# Semi-Annual Groundwater Sampling and Analysis Report April 2018

# AMRI - Rensselaer, Inc. Sterling Site 1

*CHA Project Number: 21341.2018.44200*

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*June 19, 2018*

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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 2018 groundwater sampling event, which was conducted on April 4th, 5th and 12th, 2018. 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. In addition, in accordance with correspondence from the NYSDEC to AMRI dated December 28, 2017, during this sampling event groundwater samples were also analyzed for per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane.

# 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 and a Hach 2100-P turbidimeter.

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 collection, the samples were 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).

Adirondack subcontracted ALS Environmental to analyze all samples for 1,4-dioxane via EPA method 8270 SIM, and subcontracted South Central Connecticut Regional Water Authority to analyze all samples for Perfluoroalkyl Substances (PFAS) via EPA modified method 537. The PFAS analyzed for were: Perfluorooctanesulfonic acid (PFOS), Perfluorooctanoic acid (PFOA), Perfluorononanoic acid (PFNA), Perfluorohexanesulfonic acid (PFHXS), Perfluoroheptanoic acid (PFHPA) and Perfluorobutanesulfonic acid (PFBS).

During this sampling event, well MW-17 was inaccessible on April 4$^{th}$ and 5$^{th}$. AMRI made arrangements for access to this well the following week, and CHA sampled the well on April 12$^{th}$.

Figure 1 depicts monitoring well locations and the groundwater piezometric surface contours based on the groundwater elevation data recorded on April 4, 2018. Groundwater flow patterns across the site during the April 2018 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 a mild odor, but no sheen or effervescence. Suspended black particulates were present in water. Well went dry at 6 gallons purged.
- Groundwater from MW-5A was light tan and moderately turbid with a faint odor, but no sheen or effervescence. Well went dry at 5 gallons purged.
- Groundwater from MW-6A was light tan and mildly turbid with a faint odor, but no sheen or effervescence.
- Groundwater from MW-8 was colorless and moderately turbid (cloudy) with no odor, sheen or effervescence.
- Groundwater from MW-11A was clear and colorless with a faint odor, but no sheen or effervescence. Well went dry at 1 gallon purged.
- Groundwater from MW-12 was dark gray and moderately turbid with an odor, but no sheen or effervescence. Well went dry at 1.25 gallons purged.
- Groundwater from MW-14A was clear and colorless with no odor, sheen or effervescence.
- Groundwater from MW-17 was moderately turbid and gray, with a faint odor, but no sheen or effervescence.
- Groundwater from OS-1A was clear and colorless, with a mild effervescence but no odor or sheen.
- Groundwater from OS-3 was tan and moderately 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 tan and moderately turbid with no odor, sheen or effervescence. Well went dry at 9 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 previous 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 (note: there are currently no established groundwater standards for PFAS or 1,4-Dioxane). Concentrations of VOCs, PFAS and 1,4-Dioxane 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 2016 | April 2017 | October 2017 | April 2018 | NYSDEC AWQS |
|---|---|---|---|---|---|
| Benzene | **270** | < 500 | < 1,000 | **1,400** | 1 |
| Chlorobenzene | **5,800** | **14,000** | **8,800** | **30,000** | 5 |
| Toluene | < 250 | < 500 | < 1,000 | < 1,000 | 5 |
| 1,2-Dichloroethane | < 250 | < 500 | < 1,000 | < 1,000 | 5 |
| 1,4-Dioxane | NA | NA | NA | 550 | NS |
| PFOS | NA | NA | NA | 0.005 | NS |
| PFOA | NA | NA | NA | 0.005 | NS |
| PFNA | NA | NA | NA | 0.003 | NS |
| PFHXS | NA | NA | NA | 0.004 | NS |
| PFHPA | NA | NA | NA | 0.002 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **MW-5A:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | 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 | **0.026** | 0.021 | 0.014 | 0.011 | 0.025 |
| Sodium | 1,160 | 910 | 1,379 | 1,700 | case-by-case |
| 1,4-Dioxane | NA | NA | NA | 1.2 | NS |
| PFOS | NA | NA | NA | 0.008 | NS |
| PFOA | NA | NA | NA | 0.006 | NS |
| PFNA | NA | NA | NA | < 0.002 | NS |
| PFHXS | NA | NA | NA | 0.013 | NS |
| PFHPA | NA | NA | NA | 0.004 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **MW-6A:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | 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 | **0.084** | **0.032** | **0.044** | **0.026** | 0.025 |
| Sodium | 271 | 366 | 424 | 479 | case-by-case |
| 1,4-Dioxane | NA | NA | NA | 11 | NS |
| PFOS | NA | NA | NA | 0.012 | NS |
| PFOA | NA | NA | NA | 0.01 | NS |
| PFNA | NA | NA | NA | < 0.002 | NS |
| PFHXS | NA | NA | NA | 0.006 | NS |
| PFHPA | NA | NA | NA | 0.004 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **MW-8:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | 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 |
| 1,4-Dioxane | NA | NA | NA | 0.08 | NS |
| PFOS | NA | NA | NA | 0.032 | NS |
| PFOA | NA | NA | NA | 0.007 | NS |
| PFNA | NA | NA | NA | < 0.002 | NS |
| PFHXS | NA | NA | NA | 0.01 | NS |
| PFHPA | NA | NA | NA | 0.005 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **MW-11A:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | 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 |
| 1,4-Dioxane | NA | NA | NA | 14 | NS |
| PFOS | NA | NA | NA | 0.007 | NS |
| PFOA | NA | NA | NA | 0.007 | NS |
| PFNA | NA | NA | NA | < 0.002 | NS |
| PFHXS | NA | NA | NA | 0.01 | NS |
| PFHPA | NA | NA | NA | 0.005 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **MW-12:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | NYSDEC AWQS |
|---|---|---|---|---|---|
| Benzene | < 5.0 | < 250 | < 250 | < 5.0 | 1 |
| Chlorobenzene | < 5.0 | < 250 | < 250 | < 5.0 | 5 |
| Toluene | < 5.0 | < 250 | < 250 | < 5.0 | 5 |
| 1,2-Dichloroethane | < 5.0 | **5,000** | < 250 | **75** | 5 |
| Arsenic | **0.120** | 0.013 | 0.013 | 0.023 | 0.025 |
| 1,4-Dioxane | NA | NA | NA | 14 | NS |
| PFOS | NA | NA | NA | < 0.004 | NS |
| PFOA | NA | NA | NA | 0.018 | NS |
| PFNA | NA | NA | NA | < 0.002 | NS |
| PFHXS | NA | NA | NA | 0.003 | NS |
| PFHPA | NA | NA | NA | 0.004 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **MW-14A:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | 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 | **1.84** | **0.621** | **1.22** | **1.19** | 0.025 |
| 1,4-Dioxane | NA | NA | NA | 0.86 | NS |
| PFOS | NA | NA | NA | 0.787 | NS |
| PFOA | NA | NA | NA | 0.018 | NS |
| PFNA | NA | NA | NA | < 0.002 | NS |
| PFHXS | NA | NA | NA | 0.202 | NS |
| PFHPA | NA | NA | NA | 0.007 | NS |
| PFBS | NA | NA | NA | 0.018 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **MW-17:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | NYSDEC AWQS |
|---|---|---|---|---|---|
| Benzene | **5.0** | **5.6** | < 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 | 361 | 249 | 374 | 225 | case-by-case |
| 1,4-Dioxane | NA | NA | NA | 0.18 | NS |
| PFOS | NA | NA | NA | 0.027 | NS |
| PFOA | NA | NA | NA | 0.003 | NS |
| PFNA | NA | NA | NA | < 0.002 | NS |
| PFHXS | NA | NA | NA | 0.016 | NS |
| PFHPA | NA | NA | NA | < 0.002 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **OS-1A:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | 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 |
| 1,4-Dioxane | NA | NA | NA | 0.06 | NS |
| PFOS | NA | NA | NA | < 0.004 | NS |
| PFOA | NA | NA | NA | 0.017 | NS |
| PFNA | NA | NA | NA | < 0.002 | NS |
| PFHXS | NA | NA | NA | < 0.003 | NS |
| PFHPA | NA | NA | NA | 0.009 | NS |
| PFBS | NA | NA | NA | 0.015 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **OS-3:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | 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 |
| 1,4-Dioxane | NA | NA | NA | 0.05 | NS |
| PFOS | NA | NA | NA | 0.03 | NS |
| PFOA | NA | NA | NA | 0.014 | NS |
| PFNA | NA | NA | NA | < 0.002 | NS |
| PFHXS | NA | NA | NA | 0.004 | NS |
| PFHPA | NA | NA | NA | 0.003 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **OS-4A:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | 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 |
| 1,4-Dioxane | NA | NA | NA | 0.29 | NS |
| PFOS | NA | NA | NA | 0.007 | NS |
| PFOA | NA | NA | NA | 0.01 | NS |
| PFNA | NA | NA | NA | 0.002 | NS |
| PFHXS | NA | NA | NA | 0.004 | NS |
| PFHPA | NA | NA | NA | 0.002 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

- **OS-5A:**

| Parameter | October 2016 | April 2017 | October 2017 | April 2018 | 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 |
| 1,4-Dioxane | NA | NA | NA | 0.66 | NS |
| PFOS | NA | NA | NA | < 0.004 | NS |
| PFOA | NA | NA | NA | 0.006 | NS |
| PFNA | NA | NA | NA | 0.002 | NS |
| PFHXS | NA | NA | NA | < 0.003 | NS |
| PFHPA | NA | NA | NA | 0.003 | NS |
| PFBS | NA | NA | NA | < 0.009 | NS |

NA – Sample not analyzed for this parameter
NS – No established groundwater standard

# 6.0 CONCLUSIONS

The laboratory analytical results for the April 2018 groundwater sampling event indicate that target VOCs were not detected at concentrations above laboratory reporting limits at on-site monitoring

wells except for monitoring wells MW-3 and MW-12. Target VOCs were not detected at concentrations above laboratory reporting limits at any of the four off-site well locations.

