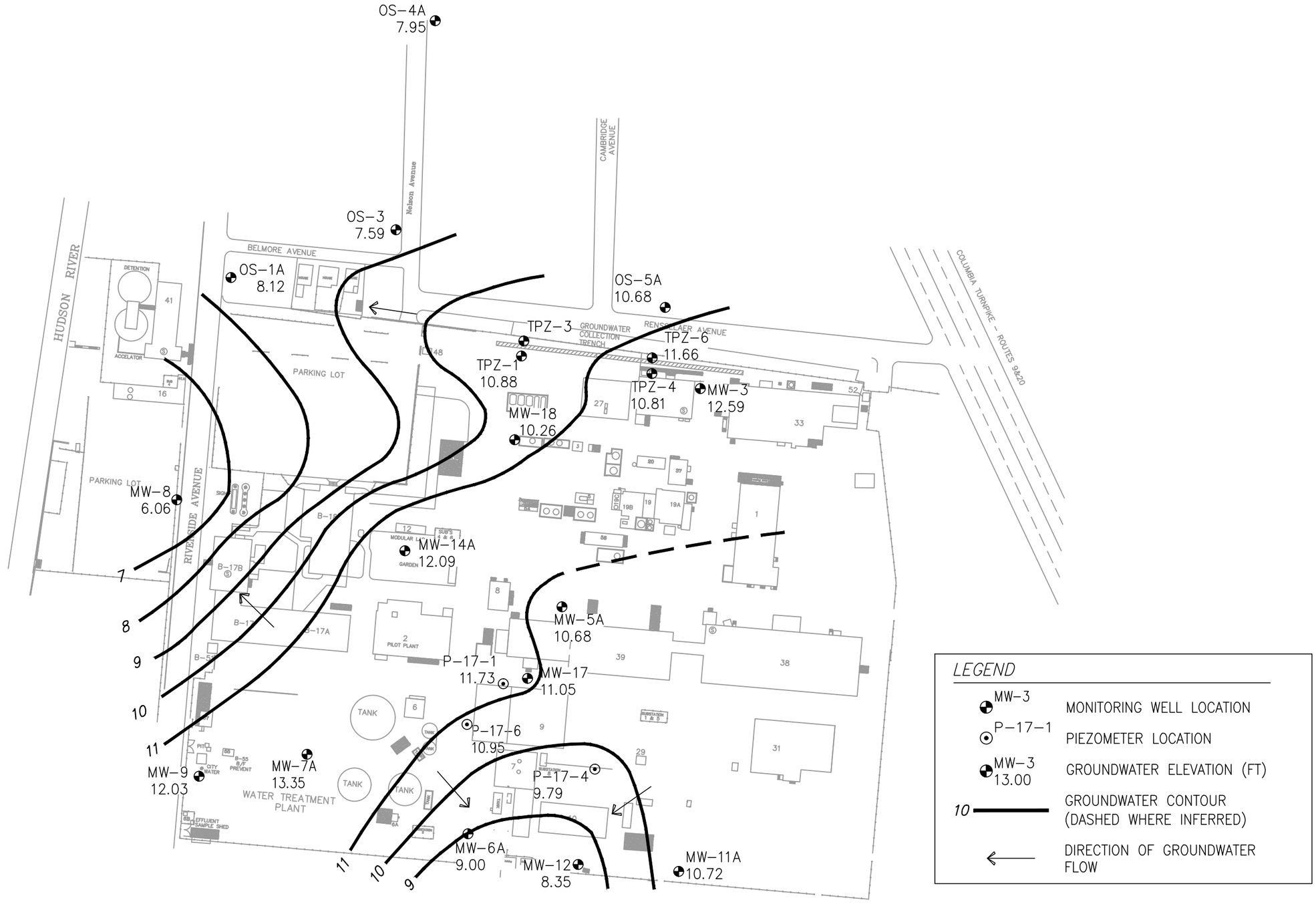
The parameter sodium was analyzed for and detected in monitoring wells MW-5A, MW-6A and MW-17 at concentrations above the established NYSDEC AWQS value. The detected concentrations of sodium were comparable to historical concentrations and no increasing trends were noted.

7.0 RECOMMENDATIONS

The off-site monitoring well data and the groundwater elevation data indicate that the existing groundwater treatment system is maintaining hydraulic control of the impacted groundwater near Building 30. Based on the Groundwater Elevation Contour Map, impacted groundwater at the location of MW-3, and in its immediate vicinity, flows to the northwest, toward the groundwater collection trench, which captures contaminated water and directs it to the groundwater treatment system.

CHA recommends that AMRI continue to monitor on-site and off-site groundwater quality and continue operation of the groundwater treatment system near Building 30 in accordance with the 1984 Agreement and Determination and the correspondence from the NYSDEC from 2017. AMRI operates a soil vapor extraction (SVE) system in the vicinity of Building 30 on a seasonal basis to remove VOCs from the unsaturated zone. CHA recommends that AMRI continue the operation and maintenance of the SVE system during the warm weather months to reduce VOCs at the site. The next groundwater sampling event is scheduled to occur in October 2019.

FIGURES



LEGEND

- MW-3 — MONITORING WELL LOCATION
- P-17-1 — PIEZOMETER LOCATION
- MW-3 13.00 — GROUNDWATER ELEVATION (FT)
- 10 — GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- ← — DIRECTION OF GROUNDWATER FLOW

0 160 320
Scale in feet

N

SOURCE: PLANT SITE MAP, GROUNDWATER ELEVATION CONTOUR DATED OCTOBER 27, 2009 BY SAIC

CHA
III Winners Circle. PO Box 5269 • Albany, NY 12205-0269
Main: (518) 453-4500 • www.chacompanies.com

GROUNDWATER ELEVATION CONTOUR MAP
MONITORING DATE: APRIL 16, 2019
AMRI RENSSELAER
33 RIVERSIDE AVENUE
RENSSELAER, NEW YORK

PROJECT NO. 21341

DATE: 05/19

FIGURE 1

File: M:\21341\CADD\ACAD\FIGURES\ENVIRONMENTAL\21341_SITE PLAN_GW CONTOUR 04-16-19.DWG
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TABLES

Table 1

Summary of Groundwater Analytical Results
Sterling - Site 1

April 2019

Compound	Units	Location / Date	MW-3 4/16/2019	MW-5A 4/17/2019	MW-6A 4/17/2019	MW-8 4/16/2019	MW-11A 4/17/2019	MW-12 4/17/2019	MW-14A 4/17/2019	MW-17 4/19/2018	OS-1A 4/16/2019	OS-3 4/16/2019	OS-4A 4/16/2019	OS-5A 4/16/2019
Volatiles														
Benzene	µg/L		< 500	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	µg/L		13,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	µg/L		< 500	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	µg/L		< 500	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Metals														
Arsenic	mg/L		NA	0.015	0.034	NA	NA	0.019	0.38	NA	NA	NA	NA	NA
Sodium	mg/L		NA	1,120	460	NA	NA	NA	NA	160	NA	NA	NA	NA
Field Parameters														
pH			8.41	7.79	7.83	7.14	7.49	7.60	7.88	8.30	7.46	7.31	7.11	7.98
Specific Conductance	mS/cm		0.942	6.374	2.760	3.044	1.028	2.787	0.714	1.460	2.825	2.965	1.020	2.651

µg/L = micrograms per liter
mg/L = milligrams per liter
mS/cm = millisiemans per centimeter
< = Not detected at Laboratory Reporting Limit
NA = Sample was not analyzed for this parameter.

Table 2
MW-3 Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Apr-90	910	5,600
Nov-90	840	15,000
May-91	600	< 300
Oct-91	2,400	44,000
Apr-92	740	22,000
Sep-92	960	34,000
Apr-93	5,000	92,000
Oct-93	2,600	65,000
Apr-94	3,400	74,000
Nov-94	340	51,000
Apr-95	7,000	172,000
Nov-95	2,500	34,000
May-96	< 5,000	28,000
Dec-96	5,200	40,000
May-97	6,000	48,000
Dec-97	3,500	30,000
Jun-98	11,000	21,000
Nov-98	8,000	54,000
Dec-98	9,000	94,500
Apr-99	1,400	23,000
Dec-99	1,500	18,000
Apr-00	2,900	50,000
Oct-00	6,000	30,000
Apr-01	3,600	< 50
Oct-01	9,500	55,000
Apr-02	3,500	30,000
Oct-02	2,500	18,500
Apr-03	3,000	25,000
Nov-03	5,500	35,000
May-04	3,400	46,000
Nov-04	1,900	16,000
May-05	3,000	27,000
Nov-05	11,000	37,000
May-06	1,200	17,000
Nov-06	8,200	66,000
Jun-07	6,900	31,000
Nov-07	17,000	100,000
May-08	4,200	68,000
Nov-08	1,800	28,000
May-09	6,700	81,000
Nov-09	11,000	51,000
Apr-10	930	14,000
Oct-10	460	9,100
Apr-11	1000	21,000
Oct-11	< 500	13,000
Apr-12	< 250	9,400
Oct-12	< 250	4,100
Apr-13	< 1,200	33,000
Oct-13	< 1,000	12,000
Apr-14	< 500	5,600
Oct-14	< 250	4,500
Apr-15	< 120	4,500
Oct-15	< 120	4,400
Apr-16	< 250	6,800
Oct-16	270	5,800
Apr-17	< 500	14,000
Oct-17	< 1000	8,800
Apr-18	1,400	30,000
Oct-18	< 1,000	8,800
Apr-19	<500	13,000
< = Not Detected at Reporting Limit		

Table 2
MW-5A Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)	1,2 - Dichloroethane (µg/1)
Apr-90	< 5	< 5	NA
Nov-90	150	< 5	NA
May-91	71	< 5	NA
Oct-91	37	< 5	NA
May-92	13	< 5	NA
Sep-92	160	<25	NA
Apr-93	32	<25	NA
Oct-93	490	32	NA
Apr-94	< 50	<50	NA
Nov-94	500	<250	NA
Nov-94	270	12	NA
Apr-95	< 5	8	NA
Nov-95	160	<50	NA
May-96	< 5	< 5	NA
Dec-96	16	< 5	NA
May-97	23	< 5	NA
Dec-97	50	< 5	NA
Jun-98	l0	< 5	NA
Jul-98	24	1 J	NA
Aug-98	16	ND	NA
Aug-98	16	ND	NA
Sep-98	< 5	< 5	NA
Oct-98	71	35	NA
Nov-98	< 5	< 5	NA
Dec-98	< 5	9	NA
Apr-99	< 5	< 5	NA
Dec-99	< 5	< 5	NA
Apr-00	< 5	< 5	NA
Oct-00	< 5	< 5	NA
Apr-01	< 5	< 5	NA
Oct-01	120	< 50	NA
Apr-02	< 130	< 130	NA
Oct-02	80	< 50	NA
Apr-03	< 25	< 25	NA
Nov-03	53	< 10	NA
May-04	270	13	NA
Nov-04	92	< 5	NA
May-05	270	< 10	NA
Nov-05	95	9	NA
May-06	440	< 25	NA
Nov-06	< 10	< 10	NA
Jun-07	< 5	< 5	NA
Nov-07	5.2	< 5	NA
May-08	< 5	< 5	NA
Nov-08	< 5	< 5	NA
May-09	< 5	< 5	NA
Nov-09	< 5	< 5	NA
Apr-10	< 5	< 5	< 5
Oct-10	< 5	< 5	17
Apr-11	< 5	< 5	< 5
Oct-11	< 5	< 5	< 5
Apr-12	8.4	< 5	< 5
May-12	< 5	< 5	< 5
Oct-12	< 5	6.3	< 5
Apr-13	< 5	< 5	< 5
Oct-13	< 5	< 5	< 5
Apr-14	< 5	< 5	< 5
Oct-14	< 5	< 5	< 5
Apr-15	< 5	< 5	< 5
Oct-15	< 5	< 5	< 5
Apr-16	< 5	< 5	< 5
Oct-16	< 5	< 5	< 5
Apr-17	< 5	< 5	< 5
Oct-17	< 5	< 5	< 5
Apr-18	< 5	< 5	< 5
Oct-18	< 5	< 5	< 5
Apr-19	< 5	< 5	< 5

< = Not Detected at Reporting Limit

J denotes a Laboratory estimated concentration

NA = data not available

Table 2
MW-6A Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Oct-91	78	30
Apr-92	29	17
Sep-92	33	39
Apr-93	< 5	< 5
Oct-93	< 5	6
Apr-94	19	< 5
Nov-94	350	59
Apr-95	290	41
Nov-95	100	33
May-96	190	32
Dec-96	240	42
May-97	7	< 5
Dec-97	97	17
Dec-97	120	17
Jun-98	92	11
Jul-98	66	14
Aug-98	78	15
Aug-98	88	15
Sep-98	< 5	< 5
Oct-98	ND	ND
Nov-98	100	21
Dec-98	71	14
Apr-99	15	<5
Dec-99	120	18
Dec-99 (dup)	75	11
Apr-00	51	6.3
Oct-00	41	7
Apr-01	30	< 5
Oct-01	<5	< 5
Apr-02	10	< 5
Oct-02	< 5	< 5
Apr-03	11	< 5
Nov-03	57	9.6
May-04	20	5.6
Nov-04	24	5.8
May-05	16	< 5
Nov-05	29	6.4
May-06	< 5	< 5
Nov-06	< 5	< 5
Jun-07	< 5	< 5
Nov-07	< 5	< 5
May-08	< 5	< 5
Nov-08	< 5	< 5
May-09	< 5	< 5
Oct-09	< 5	< 5
Apr-10	< 5	< 5
Oct-10	< 5	< 5
Apr-11	< 5	< 5
Oct-11	< 5	< 5
Apr-12	< 5	< 5
Oct-12	< 5	< 5
Apr-13	< 5	< 5
Oct-13	< 5	< 5
Apr-14	< 5	< 5
Oct-14	< 5	< 5
Apr-15	< 5	< 5
Oct-15	< 5	< 5
Apr-16	< 5	< 5
Oct-16	< 5	< 5
Apr-17	< 5	< 5
Oct-17	< 5	< 5
Apr-18	< 5	< 5
Oct-18	< 5	< 5
Apr-19	< 5	< 5

< = Not Detected at Reporting Limit

Table 2
MW-8 Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Apr-90	< 5	< 5
Nov-90	< 5	< 5
May-91	< 5	< 5
Oct-91	< 5	< 5
May-92	< 5	< 5
Sep-92	< 5	< 5
Apr-93	< 5	< 5
Oct-93	< 5	< 5
Apr-94	< 5	< 5
Nov-94	< 5	< 5
Apr-95	< 5	< 5
Nov-95	< 5	< 5
May-96	< 5	< 5
Dec-96	< 5	< 5
May-97	< 5	< 5
Dec-97	< 5	< 5
Jun-98	< 5	< 5
Nov-98	< 5	< 5
Dec-98	NS	NS
Apr-99	< 5	< 5
Dec-99	< 5	< 5
Apr-00	< 5	< 5
Oct-00	< 5	< 5
Apr-01	< 5	< 5
Oct-01	< 5	< 5
Apr-02	< 5	< 5
Oct-02	< 5	< 5
Apr-03	< 5	< 5
Nov-03	< 5	< 5
May-04	< 5	< 5
Nov-04	< 5	< 5
May-05	< 5	< 5
Nov-05	< 5	< 5
May-06	< 5	< 5
Nov-06	< 5	< 5
Jun-07	< 5	< 5
Nov-07	< 5	< 5
May-08	< 5	< 5
Nov-08	< 5	< 5
May-09	< 5	< 5
Oct-09	< 5	< 5
Apr-10	< 5	< 5
Apr-11	< 5	< 5
Nov-10	< 5	< 5
Apr-11	< 5	< 5
Oct-11	< 5	< 5
Apr-12	< 5	< 5
Oct-12	< 5	< 5
Apr-13	< 5	< 5
Oct-13	< 5	< 5
Apr-14	< 5	< 5
Oct-14	< 5	< 5
Apr-15	< 5	< 5
Oct-15	< 5	< 5
Apr-16	< 5	< 5
Oct-16	< 5	< 5
Apr-17	< 5	< 5
Oct-17	< 5	< 5
Apr-18	< 5	< 5
Oct-18	< 5	< 5
Apr-19	< 5	< 5

< = Not Detected at Reporting Limit
NS = Not Sampled

Table 2
MW-11 | MW-11A Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Oct-93	< 5	< 5
Apr-94	< 5	< 5
Apr-95	< 5	< 5
Nov-95	< 5	< 5
May-96	< 5	< 5
Dec-96	NS	NS
May-97	< 5	< 5
Dec-97	< 5	< 5
Jun-98	< 5	< 5
Jul-98	< 5	< 5
Aug-98	< 5	< 5
Aug-98	< 5	< 5
Sep-98	< 5	< 5
Oct-98	< 5	< 5
Dec-99	< 5	< 5
Dec-99 (dup)	< 5	< 5
Apr-00	< 5	< 5
Oct-00	< 5	< 5
Apr-10	< 5	< 5
Oct-11	< 5	< 5
Apr-10	< 5	< 5
Oct-10	< 5	< 5
Apr-10	< 5	< 5
Nov-10	< 5	< 5
May-10	< 5	< 5
Nov-10	< 5	< 5
May-10	< 5	< 5
Nov-10	< 5	< 5
May-10	< 5	< 5
Nov-10	< 5	< 5
Jun-10	< 5	< 5
Nov-10	< 5	< 5
May-10	< 5	< 5
Nov-10	< 5	< 5
May-10	< 5	< 5
Oct-10	< 5	< 5
Apr-10	< 5	< 5
Oct-10	< 5	< 5
Apr-11	< 5	< 5
Oct-11	< 5	< 5
Apr-12	< 5	< 5
Apr-12	< 5	< 5
Oct-12	< 5	< 5
Apr-13	< 5	< 5
Oct-13	< 5	< 5
Apr-14	< 5	< 5
Oct-14	< 5	< 5
Apr-15	< 5	< 5
Oct-15	< 5	< 5
Apr-16	< 5	< 5
Oct-16	< 5	< 5
Apr-17	< 5	< 5
Oct-17	< 5	< 5
Apr-18	< 5	< 5
Oct-18	< 5	< 5
Apr-19	< 5	< 5

< = Not Detected at Reporting Limit
NS = Not Sampled
MW-11 replaced with MW-11A July 1998