The VOCs benzene and chlorobenzene were detected at the location of MW-3 at concentrations of 1,400 and 30,000 µg/L, respectively, representing an increase since the most recent sampling event in October 2017. These concentrations are also higher than the concentrations of these parameters exhibited at this location over the past several years; however, they remain significantly lower than the historical maximum concentrations of these parameters at this location. 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 VOC 1,2-Dichloroethane was detected at the location of MW-12, along the southern property boundary, at a concentration of 75 µg/L. The most recent detection of this compound was in May 2017, when it was detected at a concentration of 4,100 µg/L (during resampling of MW-12 for confirmatory purposes, subsequent to detection at a concentration of 5,000 µg/L during the April 2017 semiannual sampling event). Prior to April 2017, this compound was historically detected at MW-12 in October 2010 and October 2011 at concentrations of 14 µg/L and 6.2 µg/L, respectively. Analytical data for MW-12 from 2012 through 2016, together with analytical data showing the absence of this compound at wells MA-6A, MW-11A and MW-17 (the AMRI wells closest to MW-12) and the well's location along the southern property boundary, suggest potential migration of this contaminant onto the AMRI site from the adjacent former BASF site to the south. The former BASF site has been the subject of previous investigation/remediation of chlorinated solvent-related contaminants, including 1,2-Dichloroethane.

The parameter arsenic was detected in four monitoring wells. Arsenic concentrations were 0.011 mg/L in MW-5A, 0.026 mg/L in MW-6A, 0.023 mg/L in MW-12, and 1.19 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 2018 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. Sodium does not have an established NYSDEC AWQS limit. The detection of sodium in each monitoring well was comparable to detections observed in the previous three monitoring events.

The compound 1,4-Dioxane was detected at concentrations ranging from 0.05 to 14 µg/L in samples from all monitoring wells except for well MW-3, which exhibited a concentration of 550 µg/L. It should be noted that there is currently no established groundwater standard for this compound.

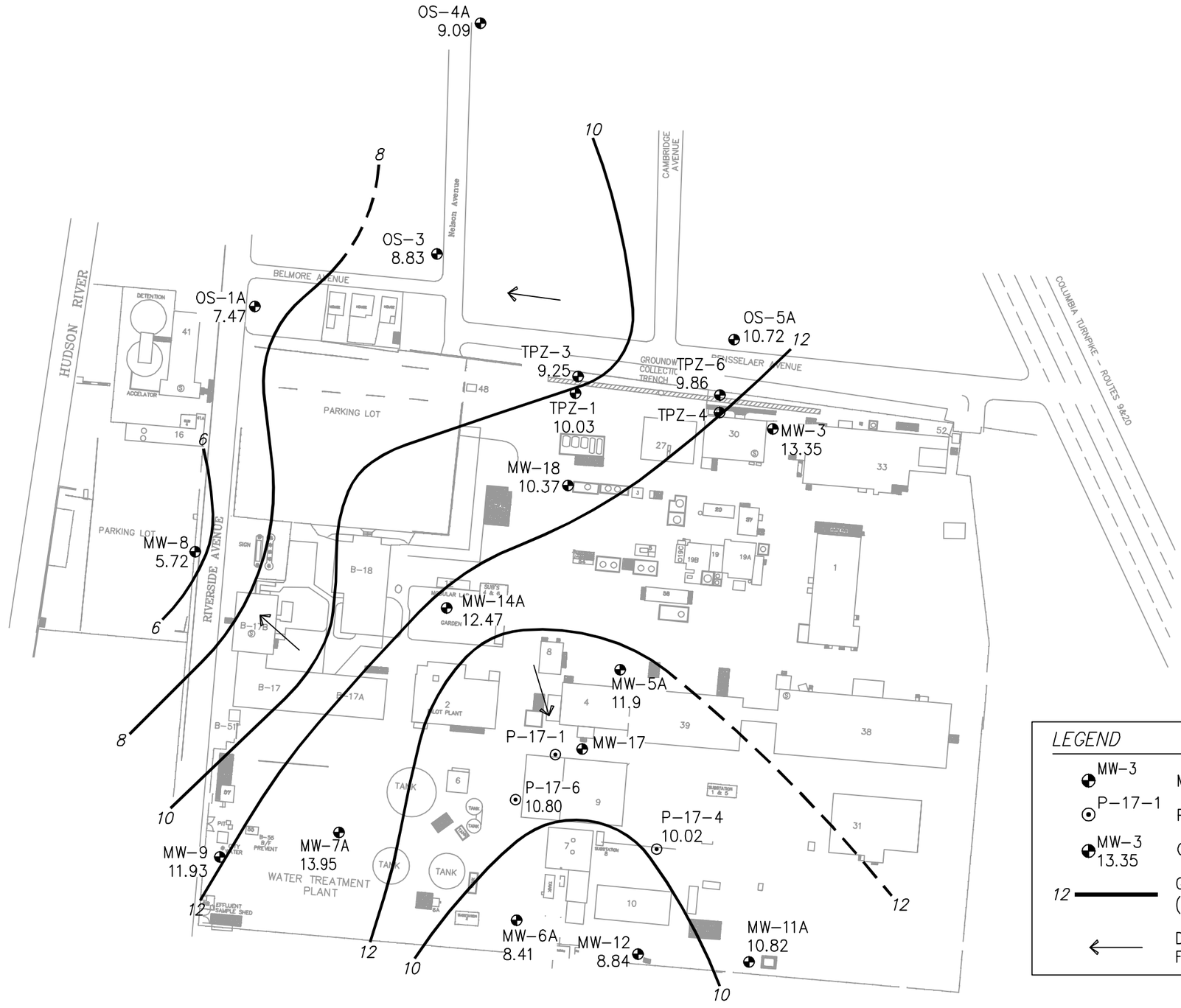
One or more PFAS compounds were detected in each of the samples analyzed. The compound PFOA was detected in all of the samples, at concentrations ranging from 0.003 to 0.018 µg/L (3 to 18 parts per trillion). The compound PFOS was detected in nine of the samples, at concentrations ranging from 0.005 to 0.787 µg/L (5 to 787 parts per trillion). It should be noted that there are currently no established groundwater standards for PFOA, PFOS or other PFAS compounds. For reference purposes, the United States Environmental Protection Agency has established a *drinking water* "Health Advisory Level" of 70 parts per trillion for PFOA and PFOS. Of the remaining PFAS compounds for which the samples were analyzed, the highest concentration was 0.202 µg/L (202 parts per trillion) for the compound PFHXS, in the sample from well MW-14A.

## 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 2018.

# FIGURES




*LEGEND*

- MW-3 — MONITORING WELL LOCATION
- P-17-1 — PIEZOMETER LOCATION
- MW-3 13.35 — GROUNDWATER ELEVATION (FT)
- 12 — GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- DIRECTION OF GROUNDWATER FLOW

0 160 320

Scale in feet

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 4, 2018
AMRI RENSSELAER
33 RIVERSIDE AVENUE
RENSSELAER, NEW YORK

PROJECT NO. 21341

DATE: 04/04/18

FIGURE 1

File: M:\21341\CADD\ACAD\FIGURES\ENVIRONMENTAL\21341_SITE PLAN_GW CONTOUR 04-04-18.DWG
Saved: 5/30/2018 2:55:15 PM Plotted: 5/30/2018 2:56:12 PM User: Evans, Josh LastSavedBy: 4894

# TABLES

**Table 1**

**Summary of Groundwater Analytical Results**
**Sterling - Site 1**

**April 2018**

| Location | | MW-3 | MW-5A | MW-6A | MW-8 | MW-11A | MW-12 | MW-14A | MW-17 | OS-1A | OS-3 | OS-4A | OS-5A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | | 4/5/2018 | 4/4/2018 | 4/4/2018 | 4/5/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 | 4/12/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 |
| **Compound** | **Units** | | | | | | | | | | | | |
| **Volatiles** | | | | | | | | | | | | | |
| Benzene | µg/L | 1,400 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Chlorobenzene | µg/L | 30,000 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| 1,2-Dichloroethane | µg/L | < 1,000 | < 5 | < 5 | < 5 | < 5 | 75 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| Toluene | µg/L | < 1,000 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 | < 5 |
| **Metals** | | | | | | | | | | | | | |
| Arsenic | mg/L | NA | 0.011 | 0.026 | NA | NA | 0.023 | 1.19 | NA | NA | NA | NA | NA |
| Sodium | mg/L | NA | 1,700 | 479 | NA | NA | NA | NA | 225 | NA | NA | NA | NA |
| **Semi-Volatile Organics** | | | | | | | | | | | | | |
| 1,4-Dioxane | µg/L | 550 | 1.2 | 11 | 0.08 | 14 | 14 | 0.86 | 0.18 | 0.06 | 0.05 | 0.29 | 0.66 |
| **PFAS** | | | | | | | | | | | | | |
| Perfluorooctane sulfonic acid | µg/L | 0.005 | 0.008 | 0.012 | 0.032 | 0.007 | < 0.004 | 0.787 | 0.027 | < 0.004 | 0.03 | 0.007 | < 0.004 |
| Perfluorooctanoic acid | µg/L | 0.005 | 0.006 | 0.01 | 0.007 | 0.007 | 0.018 | 0.018 | 0.003 | 0.017 | 0.014 | 0.01 | 0.006 |
| Perfluorononanoic acid | µg/L | 0.003 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | < 0.002 | 0.002 | 0.002 |
| Perfluorohexanesulfonic acid | µg/L | 0.004 | 0.013 | 0.006 | 0.013 | 0.01 | 0.003 | 0.202 | 0.016 | < 0.003 | 0.004 | 0.004 | < 0.003 |
| Perfluoroheptanoic acid | µg/L | 0.002 | 0.004 | 0.004 | 0.007 | 0.005 | 0.004 | 0.007 | < 0.002 | 0.009 | 0.003 | 0.002 | 0.003 |
| Perfluorobutanesulfonic acid | µg/L | < 0.009 | < 0.009 | < 0.009 | < 0.009 | < 0.009 | < 0.009 | 0.018 | < 0.009 | 0.015 | < 0.009 | < 0.009 | < 0.009 |
| **Field Parameters** | | | | | | | | | | | | | |
| pH | | 7.85 | 7.79 | 6.84 | 7.15 | 7.42 | 6.86 | 7.06 | 8.21 | 7.75 | 7.88 | 7.30 | 7.69 |
| Specific Conductance | mS/cm | 3.173 | 6.698 | 3.014 | 3.344 | 2.424 | 7.566 | 0.925 | 1.153 | 2.659 | 0.345 | 2.367 | 0.489 |