Table 2
MW-12 Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)	1,2-Dichloroethane (µg/1)
Apr-90	< 5	< 5	NA
Nov-90	< 5	< 5	NA
May-91	< 5	< 5	NA
Oct-91	< 5	< 5	NA
May-92	< 5	< 5	NA
Sep-92	< 5	< 5	NA
Apr-93	< 5	< 5	NA
Oct-93	< 5	< 5	NA
Apr-94	< 5	< 5	NA
Nov-94	< 5	< 5	NA
Apr-95	< 5	< 5	NA
Nov-95	< 5	< 5	NA
May-96	< 5	< 5	NA
Dec-96	< 5	< 5	NA
May-97	< 5	< 5	NA
Dec-97	< 5	< 5	NA
Jun-98	< 5	< 5	NA
Jul-98	< 5	< 5	NA
Aug-98	< 5	< 5	NA
Aug-98	< 5	< 5	NA
Sep-98	< 5	< 5	NA
Oct-98	< 5	< 5	NA
Nov-98	< 5	< 5	NA
Nov-98	< 5	< 5	NA
Dec-98	< 5	2 J	NA
Dec-98	< 5	< 5	NA
Apr-99	< 5	< 5	NA
Dec-99	< 5	< 5	NA
Apr-00	< 5	< 5	NA
Oct-00	< 5	< 5	NA
Apr-01	< 50	< 50	NA
Oct-01	< 50	< 50	NA
Apr-02	< 5	< 5	NA
Oct-02	< 50	< 50	NA
Apr-03	< 5	< 5	NA
Nov-03	< 5	< 5	NA
May-04	< 5	< 5	NA
Nov-04	< 5	< 5	NA
May-05	< 5	< 5	NA
Nov-05	< 5	< 5	NA
May-06	< 5	< 5	NA
Nov-06	< 5	< 5	NA
Jun-07	< 5	< 5	NA
Nov-07	< 5	< 5	NA
May-08	< 5	< 5	NA
Nov-08	< 5	< 5	NA
May-09	< 5	< 5	NA
Oct-09	< 5	< 5	NA
Apr-10	< 5	< 5	< 5
Oct-10	< 5	< 5	14
Apr-11	< 5	< 5	< 5
Oct-11	< 5	< 5	6.2
Dec-11	< 5	< 5	< 5
Apr-12	< 5	< 5	< 5
Oct-12	< 5	< 5	< 5
Apr-13	< 5	< 5	< 5
Oct-13	< 5	< 5	< 5
Apr-14	< 5	< 5	< 5
Oct-14	< 5	< 5	< 5
Apr-15	< 5	< 5	< 5
Oct-15	< 5	< 5	< 5
Apr-16	< 5	< 5	< 5
Oct-16	< 5	< 5	< 5
Apr-17	< 5	< 5	5,000
Oct-17	< 250	< 250	< 250
Apr-18	< 5	< 5	75
Oct-18	< 5	< 5	8.6
Apr-19	< 5	< 5	< 5

< = Not Detected at Reporting Limit

Table 2
MW-14 | MW-14A Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Apr-90	< 5	< 5
Nov-90	< 5	< 5
May-91	< 5	< 5
Oct-91	< 5	< 5
May-92	< 5	< 5
Sep-92	9	< 5
Apr-93	< 5	< 5
Oct-93	11	< 5
Apr-94	86	< 5
Nov-94	35	< 5
Apr-95	19	6
Nov-95	9	7
May-96	< 5	5
Dec-96	36	8
May-97	< 5	< 5
Dec-97	46	< 5
Jun-98	< 5	< 5
Nov-98	280	8
Dec-98	NS	NS
Apr-99	33	7
Dec-99	12	6
Apr-00	< 5	< 5
Oct-00	< 5	< 5
Apr-01	< 5	< 5
Oct-01	< 5	< 5
Apr-02	< 5	< 5
Oct-02	< 5	< 5
Apr-03	< 5	< 5
Nov-03	< 5	< 5
May-04	< 5	< 5
Nov-04	< 5	< 5
May-05	< 5	< 5
Nov-05	< 5	< 5
May-06	< 5	< 5
Nov-06	< 5	< 5
Jun-07	< 5	< 5
Nov-07	< 5	< 5
May-08	< 5	< 5
Nov-08	< 5	< 5
May-09	< 5	< 5
Oct-09	< 5	< 5
Apr-10	< 5	< 5
Oct-10	< 5	< 5
Apr-11	< 5	< 5
Oct-11	< 5	< 5
Apr-12	< 5	< 5
Oct-12	< 5	< 5
Apr-13	< 5	< 5
Oct-13	< 5	< 5
Apr-14	< 5	< 5
Oct-14	< 5	< 5
Apr-15	< 5	< 5
Oct-15	< 5	< 5
Apr-16	< 5	< 5
Oct-16	< 5	< 5
Apr-17	< 5	< 5
Oct-17	< 5	< 5
Apr-18	< 5	< 5
Oct-18	< 5	< 5
Apr-19	< 5	< 5

< = Not Detected at Reporting Limit
NS = Not Sampled
MW-14 replaced with MW-14A May 1996

Table 2
MW-17 Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Dec-96	63	< 5
Feb-97	57	< 25
May-97	42	< 5
Dec-97	50	< 5
Jun-98	< 5	< 5
Jul-98	38	3 J
Aug-98	29	2 J
Aug-98	35	3 J
Sep-98	37	3 J
Oct-98	35	5 J
Nov-98	29	< 5
Dec-98	13	2 J
Apr-99	< 5	< 5
Dec-99	9	< 5
Oct-00	35	< 5
Apr-01	3 5	< 5
Oct-01	< 5	< 5
Apr-02	< 5	< 5
Oct-02	23	< 5
Apr-03	56	< 5
Nov-03	38	< 5
May-04	35	< 5
Nov-04	1 1	< 5
May-05	13	< 5
Nov-05	22	< 5
May-06	24	< 5
Nov-06	11	< 5
Jun-07	< 5	< 5
Nov-07	< 5	< 5
May-08	< 5	< 5
Nov-08	< 5	< 5
May-09	< 5	< 5
Oct-09	< 5	< 5
Apr-10	< 5	< 5
Oct-10	< 5	< 5
Apr-11	6.8	< 5
Oct-11	24	< 5
Apr-12	12	< 5
Oct-12	11	< 5
Apr-13	< 5	< 5
Oct-13	14	< 5
Apr-14	6.6	< 5
Oct-14	6.5	< 5
Apr-15	5.8	< 5
Oct-15	7.3	< 5
Apr-16	7.6	< 5
Oct-16	5.0	< 5
Apr-17	5.6	< 5
Oct-17	< 5	< 5
Apr-18	< 5	< 5
Oct-18	< 5	< 5
Apr-19	< 5	< 5

< = Not Detected at Reporting Limit
J denotes a laboratory estimation

Table 2
OS-1A Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Dec-96	< 5	< 5
May-97	< 5	< 5
Dec-97	< 5	< 5
Jun-98	< 5	< 5
Nov-98	< 5	< 5
Apr-99	< 5	< 5
Dec-99	< 5	< 5
Apr-00	< 5	< 5
Oct-00	< 5	< 5
Apr-01	< 5	< 5
Oct-01	< 5	< 5
Apr-02	< 5	< 5
Oct-02	< 5	< 5
Apr-03	< 5	< 5
Nov-03	< 5	< 5
May-04	< 5	< 5
Nov-04	< 5	< 5
May-05	< 5	< 5
Nov-05	< 5	< 5
May-06	< 5	< 5
Nov-06	< 5	< 5
Jun-07	< 5	< 5
Nov-07	< 5	< 5
May-08	< 5	< 5
Nov-08	< 5	< 5
May-09	< 5	< 5
Oct-09	< 5	< 5
Apr-10	< 5	< 5
Oct-10	< 5	< 5
Apr-11	< 5	< 5
Oct-11	< 5	< 5
Apr-12	< 5	< 5
Oct-12	< 5	< 5
Apr-13	< 5	< 5
Oct-13	< 5	< 5
Apr-14	< 5	< 5
Oct-14	< 5	< 5
Apr-15	< 5	< 5
Oct-15	< 5	< 5
Apr-16	< 5	< 5
Oct-16	< 5	< 5
Apr-17	< 5	< 5
Oct-17	< 5	< 5
Apr-18	< 5	< 5
Oct-18	< 5	< 5
Apr-18	< 5	< 5

< = Not Detected at Reporting Limit
NA = Not Available

Table 2
OS-3 Historical Groundwater Analytical Results
Sterling - Site 1
April 2019

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Apr-90	< 5	< 5
Nov-90	< 5	< 5
Feb-91	< 5	< 5
May-91	< 5	< 5
Oct-91	< 5	< 5
Apr-92	< 5	< 5
Sep-92	< 5	< 5
Apr-93	< 5	< 5
Oct-93	< 5	< 5
Apr-94	< 5	< 5
Nov-94	< 5	< 5
Apr-95	< 5	< 5
Nov-95	< 5	< 5
May-96	< 5	< 5
Dec-96	< 5	< 5
May-97	< 5	< 5
Dec-97	< 5	< 5
Jun-98	< 5	< 5
Nov-98	< 5	< 5
Apr-99	< 5	< 5
Dec-99	< 5	< 5
Apr-00	< 5	< 5
Oct-00	< 5	< 5
Apr-01	< 5	< 5
Oct-01	< 5	< 5
Apr-02	< 5	< 5
Oct-02	< 5	< 5
Apr-03	< 5	< 5
Nov-03	< 5	< 5
May-04	< 5	< 5
Nov-04	< 5	< 5
May-05	< 5	< 5
Nov-05	< 5	< 5
May-06	< 5	< 5
Nov-06	< 5	< 5
Jun-07	< 5	< 5
Nov-07	< 5	< 5
May-08	< 5	< 5
Nov-08	< 5	< 5
May-09	< 5	< 5
Oct-09	< 5	< 5
Apr-10	< 5	< 5
Oct-10	< 5	< 5
Apr-11	< 5	< 5
Oct-11	< 5	< 5
Apr-12	< 5	< 5
Oct-12	< 5	< 5
Apr-13	< 5	< 5
Oct-13	< 5	< 5
Apr-14	< 5	< 5
Oct-14	< 5	< 5
Apr-15	< 5	< 5
Oct-15	< 5	< 5
Apr-16	< 5	< 5
Oct-16	< 5	< 5
Apr-17	< 5	< 5
Oct-17	< 5	< 5
Apr-18	< 5	< 5
Oct-18	< 5	< 5
Apr-19	< 5	< 5

< = Not Detected at Reporting Limit
NA = Not Available

Table 2
OS-4 | OS-4A Historical Groundwater Analytical Results
Sterling - Site 1
October 2018

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Apr-90	< 5	< 5
Nov-90	< 5	< 5
Oct-91	< 5	< 5
Apr-92	< 5	< 5
Sep-92	DRY	DRY
Apr-93	DRY	DRY
Oct-93	DRY	DRY
Apr-94	DRY	DRY
Nov-94	DRY	DRY
Apr-95	< 5	< 5
Nov-95	DRY	DRY
May-96	< 5	< 5
Dec-96	< 5	< 5
May-97	< 5	< 5
Dec-97	< 5	< 5
Jun-98	< 5	< 5
Nov-98	< 5	< 5
Apr-99	< 5	< 5
Dec-99	< 5	< 5
Apr-00	< 5	< 5
Oct-00	< 5	< 5
Apr-01	< 5	< 5
Oct-01	< 5	< 5
Apr-02	< 5	< 5
Oct-02	< 5	< 5
Apr-03	< 5	< 5
Nov-03	< 5	< 5
May-04	< 5	< 5
Nov-04	< 5	< 5
May-05	< 5	< 5
Nov-05	< 5	< 5
May-06	< 5	< 5
Nov-06	< 5	< 5
Jun-07	< 5	< 5
Nov-07	< 5	< 5
May-08	< 5	< 5
Nov-08	< 5	< 5
May-09	< 5	< 5
Oct-09	< 5	< 5
Apr-10	< 5	< 5
Oct-10	< 5	< 5
Apr-11	< 5	< 5
Oct-11	< 5	< 5
Apr-12	< 5	< 5
Oct-12	< 5	< 5
Apr-13	< 5	< 5
Oct-13	< 5	< 5
Apr-14	< 5	< 5
Oct-14	< 5	< 5
Apr-15	< 5	< 5
Oct-15	< 5	< 5
Apr-16	< 5	< 5
Oct-16	< 5	< 5
Apr-17	< 5	< 5
Oct-17	< 5	< 5
Apr-18	< 5	< 5
Oct-18	< 5	< 5
Apr-19	< 5	< 5

< = Not Detected at Reporting Limit
NA = Not Available
OS-4 replaced with OS-4A May 1996

Table 2
OS-5 | OS-5A Historical Groundwater Analytical Results
Sterling - Site 1
October 2018

Date	Benzene (µg/1)	Chlorobenzene (µg/1)
Apr-90	< 5	< 5
Nov-90	< 5	< 5
May-91	< 5	< 5
Oct-91	< 5	< 5
Apr-92	< 5	< 5
Sep-92	DRY	DRY
Apr-93	DRY	DRY
Apr-94	< 5	< 5
Nov-94	DRY	DRY
Apr-95	< 5	< 5
Nov-95	< 5	< 5
May-96	< 5	< 5
Dec-96	< 5	< 5
May-97	< 5	< 5
Dec-97	< 5	< 5
Jun-98	< 5	< 5
Nov-98	< 5	< 5
Apr-99	< 5	< 5
Dec-99	< 5	< 5
Apr-00	< 5	< 5
Oct-00	< 5	< 5
Apr-01	< 5	< 5
Oct-01	< 5	< 5
Apr-02	< 5	< 5
Oct-02	< 5	< 5
Apr-03	< 5	< 5
Nov-03	< 5	< 5
May-04	< 5	< 5
Nov-04	< 5	< 5
May-05	< 5	< 5
Nov-05	< 5	54
Dec-05	< 5	< 5
May-06	< 5	< 5
Nov-06	< 5	< 5
Jun-07	< 5	< 5
Nov-07	< 5	< 5
May-08	< 5	< 5
Nov-08	< 5	< 5
May-09	< 5	< 5
Oct-09	< 5	< 5
Apr-10	< 5	< 5
Oct-10	< 5	< 5
Apr-11	< 5	< 5
Oct-11	< 5	< 5
Apr-12	< 5	< 5
Oct-12	< 5	< 5
Apr-13	< 5	< 5
Oct-13	< 5	< 5
Apr-14	< 5	< 5
Oct-14	< 5	< 5
Apr-15	< 5	< 5
Oct-15	< 5	< 5
Apr-16	< 5	< 5
Oct-16	< 5	< 5
Apr-17	< 5	< 5
Oct-17	< 5	< 5
Apr-18	< 5	< 5
Oct-18	< 5	< 5
Apr-19	< 5	< 5

< = Not Detected at Reporting Limit
NA = Not Available
OS-5 replaced with OS-5A May 1996

Table 3

Field Data Summary
Sterling - Site 1

October 15 and 16, 2018

Well ID	Date	Well Depth (ft.)	Water Depth (ft.)	Vol. Water (gal.)	Purge Method	Temp. (°C)	Turbidity (NTU)	ORP/EH (mV)	pH	Conductivity (mS/cm)	Field Notes
MW-3	4/17/2019	11.70	6.91	3.25	Bailer	12.82	56.6	206.2	8.41	0.942	Water was clear and colorless with no odor, sheen, or effervescence. Small black particles were noted suspended within the water column. Well went dry at 3.5 gallons purged.
				NA		-	-	-	-	-	
				NA		-	-	-	-	-	
MW-5A	4/17/2019	15.10	6.23	5.75	Bailer	13.98	623	214.1	7.79	6.374	Water was dark orange and moderately turbid with no odor, sheen, or effervescence. Well went dry at 5.75 gallons purged.
				NA		-	-	-	-	-	
				NA		-	-	-	-	-	
MW-6A	4/17/2019	13.10	10.13	2.00	Bailer	10.19	295	277.4	7.83	2.760	Water was light tan and mildly turbid with no odor, sheen, or effervescence. Well went dry at 3.75 gallons purged.
				NA		-	-	-	-	-	
				NA		-	-	-	-	-	
MW-8	4/16/2019	17.75	13.90	1.75	Bailer	11.65	201	262.7	7.23	3.026	Water was light brown and moderately turbid with no odor, sheen, or effervescence.
				3.50		10.81	145	253.1	7.21	3.028	
				5.00		11.15	>1000	262.3	7.14	3.044	
MW-11A	4/17/2019	10.00	8.52	1.00	Bailer	10.86	47.2	158.2	7.82	1.128	Water was clear and colorless with no odor, sheen or effervescence. Well went dry at 2.5 gallons purged.
				2.00		10.30	62.9	179.7	7.49	1.028	
				NA		-	-	-	-	-	
MW-12	4/17/2019	12.90	10.50	1.50	Bailer	12.76	577	286.2	7.60	2.787	Water was light orange and moderately turbid with a faint chemical odor and no sheen or effervescence. Well was dry at 1.6 gallons purged.
				NA		-	-	-	-	-	
				NA		-	-	-	-	-	
MW-14A	4/17/2019	12.20	7.80	2.75	Bailer	10.75	98.9	177.4	8.81	0.830	Water was clear and colorless with no odor, sheen or effervescence.
				5.50		10.12	33.1	229.8	7.67	0.722	
				8.75		10.41	31.8	214.4	7.88	0.714	
MW-17	4/19/2019	14.70	5.72	6.00	Bailer	13.54	212.0	243.6	8.44	1.589	Water was slightly turbid and colorless with a faint chemical odor and no sheen or effervescence.
				12.00		13.61	179.0	239.5	8.29	1.454	
				17.75		13.68	186	218.0	8.30	1.460	

Table 3

Field Data Summary
Sterling - Site 1

October 15 and 16, 2018

Well ID	Date	Well Depth (ft.)	Water Depth (ft.)	Vol. Water (gal.)	Purge Method	Temp. (°C)	Turbidity (NTU)	ORP/EH (mV)	pH	Conductivity (mS/cm)	Field Notes
OS-1A	4/16/2019	15.00	12.16	2.00	Bailer	10.53	19	253.8	7.63	2.818	Water was clear and colorless with no odor, sheen or effervescence..
				3.75		10.07	42.6	260.2	7.49	2.768	
				5.25		9.98	108	260.6	7.46	2.825	
OS-3	4/16/2019	10.70	7.21	2.25	Bailer	8.49	357	206	8.99	0.444	Water was clear and slightly turbid with no odor, sheen, or effervescence.
				4.50		7.72	237	278.3	7.71	0.388	
				6.75		7.71	285	0.382	7.31	2.965	
OS-4A	4/16/2019	10.00	5.96	2.75	Bailer	7.96	55.2	245.3	7.77	1.041	Water was clear and colorless with no odor, sheen or effervescence.
				5.50		7.45	48.0	275.6	7.26	1.024	
				8.25		7.69	36.7	279.5	7.11	1.020	
OS-5A	4/16/2019	13.00	3.41	6.25	Bailer	10.00	482	0.349	7.98	2.651	Water was light brown and moderately turbid with no odor, sheen, or effervescence. Well was dry at 6.5 gallons purged.
				NA		-	-	-	-	-	
				NA		-	-	-	-	-	