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 2018

| 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 |
| < = Not Detected at Reporting Limit | | |

**Table 2**

**MW-5A Historical Groundwater Analytical Results**
**Sterling - Site 1**

**April 2018**

| 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 |

< = 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 2018**

| 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 |

< = Not Detected at Reporting Limit

**Table 2**

**MW-8 Historical Groundwater Analytical Results**
**Sterling - Site 1**

**April 2018**

| 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 |

< = Not Detected at Reporting Limit
NS = Not Sampled

**Table 2**

**MW-11 | MW-11A Historical Groundwater Analytical Results**
**Sterling - Site 1**

**April 2018**

| 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 |

< = 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 2018**

| 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 |

< = Not Detected at Reporting Limit

**Table 2**

**MW-14 | MW-14A Historical Groundwater Analytical Results**
**Sterling - Site 1**

**April 2018**

| 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 |

< = 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 2018**

| 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 |

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

**Table 2**

**OS-1A Historical Groundwater Analytical Results**
**Sterling - Site 1**

**April 2018**

| 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 |

< = Not Detected at Reporting Limit
NA = Not Available

**Table 2**

**OS-3 Historical Groundwater Analytical Results**
**Sterling - Site 1**

**April 2018**

| 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 |

< = Not Detected at Reporting Limit
NA = Not Available

**Table 2**

**OS-4 | OS-4A Historical Groundwater Analytical Results**
**Sterling - Site 1**

**April 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 |

< = 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**

**April 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 |

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

**Table 3**

**Field Data Summary**
**Sterling - Site 1**

**April 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** | 4/5/2018 | 11.70 | 6.15 | 4.00 | Bailer | 9.51 | 31.2 | 23.8 | 7.24 | 2.646 | Water was clear and colorless with a mild chemical odor, but no sheen or effervescence. Suspended black particulates present in water. Well went dry at 6.00 gallons purged. |
| | | | | 6.00 | | 8.37 | 34.2 | -17.9 | 7.85 | 3.173 | |
| | | | | NA | | - | - | - | - | - | |
| **MW-5A** | 4/4/2018 | 15.10 | 5.01 | 5.00 | Bailer | 11.64 | 73.1 | 122.1 | 7.79 | 6.698 | Water was light tan and moderately turbid with a faint chemical odor, but no sheen or effervescence. Well went dry at 5.00 gallons purged. |
| | | | | NA | | - | - | - | - | - | |
| | | | | NA | | - | - | - | - | - | |
| **MW-6A** | 4/4/2018 | 13.10 | 10.72 | 1.75 | Bailer | 10.37 | 55.4 | 282.1 | 7.01 | 3.074 | Water was light tan and mildly turbid with a faint chemical odor, but no sheen or effervescence. |
| | | | | 3.50 | | 10.44 | 145 | 275.9 | 6.96 | 3.053 | |
| | | | | 4.75 | | 10.45 | 260 | 266.1 | 6.84 | 3.014 | |
| **MW-8** | 4/5/2018 | 17.75 | 14.24 | 1.50 | Bailer | 10.56 | 79 | 89.7 | 7.47 | 2.819 | Water was colorless and moderately turbid (cloudy) with no odor, sheen or effervescence. |
| | | | | 3.00 | | 10.79 | 110 | 99.7 | 7.26 | 3.120 | |
| | | | | 4.50 | | 10.75 | 213 | 100.6 | 7.15 | 3.344 | |
| **MW-11A** | 4/4/2018 | 10.00 | 8.42 | 1.00 | Bailer | 9.85 | 31.1 | 98.7 | 7.42 | 2.424 | Water was clear and colorless with a faint chemical odor, but no sheen or effervescence. Well went dry at 1 gallon purged. |
| | | | | NA | | - | - | - | - | - | |
| | | | | NA | | - | - | - | - | - | |
| **MW-12** | 4/4/2018 | 12.90 | 10.01 | 1.25 | Bailer | 11.27 | 78.9 | 130.8 | 6.86 | 7.566 | Water was dark gray and moderately turbid with a chemical odor, but no sheen or effervescence. Well went dry at 1.25 gallons purged. |
| | | | | NA | | - | - | - | - | - | |
| | | | | NA | | - | - | - | - | - | |
| **MW-14A** | 4/4/2018 | 12.20 | 7.42 | 4.00 | Bailer | 9.64 | 45.9 | 130.9 | 7.61 | 0.993 | Water was clear and colorless with no odor, sheen, or effervescence. |
| | | | | 8.00 | | 9.69 | 28.8 | 131.9 | 7.61 | 1.003 | |
| | | | | 11.50 | | 9.27 | 31.1 | 146.4 | 7.06 | 0.925 | |
| **MW-17** | 4/12/2018 | 14.70 | 5.18 | 6.25 | Bailer | 13.31 | 65.3 | 276.2 | 7.02 | 1.162 | Water was moderately turbid and gray with a faint chemical odor, but no sheen or effervescence. |
| | | | | 12.50 | | 13.19 | 73.0 | 218.1 | 7.94 | 1.149 | |
| | | | | 18.75 | | 13.30 | 87.8 | 179.9 | 8.21 | 1.153 | |

**Table 3**

**Field Data Summary**
**Sterling - Site 1**

**April 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** | 4/5/2018 | 15.00 | 12.81 | 1.50 | Bailer | 9.09 | 10.00 | 86.9 | 7.85 | 2.601 | Water was clear and colorless with a mild effervescence but no odor or sheen. |
| | | | | 3.00 | | 9.39 | 8.41 | 81.8 | 7.82 | 2.602 | |
| | | | | 4.50 | | 9.66 | 17.8 | 78.7 | 7.75 | 2.659 | |
| **OS-3** | 4/5/2018 | 10.70 | 5.97 | 3.25 | Bailer | 6.56 | 101 | 157 | 7.88 | 0.387 | Water was tan and moderately turbid with no odor, sheen or effervescence. |
| | | | | 6.50 | | 6.81 | 157 | 70.7 | 7.93 | 0.333 | |
| | | | | 9.50 | | 6.93 | 258 | 46.4 | 7.88 | 0.345 | |
| **OS-4A** | 4/5/2018 | 10.00 | 4.82 | 3.50 | Bailer | 5.94 | 46 | 121.2 | 7.81 | 2.362 | Water was clear and colorless with no odor, sheen or effervescence. |
| | | | | 7.00 | | 5.58 | 22.9 | 119.6 | 7.38 | 2.365 | |
| | | | | 10.25 | | 5.45 | 16.6 | 113.4 | 7.30 | 2.367 | |
| **OS-5A** | 4/5/2018 | 13.00 | 3.14 | 6.50 | Bailer | 8.00 | 48.4 | 86.7 | 7.66 | 0.445 | Water was tan and moderately turbid with no odor, sheen or effervescence. Well went dry at 9.0 gallons purged. |
| | | | | 9.00 | | 8.13 | 233 | 84.7 | 7.69 | 0.489 | |
| | | | | NA | | - | - | - | - | - | |