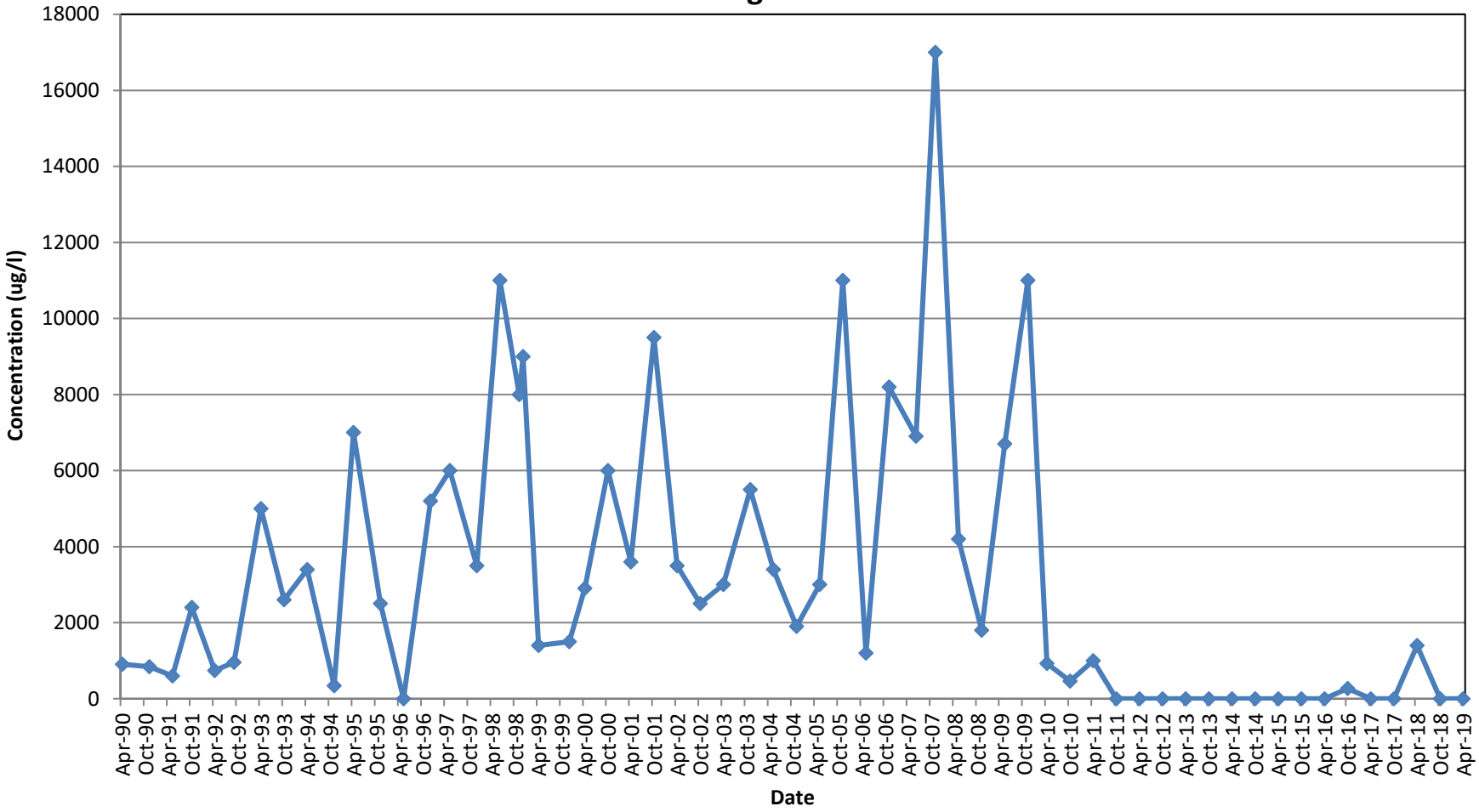
NA = Not Applicable

GRAPHS

Graph 1

MW-3 Benzene Concentrations vs. Time

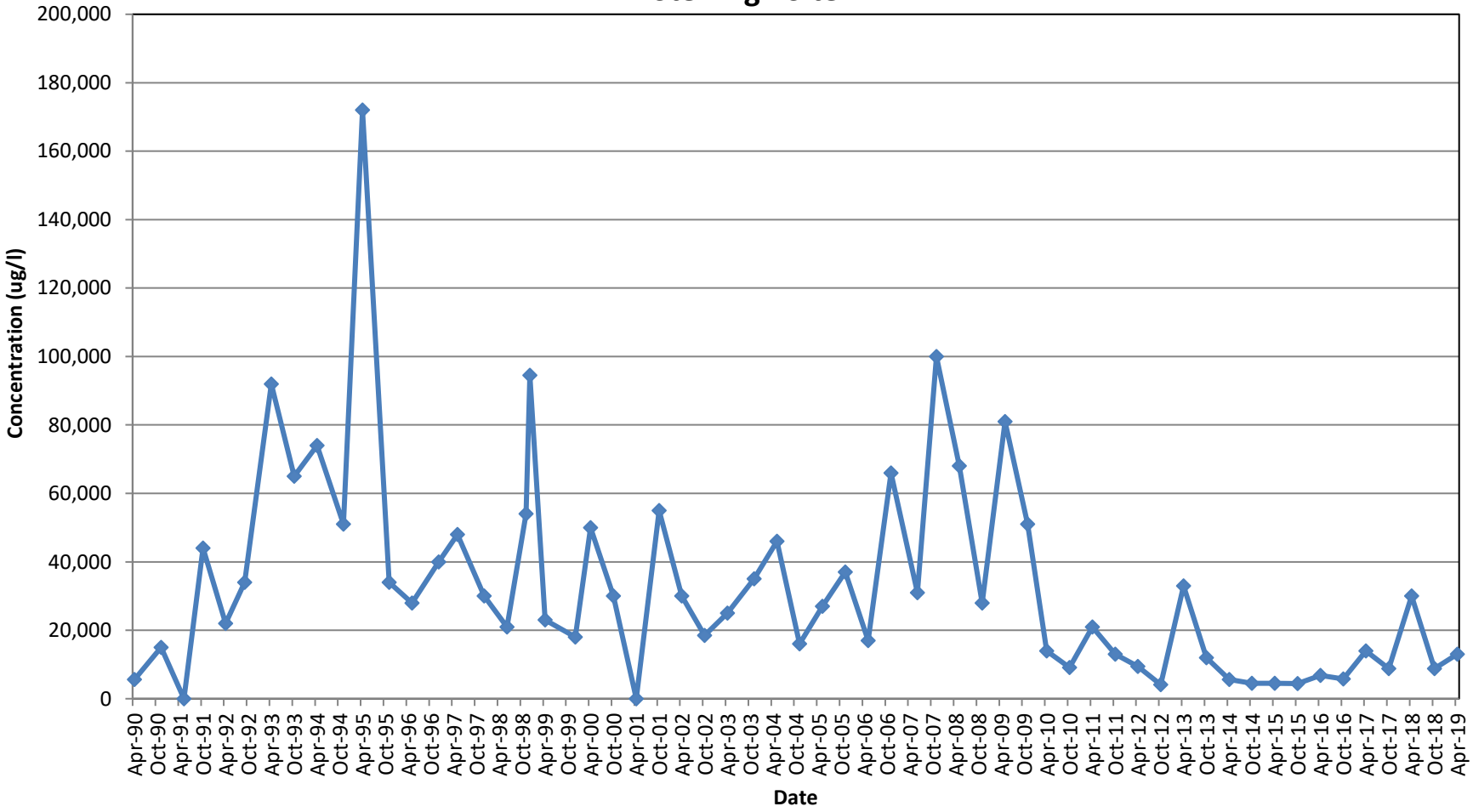
Sterling - Site 1



Graph 2

MW-3 Chlorobenzene Concentrations vs. Time

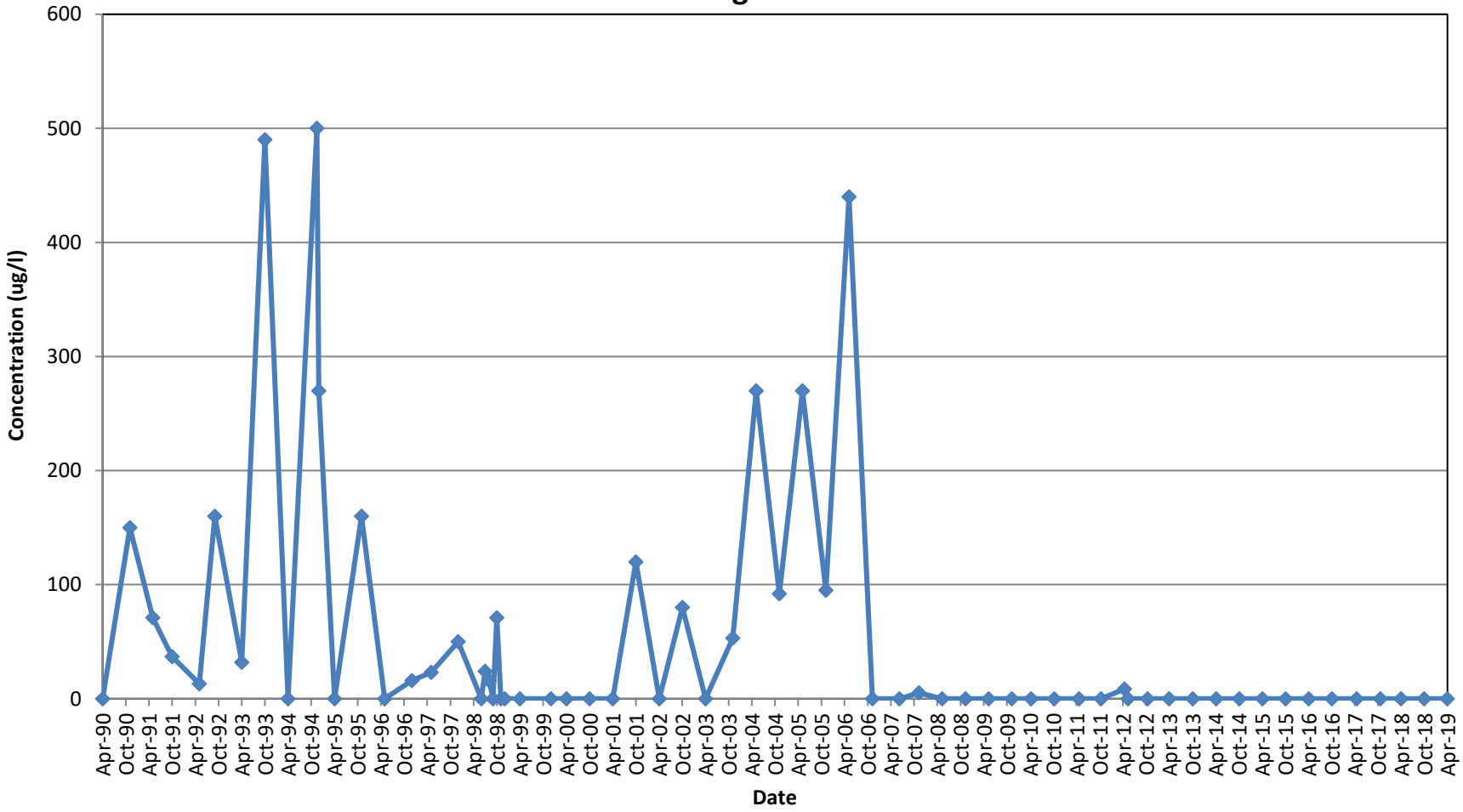
Sterling - Site 1



Graph 3

MW-5/MW-5A Benzene Concentrations vs. Time

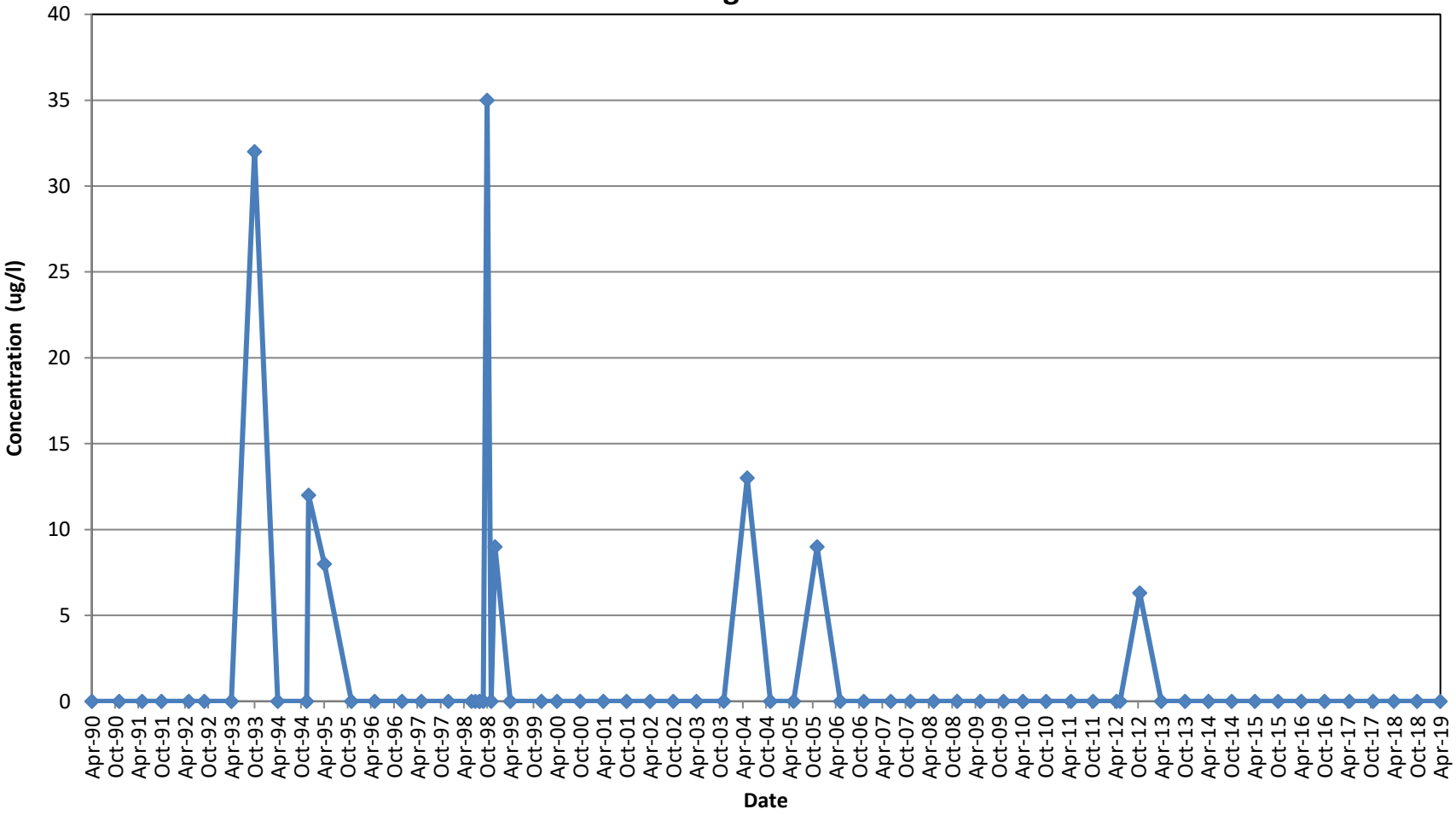
Sterling - Site 1



Graph 4

MW-5/MW-5A Chlorobenzene Concentrations vs. Time

Sterling - Site 1



APPENDIX A
LABORATORY ANALYTICAL REPORTS

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(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

April 22, 2019

David Orton
AMRI-Rensselaer, Inc
33 Riverside Avenue
Rensselaer, NY 12144

TEL: (518)433-7772

Work Order No: 190416080

RE: Sterling Site 1
Semi-Annual GW Monitoring

Dear David Orton:

Adirondack Environmental Services, Inc received 6 samples on 4/16/2019 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Tara Daniels
Laboratory Director

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	AMRI-Rensselaer, Inc	**Date:**	*22-Apr-19*
Project:	Sterling Site 1		
Lab Order:	190416080		

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

ND : Not Detected at reporting limit	C: CCV below acceptable Limits
J: Analyte detected below quantitation limit	C+: CCV above acceptable Limits
B: Analyte detected in Blank	S: LCS Spike recovery is below acceptable limits
X : Exceeds maximum contamination limit	S+: LCS Spike recovery is above acceptable limits
H: Hold time exceeded	Z: Duplication outside acceptable limits
N: Matrix Spike below acceptable limits	T : Tentatively Identified Compound-Estimated
N+: Matrix Spike is above acceptable limits	E :Above quantitation range-Estimated

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: *22-Apr-19*

CLIENT: AMRI-Rensselaer, Inc
Project: Sterling Site 1
Semi-Annual GW Monitoring

LabWork Order: **190416080**
PO#:

Lab SampleID: 190416080-001 **Collection Date:** 4/16/2019
Client Sample ID: OS-3 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 6:19:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 6:19:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 6:19:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 6:19:00 PM
Surr: 1,2-Dichloroethane-d4	**91.8**	80.9-126		%REC	1	4/18/2019 6:19:00 PM
Surr: 4-Bromofluorobenzene	**131**	84.5-119	S	%REC	1	4/18/2019 6:19:00 PM
Surr: Toluene-d8	**106**	79.4-124		%REC	1	4/18/2019 6:19:00 PM

Lab SampleID: 190416080-002 **Collection Date:** 4/16/2019
Client Sample ID: OS-5A **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 6:40:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 6:40:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 6:40:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 6:40:00 PM
Surr: 1,2-Dichloroethane-d4	**117**	80.9-126		%REC	1	4/18/2019 6:40:00 PM
Surr: 4-Bromofluorobenzene	**107**	84.5-119		%REC	1	4/18/2019 6:40:00 PM
Surr: Toluene-d8	**82.5**	79.4-124		%REC	1	4/18/2019 6:40:00 PM