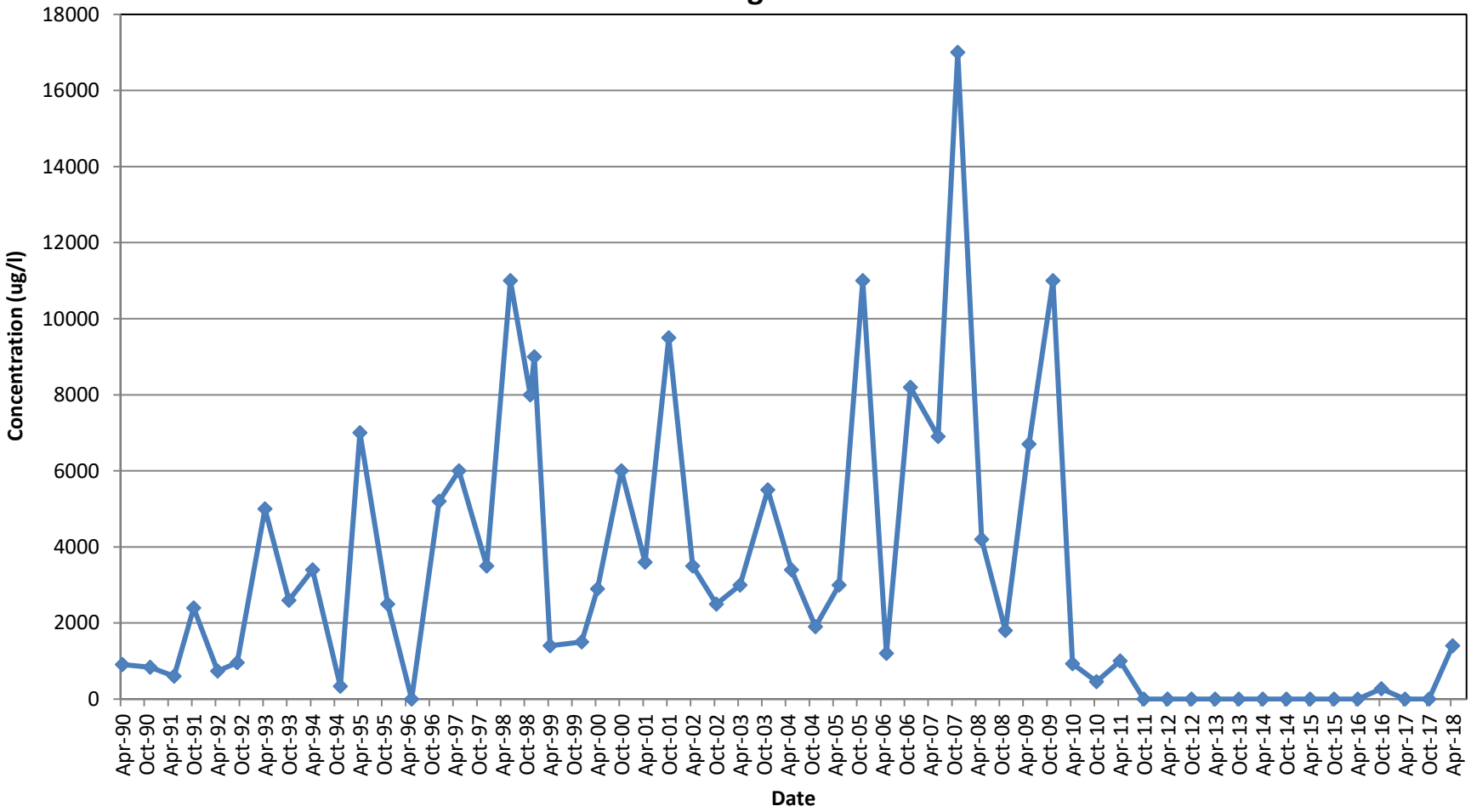
NA = Not Applicable

# GRAPHS

## Graph 1

## MW-3 Benzene Concentrations vs. Time

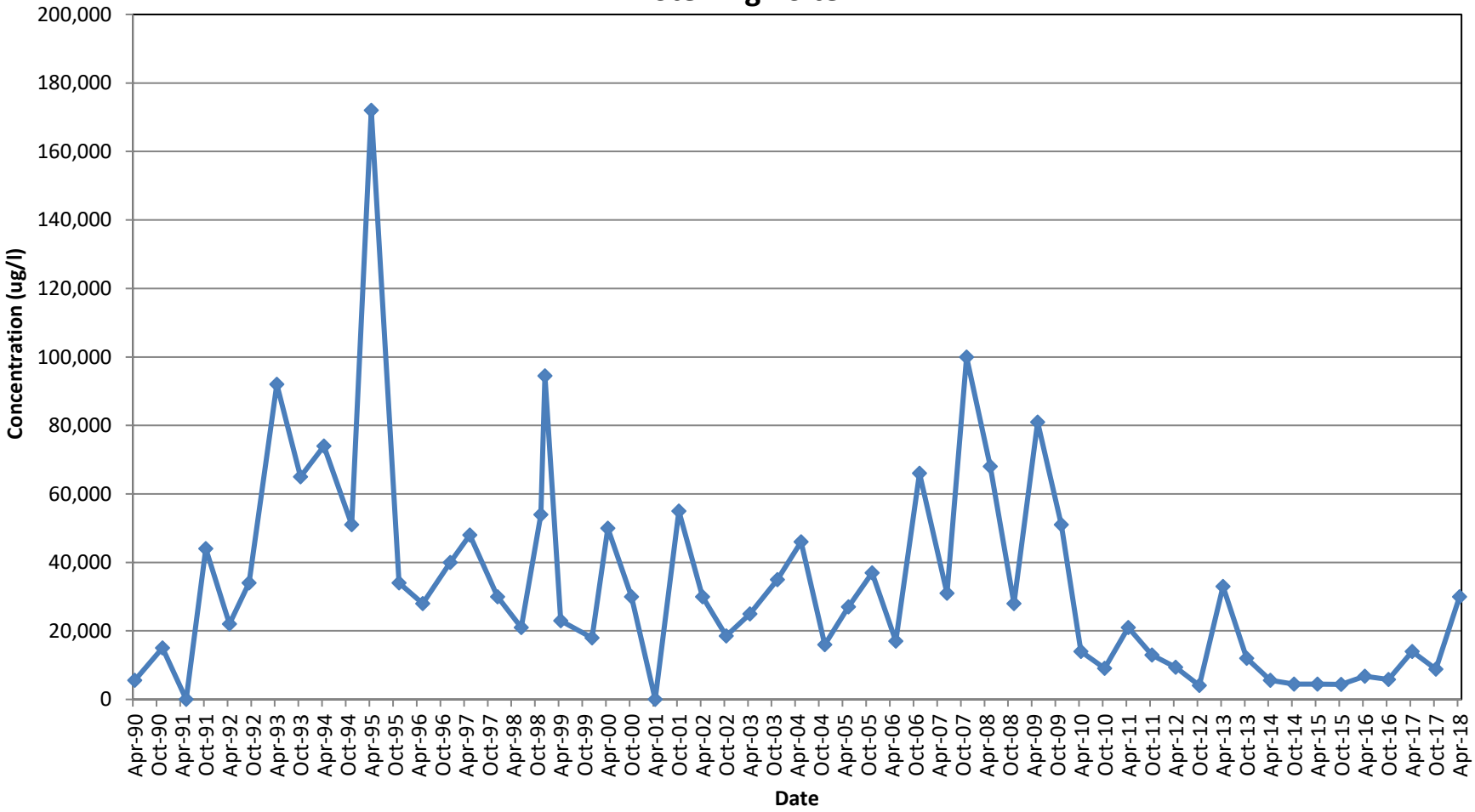
### Sterling - Site 1



## Graph 2

## MW-3 Chlorobenzene Concentrations vs. Time

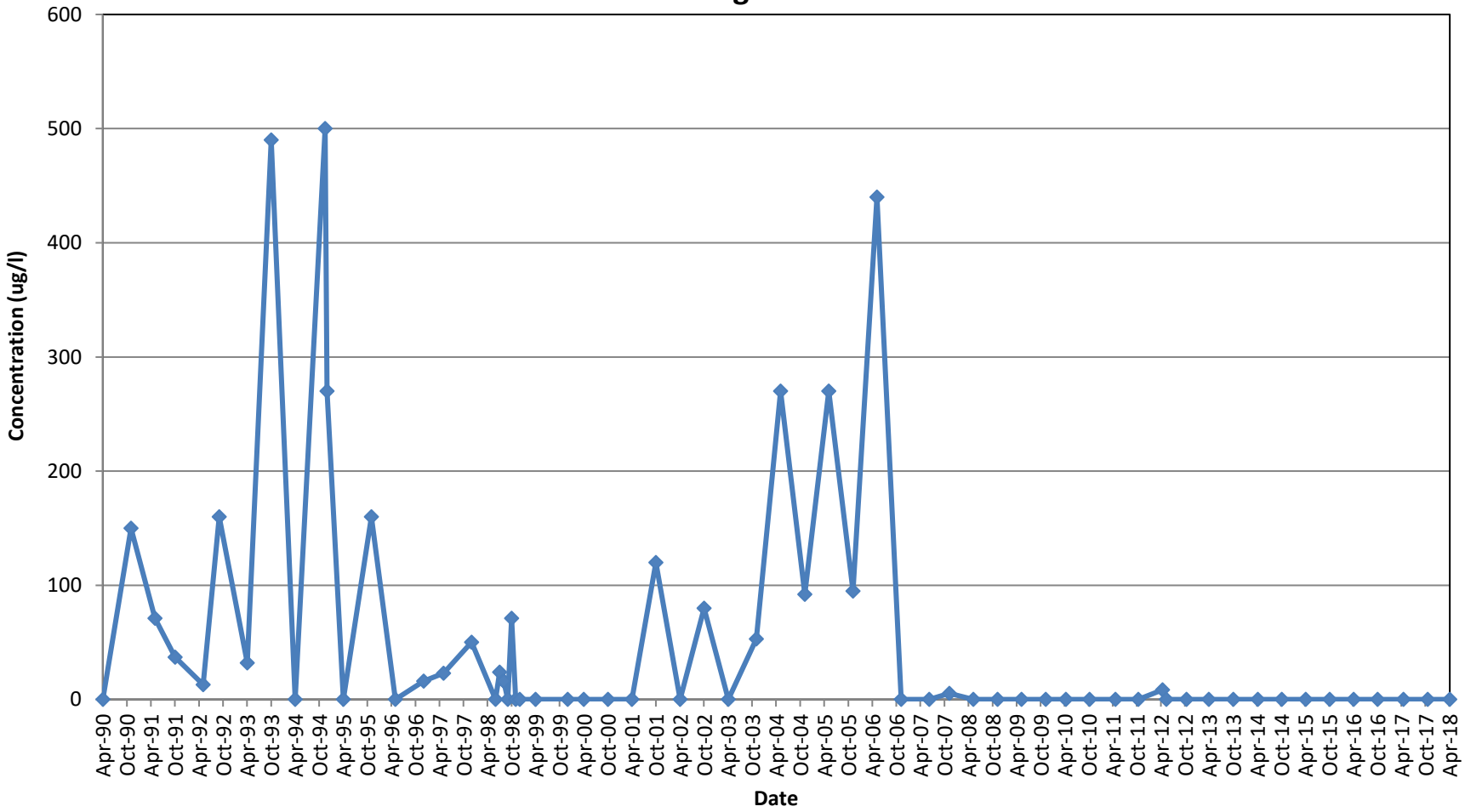
### Sterling - Site 1



# Graph 3

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

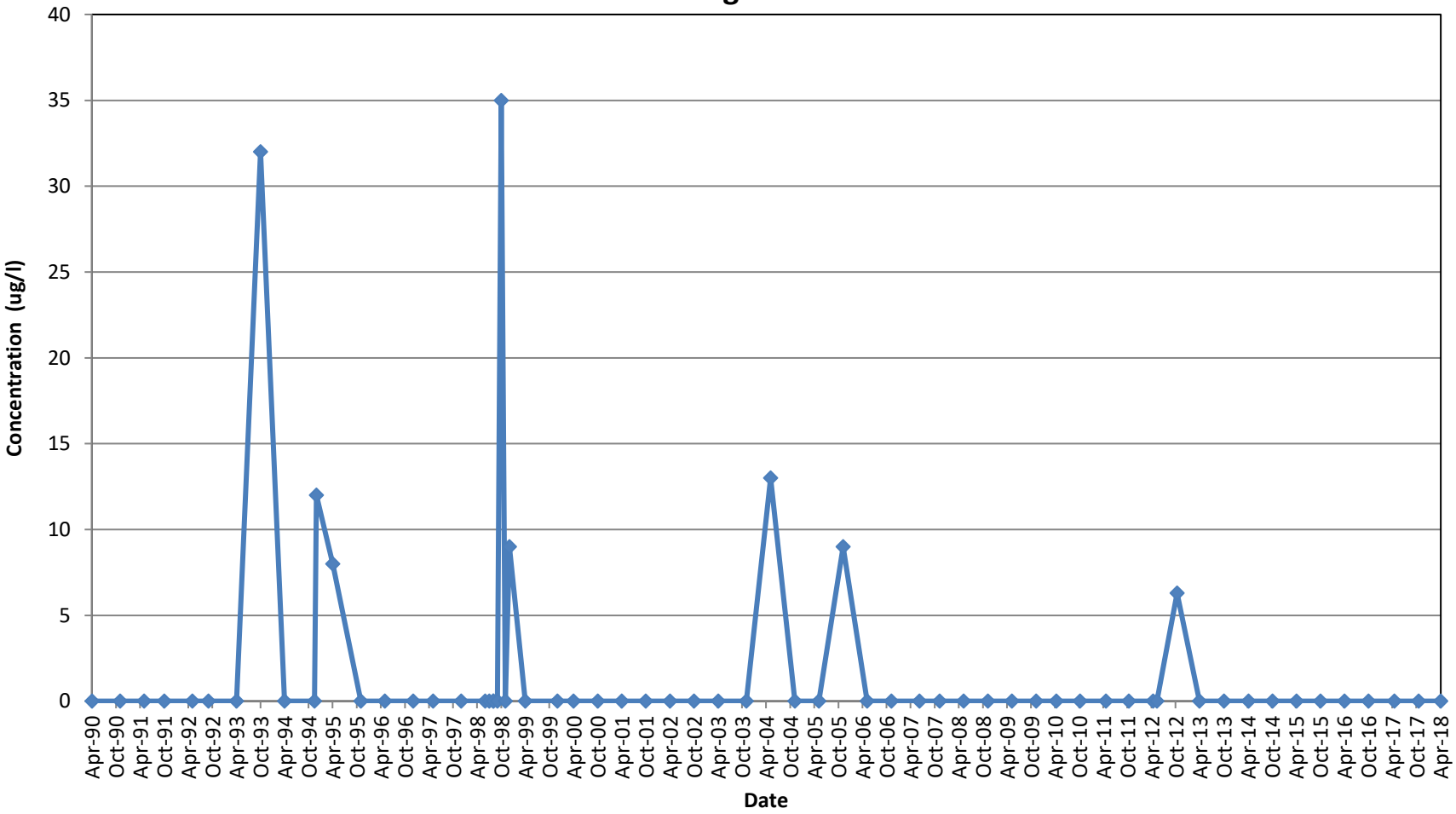
### Sterling - Site 1



## Graph 4

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

### Sterling - Site 1



# APPENDIX A
# LABORATORY ANALYTICAL REPORTS

**Experience is the solution**
314 North Pearl Street ♦ Albany, New York 12207
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

April 30, 2018

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

TEL: (518)433-7772

Work Order No: 180405015
PO#: 204819

RE: Sterling Site 1

Dear Amanda Post:

Adirondack Environmental Services, Inc received 6 samples on 4/5/2018 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

Krzysztof Trafalski
Laboratory Manager

## Adirondack Environmental Services, Inc CASE NARRATIVE

| | | | |
|---|---|---|---|
| **CLIENT:** | AMRI-Rensselaer, Inc | **Date:** | *30-Apr-18* |
| **Project:** | Sterling Site 1 | | |
| **Lab Order:** | 180405015 | | |

Sample containers were supplied by Adirondack Environmental Services.

PFOA analysis was performed by South Central Connecticut Regional Water Authority ELAP ID: 11867. A copy of the report is attached.

**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:** *30-Apr-18*

| | | | |
|---|---|---|---|
| **CLIENT:** | AMRI-Rensselaer, Inc | **Client Sample ID:** | MW-6A |
| **Work Order:** | **180405015** | **Collection Date:** | 4/4/2018 2:30:00 PM |
| **Reference:** | Sterling Site 1 / | **Lab Sample ID:** | 180405015-001 |
| **PO#:** | 204819 | **Matrix:** | GROUNDWATER |

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **ICP METALS - EPA 200.7 REV 4.4** | | | | | | Analyst: **SM** |
| **( Prep: - 4/5/2018 )** | | | | | | |
| Arsenic | **0.026** | 0.005 | | mg/L | 1 | 4/13/2018 7:00:27 PM |
| Sodium | **479** | 0.500 | | mg/L | 10 | 4/13/2018 7:05:58 PM |
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** | | | | | | Analyst: **10145** |
| **4/11/2018 )** | | | | | | |
| 1,4-Dioxane | **11** | 0.50 | | µg/L | 1 | 4/11/2018 2:35:00 PM |
| Surr: 1,4-Dioxane-d8 | **89.0** | 64-124 | | %REC | 1 | 4/11/2018 2:35:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:18:00 AM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:18:00 AM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:18:00 AM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:18:00 AM |
| Surr: 1,2-Dichloroethane-d4 | **92.9** | 80.9-126 | | %REC | 1 | 4/10/2018 12:18:00 AM |
| Surr: 4-Bromofluorobenzene | **86.4** | 84.5-119 | | %REC | 1 | 4/10/2018 12:18:00 AM |
| Surr: Toluene-d8 | **90.7** | 79.4-124 | | %REC | 1 | 4/10/2018 12:18:00 AM |

# Adirondack Environmental Services, Inc

**Date:** *30-Apr-18*

**CLIENT:** AMRI-Rensselaer, Inc
**Work Order:** **180405015**
**Reference:** Sterling Site 1 /
**PO#:** 204819

**Client Sample ID:** MW-12
**Collection Date:** 4/4/2018 3:00:00 PM
**Lab Sample ID:** 180405015-002
**Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **ICP METALS - EPA 200.7 REV 4.4 ( Prep: - 4/5/2018 )** | | | | | | Analyst: **SM** |
| Arsenic | **0.023** | 0.005 | | mg/L | 1 | 4/13/2018 7:21:47 PM |
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM 4/11/2018 )** | | | | | | Analyst: **10145** |
| 1,4-Dioxane | **14** | 0.50 | | µg/L | 1 | 4/11/2018 2:54:00 PM |
| Surr: 1,4-Dioxane-d8 | **101** | 64-124 | | %REC | 1 | 4/11/2018 2:54:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **75** | 5.0 | | µg/L | 1 | 4/10/2018 12:53:00 PM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:53:00 PM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:53:00 PM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:53:00 PM |
| Surr: 1,2-Dichloroethane-d4 | **102** | 80.9-126 | | %REC | 1 | 4/10/2018 12:53:00 PM |
| Surr: 4-Bromofluorobenzene | **83.3** | 84.5-119 | S | %REC | 1 | 4/10/2018 12:53:00 PM |
| Surr: Toluene-d8 | **80.6** | 79.4-124 | | %REC | 1 | 4/10/2018 12:53:00 PM |

# Adirondack Environmental Services, Inc

**Date:** *30-Apr-18*

**CLIENT:** AMRI-Rensselaer, Inc
**Work Order:** **180405015**
**Reference:** Sterling Site 1 /
**PO#:** 204819

**Client Sample ID:** MW-14A
**Collection Date:** 4/4/2018 4:05:00 PM
**Lab Sample ID:** 180405015-003
**Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **ICP METALS - EPA 200.7 REV 4.4 ( Prep: - 4/5/2018 )** | | | | | | Analyst: **SM** |
| Arsenic | **1.19** | 0.005 | | mg/L | 1 | 4/13/2018 7:27:15 PM |
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM 4/11/2018 )** | | | | | | Analyst: **10145** |
| 1,4-Dioxane | **0.86** | 0.50 | | µg/L | 1 | 4/11/2018 3:13:00 PM |
| Surr: 1,4-Dioxane-d8 | **91.0** | 64-124 | | %REC | 1 | 4/11/2018 3:13:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:40:00 AM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:40:00 AM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:40:00 AM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 12:40:00 AM |
| Surr: 1,2-Dichloroethane-d4 | **94.9** | 80.9-126 | | %REC | 1 | 4/10/2018 12:40:00 AM |
| Surr: 4-Bromofluorobenzene | **82.7** | 84.5-119 | S | %REC | 1 | 4/10/2018 12:40:00 AM |
| Surr: Toluene-d8 | **90.1** | 79.4-124 | | %REC | 1 | 4/10/2018 12:40:00 AM |

# Adirondack Environmental Services, Inc

**Date:** *30-Apr-18*

**CLIENT:** AMRI-Rensselaer, Inc
**Work Order:** **180405015**
**Reference:** Sterling Site 1 /
**PO#:** 204819

**Client Sample ID:** MW-11A
**Collection Date:** 4/4/2018 3:15:00 PM
**Lab Sample ID:** 180405015-004
**Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** | | | | | | Analyst: **10145** |
| **4/11/2018 )** | | | | | | |
| 1,4-Dioxane | **14** | 0.50 | | µg/L | 1 | 4/11/2018 3:31:00 PM |
| Surr: 1,4-Dioxane-d8 | **100** | 64-124 | | %REC | 1 | 4/11/2018 3:31:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 1:01:00 AM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 1:01:00 AM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 1:01:00 AM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 1:01:00 AM |
| Surr: 1,2-Dichloroethane-d4 | **93.3** | 80.9-126 | | %REC | 1 | 4/10/2018 1:01:00 AM |
| Surr: 4-Bromofluorobenzene | **86.0** | 84.5-119 | | %REC | 1 | 4/10/2018 1:01:00 AM |
| Surr: Toluene-d8 | **84.7** | 79.4-124 | | %REC | 1 | 4/10/2018 1:01:00 AM |