Lab SampleID: 190416080-003 **Collection Date:** 4/16/2019
Client Sample ID: OS-4A **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 7:01:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 7:01:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 7:01:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 7:01:00 PM
Surr: 1,2-Dichloroethane-d4	**102**	80.9-126		%REC	1	4/18/2019 7:01:00 PM
Surr: 4-Bromofluorobenzene	**105**	84.5-119		%REC	1	4/18/2019 7:01:00 PM
Surr: Toluene-d8	**77.2**	79.4-124	S	%REC	1	4/18/2019 7:01:00 PM

Adirondack Environmental Services, Inc

Date: *22-Apr-19*

CLIENT: AMRI-Rensselaer, Inc
Project: Sterling Site 1
Semi-Annual GW Monitoring

LabWork Order: **190416080**
PO#:

Lab SampleID: 190416080-004 **Collection Date:** 4/16/2019
Client Sample ID: MW-8 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 7:23:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 7:23:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 7:23:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 7:23:00 PM
Surr: 1,2-Dichloroethane-d4	**86.3**	80.9-126		%REC	1	4/18/2019 7:23:00 PM
Surr: 4-Bromofluorobenzene	**143**	84.5-119	S	%REC	1	4/18/2019 7:23:00 PM
Surr: Toluene-d8	**106**	79.4-124		%REC	1	4/18/2019 7:23:00 PM

Lab SampleID: 190416080-005 **Collection Date:** 4/16/2019
Client Sample ID: OS-1A **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 7:44:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 7:44:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 7:44:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 7:44:00 PM
Surr: 1,2-Dichloroethane-d4	**117**	80.9-126		%REC	1	4/18/2019 7:44:00 PM
Surr: 4-Bromofluorobenzene	**94.6**	84.5-119		%REC	1	4/18/2019 7:44:00 PM
Surr: Toluene-d8	**90.4**	79.4-124		%REC	1	4/18/2019 7:44:00 PM

Lab SampleID: 190416080-006 **Collection Date:** 4/16/2019
Client Sample ID: Trip Blank **Matrix:** TRIP BLANK

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 8:05:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 8:05:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 8:05:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 8:05:00 PM
Surr: 1,2-Dichloroethane-d4	**119**	80.9-126		%REC	1	4/18/2019 8:05:00 PM
Surr: 4-Bromofluorobenzene	**121**	84.5-119	S	%REC	1	4/18/2019 8:05:00 PM
Surr: Toluene-d8	**80.8**	79.4-124		%REC	1	4/18/2019 8:05:00 PM

Adirondack Environmental Services Inc.
314 North Pearl Street
Albany, New York 12207
518-434-4546/434-0891 FAX

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CHAIN OF CUSTODY RECORD

AES Work Order # 1904160080

Client Name:	Address:	
AMRI	33 Riverside Ave, Rensselaer, NY	
Send Report To:	**Project Name (Location)**	**Samplers: (Names)**
DAVE ORTON	Semi-Annual GW Monitoring	E. Wos
Client Phone No:	**Client Email:**	**PO Number:**
518-433-7772		

Samplers: (Signature) E. Wos

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.		Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	OS-3	4/16/19	1420	A (P)	GW		X	2	A
002	OS-5A	4/16/19	1445	A (P)	GW		X	2	A
003	OS-4A	4/16/19	1530	A (P)	GW		X	2	A
004	MW-8	4/16/19	1605	A (P)	GW		X	2	A
005	OS-1A	4/16/19	1640	A (P)	GW		X	2	A
006	TRIP BLANK	—	—	A P	GW	—	—	1	A
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					

Shipment Arrived Via:
FedEx UPS Client AES Other:_____

CC Report To / Special Instructions/Remarks:
A=benzene, Toluene, chlorobenzene, 1,2 DCA via 624

Turnaround Time Request:
☐ 1 Day ☐ 3 Day ☒ Normal
☐ 2 Day ☐ 5 Day
Note: Samples received after 3:30 pm are considered next business day

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
E. Wos		4/16/19 4:55pm
Relinquished by: (Signature)	**Received by: (Signature)**	**Date/Time**
Relinquished by: (Signature)	**Received for Laboratory by:**	**Date/Time**
	KMS	4/16/19 455pm

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
Ambient or (Chilled)	Y ☒ N ☐	(Y) N	(Y) N
Notes: 14°C		Notes:	

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Servi

Demo
190416080

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TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

(a) Neither **Adirondack Environmental Services, Inc.,** nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.'s** performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.

(b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.

(c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.

(d) In no event shall **Adirondack Environmental Services, Inc.,** its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.

(e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**

(f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.

(g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

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(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

May 01, 2019

David Orton
AMRI-Rensselaer, Inc
33 Riverside Avenue
Rensselaer, NY 12144

TEL: (518)433-7772

Work Order No: 190417054

RE: Sterling Site 1
AMRI-Rensselaer

Dear David Orton:

Adirondack Environmental Services, Inc received 7 samples on 4/17/2019 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Tara Daniels
Laboratory Director

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	AMRI-Rensselaer, Inc	**Date:**	*01-May-19*
Project:	Sterling Site 1		
Lab Order:	190417054		

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:		
	ND : Not Detected at reporting limit	C: CCV below acceptable Limits
	J: Analyte detected below quantitation limit	C+: CCV above acceptable Limits
	B: Analyte detected in Blank	S: LCS Spike recovery is below acceptable limits
	X : Exceeds maximum contamination limit	S+: LCS Spike recovery is above acceptable limits
	H: Hold time exceeded	Z: Duplication outside acceptable limits
	N: Matrix Spike below acceptable limits	T : Tentatively Identified Compound-Estimated
	N+: Matrix Spike is above acceptable limits	E :Above quantitation range-Estimated

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: *01-May-19*

CLIENT: AMRI-Rensselaer, Inc
Project: Sterling Site 1
AMRI-Rensselaer

LabWork Order: **190417054**
PO#:

Lab SampleID: 190417054-001 **Collection Date:** 4/17/2019
Client Sample ID: MW-6A **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 4/18/2019**)						Analyst: **SM**
Arsenic	**0.034**	0.005		mg/L	1	4/26/2019 5:49:51 PM
Sodium	**460**	0.500		mg/L	10	4/26/2019 5:55:01 PM
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 9:09:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 9:09:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 9:09:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 9:09:00 PM
Surr: 1,2-Dichloroethane-d4	**107**	80.9-126		%REC	1	4/18/2019 9:09:00 PM
Surr: 4-Bromofluorobenzene	**94.6**	84.5-119		%REC	1	4/18/2019 9:09:00 PM
Surr: Toluene-d8	**102**	79.4-124		%REC	1	4/18/2019 9:09:00 PM

Lab SampleID: 190417054-002 **Collection Date:** 4/17/2019
Client Sample ID: MW-12 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 4/18/2019**)						Analyst: **SM**
Arsenic	**0.019**	0.005		mg/L	1	4/26/2019 6:00:09 PM
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 9:31:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 9:31:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 9:31:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 9:31:00 PM
Surr: 1,2-Dichloroethane-d4	**101**	80.9-126		%REC	1	4/18/2019 9:31:00 PM
Surr: 4-Bromofluorobenzene	**92.6**	84.5-119		%REC	1	4/18/2019 9:31:00 PM
Surr: Toluene-d8	**94.4**	79.4-124		%REC	1	4/18/2019 9:31:00 PM

Adirondack Environmental Services, Inc

Date: *01-May-19*

CLIENT: AMRI-Rensselaer, Inc
Project: Sterling Site 1
AMRI-Rensselaer

LabWork Order: **190417054**
PO#:

Lab SampleID: 190417054-003 **Collection Date:** 4/17/2019
Client Sample ID: MW-11A **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 9:52:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 9:52:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 9:52:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 9:52:00 PM
Surr: 1,2-Dichloroethane-d4	**111**	80.9-126		%REC	1	4/18/2019 9:52:00 PM
Surr: 4-Bromofluorobenzene	**149**	84.5-119	S	%REC	1	4/18/2019 9:52:00 PM
Surr: Toluene-d8	**104**	79.4-124		%REC	1	4/18/2019 9:52:00 PM

Lab SampleID: 190417054-004 **Collection Date:** 4/17/2019
Client Sample ID: MW-5A **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 4/18/2019**)						Analyst: **SM**
Arsenic	**0.015**	0.005		mg/L	1	4/30/2019 2:59:27 PM
Sodium	**1120**	5.00		mg/L	100	4/30/2019 3:46:55 PM
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 10:13:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 10:13:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 10:13:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 10:13:00 PM
Surr: 1,2-Dichloroethane-d4	**122**	80.9-126		%REC	1	4/18/2019 10:13:00 PM
Surr: 4-Bromofluorobenzene	**96.5**	84.5-119		%REC	1	4/18/2019 10:13:00 PM
Surr: Toluene-d8	**115**	79.4-124		%REC	1	4/18/2019 10:13:00 PM

Adirondack Environmental Services, Inc

Date: *01-May-19*

CLIENT: AMRI-Rensselaer, Inc
Project: Sterling Site 1
AMRI-Rensselaer

LabWork Order: **190417054**
PO#:

Lab SampleID: 190417054-005 **Collection Date:** 4/17/2019
Client Sample ID: MW-14A **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 4/18/2019**)						Analyst: **SM**
Arsenic	**0.380**	0.005		mg/L	1	4/30/2019 3:09:35 PM
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 10:35:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 10:35:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 10:35:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 10:35:00 PM
Surr: 1,2-Dichloroethane-d4	**105**	80.9-126		%REC	1	4/18/2019 10:35:00 PM
Surr: 4-Bromofluorobenzene	**123**	84.5-119	S	%REC	1	4/18/2019 10:35:00 PM
Surr: Toluene-d8	**101**	79.4-124		%REC	1	4/18/2019 10:35:00 PM