# Adirondack Environmental Services, Inc

**Date:** *30-Apr-18*

| | | | |
|---|---|---|---|
| **CLIENT:** | AMRI-Rensselaer, Inc | **Client Sample ID:** | MW-5A |
| **Work Order:** | **180405015** | **Collection Date:** | 4/4/2018 3:40:00 PM |
| **Reference:** | Sterling Site 1 / | **Lab Sample ID:** | 180405015-005 |
| **PO#:** | 204819 | **Matrix:** | GROUNDWATER |

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **ICP METALS - EPA 200.7 REV 4.4** | | | | | | Analyst: **SM** |
| **( Prep: - 4/5/2018 )** | | | | | | |
| Arsenic | **0.011** | 0.005 | | mg/L | 1 | 4/13/2018 7:32:33 PM |
| Sodium | **1700** | 5.00 | | mg/L | 100 | 4/16/2018 2:07:20 PM |
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** | | | | | | Analyst: **10145** |
| **4/11/2018 )** | | | | | | |
| 1,4-Dioxane | **1.2** | 0.50 | | µg/L | 1 | 4/11/2018 3:49:00 PM |
| Surr: 1,4-Dioxane-d8 | **83.0** | 64-124 | | %REC | 1 | 4/11/2018 3:49:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| | | | ***Sample Aliquot for this test was positive for Residual Chlorine*** | | | |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 1:23:00 AM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 1:23:00 AM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 1:23:00 AM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 1:23:00 AM |
| Surr: 1,2-Dichloroethane-d4 | **97.3** | 80.9-126 | | %REC | 1 | 4/10/2018 1:23:00 AM |
| Surr: 4-Bromofluorobenzene | **88.1** | 84.5-119 | | %REC | 1 | 4/10/2018 1:23:00 AM |
| Surr: Toluene-d8 | **91.8** | 79.4-124 | | %REC | 1 | 4/10/2018 1:23:00 AM |

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491483

**Subm #:** 100154262
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 06-Apr-2018 12:40 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type:** -FEE- MISC OTHER
**(Loca):** -LOGIN
**ID:** AES - 180405015-001C
**Other:** EPA 537

**Customer:** ADIRONDACK ENVIROMENTAL SERVICE
**Attn:** n/a
**Samp Addr:** 180405015-001C
**Samp City:** ALBANY, NY
**Collected:** 04/04/18 14:30
**Loca Desc:** 180405015-001C

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | 0.012 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.010 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.006 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.004 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
APR 3 0 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491484

**Subm # :** 100154262
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 06-Apr-2018 12:40 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** AES - 180405015-002C
**Other :** EPA 537

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** 180405015-002C
**Samp City :** ALBANY, NY
**Collected :** 04/04/18 15:00
**Loca Desc :** 180405015-002C

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.018 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.004 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

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Approved by and Date : _____

APR 3 0 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491485

**Subm #:** 100154262
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 06-Apr-2018 12:40 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type:** -FEE- MISC OTHER
**(Loca):** -LOGIN
**ID:** AES - 180405015-003C
**Other:** EPA 537

**Customer:** ADIRONDACK ENVIROMENTAL SERVICE
**Attn:** n/a
**Samp Addr:** 180405015-003C
**Samp City:** ALBANY, NY
**Collected:** 04/04/18 16:05
**Loca Desc:** 180405015-003C

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | 0.787 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.018 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.202 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.007 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | 0.018 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

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Approved by and Date : _____

APR 3 0 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491486

**Subm #:** 100154262
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 06-Apr-2018 12:40 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type:** -FEE- MISC OTHER
**(Loca):** -LOGIN
**ID:** AES - 180405015-004B
**Other:** EPA 537

**Customer:** ADIRONDACK ENVIROMENTAL SERVICE
**Attn:** n/a
**Samp Addr:** 180405015-004B
**Samp City:** ALBANY, NY
**Collected:** 04/04/18 15:15
**Loca Desc:** 180405015-004B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | 0.007 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.007 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.010 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.005 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

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Approved by and Date : _____

APR 3 0 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491487

**Subm #:** 100154262
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 06-Apr-2018 12:40 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type:** -FEE- MISC OTHER
**(Loca):** -LOGIN
**ID:** AES - 180405015-005C
**Other:** EPA 537

**Customer:** ADIRONDACK ENVIROMENTAL SERVICE
**Attn:** n/a
**Samp Addr:** 180405015-005C
**Samp City:** ALBANY, NY
**Collected:** 04/04/18 15:40
**Loca Desc:** 180405015-005C

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | 0.008 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.006 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.013 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.004 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

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Approved by and Date : _____

APR 3 0 2018

South Central Connecticut Regional Water Authority
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Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491488

**Subm #:** 100154262
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 06-Apr-2018 12:40 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type:** -FEE- MISC OTHER
**(Loca):** -LOGIN
**ID:** FB - AES - 180405015-006A (001C)
**Other:** FIELD BLANK

**Customer:** ADIRONDACK ENVIROMENTAL SERVICE
**Attn:** n/a
**Samp Addr:** FB - 180405015-006A (001C)
**Samp City:** ALBANY, NY
**Collected:** 04/04/18 14:30
**Loca Desc:** FB - 180405015-006A (001C)

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

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Approved by and Date : _____

APR 3 0 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491489

**Subm # :** 100154262
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 06-Apr-2018 12:40 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** FB - AES - 180405015-006A (002C)
**Other :** FIELD BLANK

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** FB - 180405015-006A (002C)
**Samp City :** ALBANY, NY
**Collected :** 04/04/18 15:00
**Loca Desc :** FB - 180405015-006A (002C)

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

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Approved by and Date : _____
APR 3 0 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491490

**Subm #:** 100154262
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 06-Apr-2018 12:40 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type:** -FEE- MISC OTHER
**(Loca):** -LOGIN
**ID:** FB - AES - 180405015-006A (003C)
**Other:** FIELD BLANK

**Customer:** ADIRONDACK ENVIROMENTAL SERVICE
**Attn:** n/a
**Samp Addr:** FB - 180405015-006A (003C)
**Samp City:** ALBANY, NY
**Collected:** 04/04/18 16:05
**Loca Desc:** FB - 180405015-006A (003C)

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

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Approved by and Date : _____

APR 3 0 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491491

**Subm #:** 100154262
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 06-Apr-2018 12:40 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type:** -FEE- MISC OTHER
**(Loca):** -LOGIN
**ID:** FB - AES - 180405015-006A (004B)
**Other:** FIELD BLANK

**Customer:** ADIRONDACK ENVIROMENTAL SERVICE
**Attn:** n/a
**Samp Addr:** FB - 180405015-006A (004B)
**Samp City:** ALBANY, NY
**Collected:** 04/04/18 15:15
**Loca Desc:** FB - 180405015-006A (004B)

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

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Approved by and Date : _____

APR 3 0 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 30-APR-2018 11:45 AM **Sample Number:** 200491492

**Subm #:** 100154262
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 06-Apr-2018 12:40 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** FB - AES - 180405015-006A (005C)
**Other :** FIELD BLANK

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** FB - 180405015-006A (005C)
**Samp City :** ALBANY, NY
**Collected :** 04/04/18 15:40
**Loca Desc :** FB - 180405015-006A (005C)

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/17/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/09/18 | MM/DD/YY | | | |

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Approved by and Date : _____

APR 3 0 2018

518-728-6589

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 # 180405015

| | | |
|---|---|---|
| Client Name: AMRI | Address: 33 Riverside Avenue, Rensselaer, NY | |
| Send Report To: Amanda Post | Project Name (Location) AMRI | Samplers: (Names) Joe Saulsbery |
| Client Phone No: 518-433-7770 | Client Email: | PO Number: |
| | | Samplers: (Signature) Joe Saulsbery |

| 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 | 4/4/18 | 14:30 A P | GW | | X | 9 | A, B, C, D |
| 002 | MW-12 | | 15:00 A P | | | | 7 | A, B, C, D |
| 003 | MW-3/14A | | 16:05 A P | | | | 7 | A, B, C, D |
| 004 | MW-17/11A | | 15:15 A P | | | | 6 | A, D 6 bottles |
| 005 | MW-5A | | 15:40 A P | | | | 7 | A, B, C D |
| 006 | field Blank ICRF 4/5/18 | | A P | | | | | |
| | | | A P | | | | | |
| | | | A P | | | | | |
| | | | A P | | | | | |
| | | | A P | | | | | |
| | | | A P | | | | | |
| | | | A P | | | | | |
| | | | A P | | | | | |
| | | | A P | | | | | |
| | | | A P | | | | | |

* PFAS labels written in per smudged, refer to outer label

Joe Saulsbery 4/4/18

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, 1,2,DCA via 264 537.1 mod 8270 and 1,4 Dioxane

B: Arsenic via 206.2

C: sodium via 200.7 D: PFAS

| | | |
|---|---|---|
| Relinquished by: (Signature) Joe Saulsbery | Received by: (Signature) | Date/Time |
| Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
| Relinquished by: (Signature) | Received for Laboratory by: J. M | Date/Time 4/4/18 5:00 PM |

| Temperature | AES Bottles | Properly Preserved | Received Within Holding Times |
|---|---|---|---|
| Ambient or (Chilled) 4°C | Y ☒ N ☐ | (Y) N | (Y) N |
| Notes: | | Notes: | Notes: |

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Services,

180405015

Adirondack Environmental Services Inc.®
Experience is the solution
314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891

# 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.

**Experience is the solution**
314 North Pearl Street ♦ Albany, New York 12207
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

May 04, 2018

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

TEL: (518)433-7772

Work Order No: 180406003
PO#: 204819

RE: Sterling Site 1

Dear Amanda Post:

Adirondack Environmental Services, Inc received 7 samples on 4/5/2018 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

Krzysztof Trafalski
Laboratory Manager

## Adirondack Environmental Services, Inc CASE NARRATIVE

| | | | |
|---|---|---|---|
| **CLIENT:** | AMRI-Rensselaer, Inc | **Date:** | *04-May-18* |
| **Project:** | Sterling Site 1 | | |
| **Lab Order:** | 180406003 | | |

Sample containers were supplied by Adirondack Environmental Services.

PFOA analysis was performed by South Central Connecticut Regional Water Authority ELAP ID: 11867. A copy of the report is attached.

1,4-Dioxane analysis was performed by ALS Environmental ELAP ID: 10145.

This report has been updated to include additional information in the case narrative.

**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:** *04-May-18*

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

**LabWork Order:** **180406003**
**PO#:** 204819

**Lab SampleID:** 180406003-001 **Collection Date:** 4/5/2018
**Client Sample ID:** MW-3 **Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** | | | | | | Analyst: **10145** |
| **4/11/2018 )** | | | | | | |
| 1,4-Dioxane | **550** | 0.40 | | µg/L | 10 | 4/12/2018 12:24:00 PM |
| Surr: 1,4-Dioxane-d8 | **102** | 64-124 | | %REC | 10 | 4/12/2018 12:24:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 1000 | | µg/L | 200 | 4/10/2018 2:19:00 PM |
| Benzene | **1400** | 1000 | | µg/L | 200 | 4/10/2018 2:19:00 PM |
| Toluene | **ND** | 1000 | | µg/L | 200 | 4/10/2018 2:19:00 PM |
| Chlorobenzene | **30000** | 1000 | | µg/L | 200 | 4/10/2018 2:19:00 PM |
| Surr: 1,2-Dichloroethane-d4 | **97.7** | 80.9-126 | | %REC | 200 | 4/10/2018 2:19:00 PM |
| Surr: 4-Bromofluorobenzene | **81.0** | 84.5-119 | S | %REC | 200 | 4/10/2018 2:19:00 PM |
| Surr: Toluene-d8 | **84.9** | 79.4-124 | | %REC | 200 | 4/10/2018 2:19:00 PM |

**Lab SampleID:** 180406003-002 **Collection Date:** 4/5/2018
**Client Sample ID:** MW-8 **Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** | | | | | | Analyst: **10145** |
| **4/11/2018 )** | | | | | | |
| 1,4-Dioxane | **0.08** | 0.04 | | µg/L | 1 | 4/11/2018 5:40:00 PM |
| Surr: 1,4-Dioxane-d8 | **101** | 64-124 | | %REC | 1 | 4/11/2018 5:40:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:10:00 AM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:10:00 AM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:10:00 AM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:10:00 AM |
| Surr: 1,2-Dichloroethane-d4 | **87.3** | 80.9-126 | | %REC | 1 | 4/10/2018 3:10:00 AM |
| Surr: 4-Bromofluorobenzene | **87.9** | 84.5-119 | | %REC | 1 | 4/10/2018 3:10:00 AM |
| Surr: Toluene-d8 | **93.3** | 79.4-124 | | %REC | 1 | 4/10/2018 3:10:00 AM |

**Lab SampleID:** 180406003-003 **Collection Date:** 4/5/2018
**Client Sample ID:** OS-1A **Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** | | | | | | Analyst: **10145** |
| **4/11/2018 )** | | | | | | |
| 1,4-Dioxane | **0.06** | 0.04 | | µg/L | 1 | 4/11/2018 5:58:00 PM |
| Surr: 1,4-Dioxane-d8 | **95.0** | 64-124 | | %REC | 1 | 4/11/2018 5:58:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:32:00 AM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:32:00 AM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:32:00 AM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:32:00 AM |
| Surr: 1,2-Dichloroethane-d4 | **94.8** | 80.9-126 | | %REC | 1 | 4/10/2018 3:32:00 AM |
| Surr: 4-Bromofluorobenzene | **85.0** | 84.5-119 | | %REC | 1 | 4/10/2018 3:32:00 AM |
| Surr: Toluene-d8 | **90.8** | 79.4-124 | | %REC | 1 | 4/10/2018 3:32:00 AM |

**Lab SampleID:** 180406003-004 **Collection Date:** 4/5/2018
**Client Sample ID:** OS-3 **Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** | | | | | | Analyst: **10145** |
| **4/11/2018 )** | | | | | | |
| 1,4-Dioxane | **0.05** | 0.04 | | µg/L | 1 | 4/11/2018 6:17:00 PM |
| Surr: 1,4-Dioxane-d8 | **94.0** | 64-124 | | %REC | 1 | 4/11/2018 6:17:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:54:00 AM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:54:00 AM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:54:00 AM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 3:54:00 AM |
| Surr: 1,2-Dichloroethane-d4 | **97.8** | 80.9-126 | | %REC | 1 | 4/10/2018 3:54:00 AM |
| Surr: 4-Bromofluorobenzene | **82.9** | 84.5-119 | S | %REC | 1 | 4/10/2018 3:54:00 AM |
| Surr: Toluene-d8 | **86.7** | 79.4-124 | | %REC | 1 | 4/10/2018 3:54:00 AM |

# Adirondack Environmental Services, Inc

**Date:** *04-May-18*

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

**LabWork Order:** **180406003**
**PO#:** 204819

**Lab SampleID:** 180406003-005 **Collection Date:** 4/5/2018
**Client Sample ID:** OS-4A **Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** | | | | | | Analyst: **10145** |
| **4/11/2018 )** | | | | | | |
| 1,4-Dioxane | **0.29** | 0.04 | | µg/L | 1 | 4/11/2018 6:35:00 PM |
| Surr: 1,4-Dioxane-d8 | **89.0** | 64-124 | | %REC | 1 | 4/11/2018 6:35:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 4:15:00 AM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 4:15:00 AM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 4:15:00 AM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 4:15:00 AM |
| Surr: 1,2-Dichloroethane-d4 | **90.0** | 80.9-126 | | %REC | 1 | 4/10/2018 4:15:00 AM |
| Surr: 4-Bromofluorobenzene | **80.0** | 84.5-119 | S | %REC | 1 | 4/10/2018 4:15:00 AM |
| Surr: Toluene-d8 | **87.9** | 79.4-124 | | %REC | 1 | 4/10/2018 4:15:00 AM |

**Lab SampleID:** 180406003-006 **Collection Date:** 4/5/2018
**Client Sample ID:** OS-5A **Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** | | | | | | Analyst: **10145** |
| **4/11/2018 )** | | | | | | |
| 1,4-Dioxane | **0.66** | 0.04 | | µg/L | 1 | 4/11/2018 6:53:00 PM |
| Surr: 1,4-Dioxane-d8 | **93.0** | 64-124 | | %REC | 1 | 4/11/2018 6:53:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 4:37:00 AM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 4:37:00 AM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 4:37:00 AM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/10/2018 4:37:00 AM |
| Surr: 1,2-Dichloroethane-d4 | **98.2** | 80.9-126 | | %REC | 1 | 4/10/2018 4:37:00 AM |
| Surr: 4-Bromofluorobenzene | **86.4** | 84.5-119 | | %REC | 1 | 4/10/2018 4:37:00 AM |
| Surr: Toluene-d8 | **89.3** | 79.4-124 | | %REC | 1 | 4/10/2018 4:37:00 AM |

**Lab SampleID:** 180406003-007 **Collection Date:** 4/5/2018
**Client Sample ID:** Field Blank **Matrix:** FIELD BLANK

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491746

**Subm # :** 100154341
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 10-Apr-2018 06:16 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** ADIRONDACK - 180406003-001B
**Other :** EPA 537

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** 180406003-001B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** 180406003-001B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | 0.005 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.005 | ug/L | 0.002 | EPA 537 | |
| PERFLURONONANOIC ACID (PFNA) | 0.003 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.004 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/25/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____

MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491747

**Subm # :** 100154341
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 10-Apr-2018 06:16 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** ADIRONDACK - 180406003-002B
**Other :** EPA 537

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** 180406003-002B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** 180406003-002B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | 0.032 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.007 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.013 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.007 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/25/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491748

**Subm #:** 100154341
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 10-Apr-2018 06:16 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** ADIRONDACK - 180406003-003B
**Other :** EPA 537

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** 180406003-003B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** 180406003-003B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.017 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.009 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | 0.015 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 05/03/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/18/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491749

**Subm # :** 100154341
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 10-Apr-2018 06:16 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** ADIRONDACK - 180406003-004B
**Other :** EPA 537

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** 180406003-004B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** 180406003-004B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | 0.030 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.014 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.004 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.003 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/25/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491750

**Subm # :** 100154341
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 10-Apr-2018 06:16 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** ADIRONDACK - 180406003-005B
**Other :** EPA 537

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** 180406003-005B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** 180406003-005B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | 0.007 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.010 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | 0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.004 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/25/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491751

**Subm #:** 100154341
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 10-Apr-2018 06:16 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** ADIRONDACK - 180406003-006B
**Other :** EPA 537

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** 180406003-006B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** 180406003-006B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.006 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | 0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | 0.003 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/25/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491752

**Subm # :** 100154341
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 10-Apr-2018 06:16 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** FB - ADIRONDACK - 180406003-001B
**Other :** FIELD BLANK

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** FB - 180406003-001B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** FB - 180406003-001B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/27/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491753

**Subm # :** 100154341
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 10-Apr-2018 06:16 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** FB - ADIRONDACK - 180406003-002B
**Other :** FIELD BLANK

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** FB - 180406003-002B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** FB - 180406003-002B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/27/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# FINAL REPORT

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491754

**Subm # :** 100154341
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 10-Apr-2018 06:16 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** FB - ADIRONDACK - 180406003-003B
**Other :** FIELD BLANK

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** FB - 180406003-003B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** FB - 180406003-003B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/27/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491755

**Subm # :** 100154341
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 10-Apr-2018 06:16 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** FB - ADIRONDACK - 180406003-004B
**Other :** FIELD BLANK

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** FB - 180406003-004B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** FB - 180406003-004B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/27/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For Identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____

MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491756

**Subm # :** 100154341
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 10-Apr-2018 06:16 pm
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** FB - ADIRONDACK - 180406003-005B
**Other :** FIELD BLANK

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** FB - 180406003-005B
**Samp City :** ALBANY, NY
**Collected :** 04/05/18 00:00
**Loca Desc :** FB - 180406003-005B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/27/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____

MAY 0 3 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# FINAL REPORT

**Report Date:** 03-MAY-2018 05:17 PM **Sample Number:** 200491757

**Subm #:** 100154341
**Study:** FEE SERVICE - MISCELLANEOUS
**Logged:** 10-Apr-2018 06:16 pm
**By:** DAURIA
**Categ.:** FEE - MISC.
FEE - MISC.