Lab SampleID: 190417054-006 **Collection Date:** 4/17/2019
Client Sample ID: MW-3 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	500		µg/L	100	4/18/2019 11:20:00 PM
Benzene	**ND**	500		µg/L	100	4/18/2019 11:20:00 PM
Toluene	**ND**	500		µg/L	100	4/18/2019 11:20:00 PM
Chlorobenzene	**13000**	500		µg/L	100	4/18/2019 11:20:00 PM
Surr: 1,2-Dichloroethane-d4	**120**	80.9-126		%REC	100	4/18/2019 11:20:00 PM
Surr: 4-Bromofluorobenzene	**139**	84.5-119	S	%REC	100	4/18/2019 11:20:00 PM
Surr: Toluene-d8	**114**	79.4-124		%REC	100	4/18/2019 11:20:00 PM

Adirondack Environmental Services, Inc

Date: *01-May-19*

CLIENT: AMRI-Rensselaer, Inc
Project: Sterling Site 1
AMRI-Rensselaer

LabWork Order: **190417054**
PO#:

Lab SampleID: 190417054-007
Client Sample ID: Trip Blank

Collection Date: 4/17/2019
Matrix: TRIP BLANK

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/18/2019 10:56:00 PM
Benzene	**ND**	5.0		µg/L	1	4/18/2019 10:56:00 PM
Toluene	**ND**	5.0		µg/L	1	4/18/2019 10:56:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/18/2019 10:56:00 PM
Surr: 1,2-Dichloroethane-d4	**112**	80.9-126		%REC	1	4/18/2019 10:56:00 PM
Surr: 4-Bromofluorobenzene	**106**	84.5-119		%REC	1	4/18/2019 10:56:00 PM
Surr: Toluene-d8	**98.8**	79.4-124		%REC	1	4/18/2019 10:56:00 PM

Adirondack Environmental Services Inc.
314 North Pearl Street
Albany, New York 12207
518-434-4546/434-0891 FAX

CHAIN OF CUSTODY RECORD

AES Work Order # 190417054

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Client Name:	Address:	
AMRI	33 Riverside Ave, Rensselaer, NY	
Send Report To:	**Project Name (Location)**	**Samplers: (Names)**
AMANDA POST / DAVE ORTON	AMRI - Rensselaer	Elizabeth Was
Client Phone No:	**Client Email:**	**PO Number:**
433-7772		

Samplers: (Signature) E Wa

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.		Sample Type Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	MW-6A	4/17/19	1330	A (P)	GW		X	3	A, B, C
002	MW-12		1340	A (P)				3	A, B
003	MW-11A		1350	A (P)				2	A
004	MW-5A		1400	A (P)				3	A, B, C
005	MW-14A		1410	A (P)				3	A, B
006	MW-3		1420	A (P)				2	A
007	Trip Blank		—	A P			—	1	
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					

Shipment Arrived Via:
FedEx UPS (Client) AES Other:_____

Turnaround Time Request:
☐ 1 Day ☐ 3 Day ☒ Normal
☐ 2 Day ☐ 5 Day
Note: Samples received after 3:30 pm are considered next business day

CC Report To / Special Instructions/Remarks:
A = benzene, toluene, chlorobenzene, 1,2DCA via 264
B = Arsenic via 206.2
C = Sodium via 200.7

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
E Wa		
Relinquished by: (Signature)	**Received by: (Signature)**	**Date/Time**
Relinquished by: (Signature)	**Received for Laboratory by:**	**Date/Time**
	Maura E Kelly	4/17/19 2158 pm

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
Ambient or (Chilled)	Y ☑ N ☐	(Y) N	(Y) N
Notes: 11°C		Notes:	Notes:

WHITE - Lab Copy YELLOW - Sampler Copy

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Demo
190417054

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All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

(a) Neither **Adirondack Environmental Services, Inc.,** nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.'s** performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.

(b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.

(c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.

(d) In no event shall **Adirondack Environmental Services, Inc.,** its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.

(e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**

(f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.

(g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

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May 01, 2019

Amanda Post
AMRI-Rensselaer, Inc
33 Riverside Avenue
Rensselaer, NY 12144

TEL: (518)433-7772

Work Order No: 190419025

RE: Sterling Site 1

Dear Amanda Post:

Adirondack Environmental Services, Inc received 2 samples on 4/19/2019 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709

Tara Daniels
Laboratory Director

Adirondack Environmental Services, Inc CASE NARRATIVE

CLIENT:	AMRI-Rensselaer, Inc	**Date:**	*01-May-19*
Project:	Sterling Site 1		
Lab Order:	190419025		

Sample containers were supplied by Adirondack Environmental Services.

Definitions - RL: Reporting Limit DF: Dilution factor

Qualifiers:

- ND : Not Detected at reporting limit
- J: Analyte detected below quantitation limit
- B: Analyte detected in Blank
- X : Exceeds maximum contamination limit
- H: Hold time exceeded
- N: Matrix Spike below acceptable limits
- N+: Matrix Spike is above acceptable limits
- C: CCV below acceptable Limits
- C+: CCV above acceptable Limits
- S: LCS Spike recovery is below acceptable limits
- S+: LCS Spike recovery is above acceptable limits
- Z: Duplication outside acceptable limits
- T : Tentatively Identified Compound-Estimated
- E :Above quantitation range-Estimated

Note : All Results are reported as wet weight unless noted

The results relate only to the items tested. Information supplied by the client is assumed to be correct.

Adirondack Environmental Services, Inc

Date: *01-May-19*

CLIENT: AMRI-Rensselaer, Inc
Project: Sterling Site 1

LabWork Order: **190419025**
PO#:

Lab SampleID: 190419025-001 **Collection Date:** 4/19/2019
Client Sample ID: MW-17 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS - EPA 200.7 REV 4.4 (**Prep: - 4/19/2019**)						Analyst: **SM**
Sodium	**160**	0.500		mg/L	10	4/30/2019 5:58:24 PM
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/22/2019 4:38:00 PM
Benzene	**ND**	5.0		µg/L	1	4/22/2019 4:38:00 PM
Toluene	**ND**	5.0		µg/L	1	4/22/2019 4:38:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/22/2019 4:38:00 PM
Surr: 1,2-Dichloroethane-d4	**103**	80.9-126		%REC	1	4/22/2019 4:38:00 PM
Surr: 4-Bromofluorobenzene	**99.3**	84.5-119		%REC	1	4/22/2019 4:38:00 PM
Surr: Toluene-d8	**92.2**	79.4-124		%REC	1	4/22/2019 4:38:00 PM

Lab SampleID: 190419025-002 **Collection Date:** 4/19/2019
Client Sample ID: Trip Blank **Matrix:** TRIP BLANK

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS EPA 624.1						Analyst: **SMD**
1,2-Dichloroethane	**ND**	5.0		µg/L	1	4/22/2019 5:00:00 PM
Benzene	**ND**	5.0		µg/L	1	4/22/2019 5:00:00 PM
Toluene	**ND**	5.0		µg/L	1	4/22/2019 5:00:00 PM
Chlorobenzene	**ND**	5.0		µg/L	1	4/22/2019 5:00:00 PM
Surr: 1,2-Dichloroethane-d4	**105**	80.9-126		%REC	1	4/22/2019 5:00:00 PM
Surr: 4-Bromofluorobenzene	**102**	84.5-119		%REC	1	4/22/2019 5:00:00 PM
Surr: Toluene-d8	**93.7**	79.4-124		%REC	1	4/22/2019 5:00:00 PM

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CHAIN OF CUSTODY RECORD

AES Work Order # 190419025

Client Name:	Address:	
AMRI	33 RIVERSIDE AVE. RENSSELAER NY	
Send Report To:	**Project Name (Location)**	**Samplers: (Names)**
AMANDA POST / DAVE ORTON		ELIZABETH WOS
Client Phone No:	**Client Email:**	**PO Number:**
(518) 433-7772		

Samplers: (Signature) E Wos

AES Sample Number	Client Sample Identification & Location	Date Sampled	Time A=a.m. P=p.m.		Sample Type: Matrix	Comp	Grab	Number of Cont's	Analysis Required
001	MW-17	4.19.19	1000	(A) P	GW		X	3	A, B
002	TRIP BLANK	—	—	A P	GW		—	1	A
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					
				A P					

Shipment Arrived Via:
FedEx UPS (Client) AES Other:_____

CC Report To / Special Instructions/Remarks:
A = benzene, toluene, chlorobenzene, 1,2DCA via 624
B = ~~Arsenic~~ Sodium via 200.7

Turnaround Time Request:
☐ 1 Day ☐ 3 Day ☒ Normal
☐ 2 Day ☐ 5 Day
Note: Samples received after 3:30 pm are considered next business day

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
E Wos		
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received for Laboratory by: J. Mc	Date/Time 4/19/19 10:46 AM

Temperature	AES Bottles	Properly Preserved	Received Within Holding Times
(Ambient) or Chilled	Y (☒) N (☐)	(Y) N	(Y) N
Notes: 16°C		Notes:	

WHITE - Lab Copy YELLOW - Sampler Copy

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Demo
190419025

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