**Type:** -FEE- MISC OTHER
**(Loca):** -LOGIN
**ID:** FB - ADIRONDACK - 180406003-006B
**Other:** FIELD BLANK

**Customer:** ADIRONDACK ENVIROMENTAL SERVICE
**Attn:** n/a
**Samp Addr:** FB - 180406003-006B
**Samp City:** ALBANY, NY
**Collected:** 04/05/18 00:00
**Loca Desc:** FB - 180406003-006B

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 04/27/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/12/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____

MAY 0 3 2018

Adirondack Environmental Services Inc.

Experience is the solution

314 North Pearl Street
Albany, New York 12207
518-434-4546/434-0891 FAX

# CHAIN OF CUSTODY RECORD

AES Work Order # 180406003

A full service analytical research laboratory offering solutions to environmental concerns

| Client Name: | Address: | | |
|---|---|---|---|
| AMRI | 33 Riverside Ave, Rensselaer, NY | | |
| Send Report To: | Project Name (Location) | Samplers: (Names) | |
| Amanda Post | AMRI | Joe Saulsbery | |
| Client Phone No: | Client Email: | PO Number: | Samplers: (Signature) |
| 518-433-7726 | amanda.post@amriglobal.com | | Joe Saulsbery |

| 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-3 | 4/5/18 | 12:20 | A (P) | GW | | X | 6 | A, D |
| 002 | MW-8 | | 13:00 | A (P) | | | | ↓ | A, D |
| 003 | OS-1A | | 13:00 | A (P) | | | | 6 | A, D |
| 004 | OS-3 | | 13:45 | A (P) | | | | 6 | A, D |
| 005 | OS-4A | | 14:10 | A (P) | | | | 8 | A, D |
| 006 | OS-5A | ↓ | 14:45 | A (P) | ↓ | | ↓ | 6 | A, D |
| | | | | 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:_____

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, 1,2-DCA via 264

B: Arsenic via 206.2

C: Sodium via 200.7

D: PFAS via 537.1 and 1,4-Dioxane via Modified

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|
| Joe Saulsbery | | |
| Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
| | | |
| Relinquished by: (Signature) | Received for Laboratory by: | Date/Time |
| | J. M | 4/5/18 4:13PM |

| Temperature | AES Bottles | Properly Preserved | Received Within Holding Times |
|---|---|---|---|
| Ambient or (Chilled) | Y ☒ N ☐ | (Y) N | (Y) N |
| Notes: 4°C | | Notes: | Notes: |

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Services,

180406003

Adirondack Environmental Services Inc.®
Experience is the solution
314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891

# 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.

**Experience is the solution**
314 North Pearl Street ♦ Albany, New York 12207
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

May 04, 2018

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

TEL: (518)433-7772

Work Order No: 180412079

RE: Sterling Site 1

Dear Amanda Post:

Adirondack Environmental Services, Inc received 2 samples on 4/12/2018 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

Krzysztof Trafalski
Laboratory Manager

## Adirondack Environmental Services, Inc CASE NARRATIVE

| | | | |
|---|---|---|---|
| **CLIENT:** | AMRI-Rensselaer, Inc | **Date:** | *04-May-18* |
| **Project:** | Sterling Site 1 | | |
| **Lab Order:** | 180412079 | | |

Sample containers were supplied by Adirondack Environmental Services.

PFOA analysis was performed by South Central Connecticut Regional Water Authority ELAP ID: 11867. A copy of the report is attached.

1,4-Dioxane analysis was performed by ALS Environmental ELAP ID: 10145.

**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:** *04-May-18*

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

**LabWork Order:** **180412079**
**PO#:**

**Lab SampleID:** 180412079-001 **Collection Date:** 4/12/2018
**Client Sample ID:** MW-17 **Matrix:** GROUNDWATER

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **ICP METALS - EPA 200.7 REV 4.4** ( **Prep: - 4/13/2018** ) | | | | | | Analyst: **AVB** |
| Sodium | **225** | 5.00 | | mg/L | 100 | 4/17/2018 3:14:53 PM |
| **SEMI-VOLATILE ORGANICS - EPA 8270D SIM** **4/18/2018** ) | | | | | | Analyst: **10145** |
| 1,4-Dioxane | **0.18** | 0.04 | | µg/L | 1 | 4/18/2018 12:16:00 PM |
| Surr: 1,4-Dioxane-D8 | **95.0** | 64-124 | | %REC | 1 | 4/18/2018 12:16:00 PM |
| **VOLATILE ORGANICS EPA 624.1** | | | | | | Analyst: **SMD** |
| 1,2-Dichloroethane | **ND** | 5.0 | | µg/L | 1 | 4/16/2018 1:53:00 PM |
| Benzene | **ND** | 5.0 | | µg/L | 1 | 4/16/2018 1:53:00 PM |
| Toluene | **ND** | 5.0 | | µg/L | 1 | 4/16/2018 1:53:00 PM |
| Chlorobenzene | **ND** | 5.0 | | µg/L | 1 | 4/16/2018 1:53:00 PM |
| Surr: 1,2-Dichloroethane-d4 | **94.1** | 80.9-126 | | %REC | 1 | 4/16/2018 1:53:00 PM |
| Surr: 4-Bromofluorobenzene | **88.6** | 84.5-119 | | %REC | 1 | 4/16/2018 1:53:00 PM |
| Surr: Toluene-d8 | **96.4** | 79.4-124 | | %REC | 1 | 4/16/2018 1:53:00 PM |

**Lab SampleID:** 180412079-002 **Collection Date:** 4/12/2018
**Client Sample ID:** Field Blank **Matrix:** FIELD BLANK

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# FINAL REPORT

**Report Date:** 04-MAY-2018 04:25 PM **Sample Number:** 200492268

**Subm # :** 100154478
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 17-Apr-2018 09:45 am
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** FB - ADIRONDACK - 180412079-001C (00
**Other :** FIELD BLANK

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** FIELD BLANK - 180412079-001C (002A)
**Samp City :** ALBANY, NY
**Collected :** 04/12/18 14:15
**Loca Desc :** FIELD BLANK - 80412079-001C (002A)

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | <0.004 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | <0.003 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 05/03/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/18/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 0 4 2018

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT 06511-596 Tel. (203) 401-2700
Connecticut Laboratory Cert. ID PH-0411, New York Laboratory Cert. ID 11867

# *FINAL REPORT*

**Report Date:** 04-MAY-2018 04:25 PM **Sample Number:** 200492267

**Subm # :** 100154478
**Study :** FEE SERVICE - MISCELLANEOUS
**Logged :** 17-Apr-2018 09:45 am
**By :** DAURIA
**Categ. :** FEE - MISC.
FEE - MISC.

**Type :** -FEE- MISC OTHER
**(Loca) :** -LOGIN
**ID :** ADIRONDACK - 180412079-001C
**Other :** EPA 537

**Customer :** ADIRONDACK ENVIROMENTAL SERVICE
**Attn :** n/a
**Samp Addr:** 180412079-001C
**Samp City :** ALBANY, NY
**Collected :** 04/12/18 14:15
**Loca Desc :** 180412079-001C

| PARAMETER | RESULT | UNITS | RL | METHOD | COMMENTS |
|---|---|---|---|---|---|
| PERFLUOROOCTANESULFONIC ACID (PFOS) | 0.027 | ug/L | 0.004 | EPA 537 | |
| PERFLUOROOCTANOIC ACID (PFOA) | 0.003 | ug/L | 0.002 | EPA 537 | |
| PERFLUORONONANOIC ACID (PFNA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROHEXANESULFONIC ACID (PFHXS) | 0.016 | ug/L | 0.003 | EPA 537 | |
| PERFLUOROHEPTANOIC ACID (PFHPA) | <0.002 | ug/L | 0.002 | EPA 537 | |
| PERFLUOROBUTANESULFONIC ACID | <0.009 | ug/L | 0.009 | EPA 537 | |
| DATE OF ANALYSIS REQUIRED | 05/03/18 | MM/DD/YY | | | |
| DATE OF EXTRACTION REQUIRED | 04/18/18 | MM/DD/YY | | | |

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column. This report is not valid without cover sheet.

Please note that not all the analytes listed above are NELAC certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Approved by and Date : _____
MAY 04 2018

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

Experience is the solution

A full service analytical research laboratory offering solutions to environmental concerns

# CHAIN OF CUSTODY RECORD

AES Work Order # 180412079

| | | |
|---|---|---|
| Client Name: AMRI | Address: 33 Riverside Ave., Rensselaer, NY | |
| Send Report To: Amanda Post | Project Name (Location) AMRI | Samplers: (Names) Joe Saulsbery |
| Client Phone No: 518-433-7770 | Client Email: amanda.post@amriglobal.com | PO Number: |
| | | Samplers: (Signature) |

| 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 | 4/12/18 | 14:15 A P | GW | | X | 7 | A, B, C |
| 002 | Field Blank 0m. 4/12/18 | | A P | | | | | |

4/12/18

**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, 1,2-DCA via 264

B: Sodium via 200.7

C: PFAS via 537.1 and 1,4 Dioxane via mod. 8270

| Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|---|---|---|
| | | |
| Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
| | | |
| Relinquished by: (Signature) | Received for Laboratory by: | Date/Time |
| | | 4/12/18 3:20 PM |

| Temperature | AES Bottles | Properly Preserved | Received Within Holding Times |
|---|---|---|---|
| Ambient or (Chilled) 1°C | Y ☒ N ☐ | (Y) N | (Y) N |
| Notes: | | Notes: | Notes: |

WHITE - Lab Copy YELLOW - Sampler Copy

Adirondack Environmental Service

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314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891

# 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.