AECOM

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December 19, 2018

Mr. Joshua P. Cook, P.E.
Environmental Engineer
New York State Department of Environmental Conservation
Division of Environmental Remediation
615 Erie Boulevard West
Syracuse, New York 13204

Subject: Former GE Farrell Road, NYSDEC Site No. 734055
Response to Submittal of the Injection Summary and Baseline Groundwater Monitoring Report

Dear Mr. Cook:

On behalf of Lockheed Martin Corporation (Lockheed Martin), AECOM Technical Services, Inc. (AECOM) is re-submitting the enclosed *Injection Summary and Baseline Groundwater Monitoring Report* (report). The report has been revised to address comments received from the New York State Department of Environmental Conservation (NYSDEC) on December 10, 2018 regarding the document that was provided to NYSDEC on November 2, 2018.

The NYSDEC comments are repeated below in bulleted, italic font and followed by Lockheed Martin's response in regular font.

1. *Section 3.2 – 3rd and 4th Paragraphs – Clarify the total number of injection locations for PRB #1 and #2 were 36 and 29, respectively. It currently sounds as if there were 36/29 installed on the south side of the access road, plus additional locations on the north side of the road.*

The description of injection activities, specifically for PRB #1 and PRB #2 has been adjusted for clarity.

2. Tables 5, 6 and 7 – Include all wells which were sampled. Add a discussion of the results which were omitted from the draft.

A supplementary section has been included with the revised report. The new Section 5 provides a final summary of post-pilot test monitoring data, and supplementary Tables 9 and 10 present results which were omitted from the original report submittal.

3. Table 6 – Based on Attachment B, the result for potassium for MW-32I should be 4.2 milligrams per liter (mg/L).

This edit to Table 6 has been completed.

4. Table 7 – Based on Attachment B, this table must be revised as below. Blank cells in the table below indicates no error was noted for that cell.

The edits to Table 7 have been completed.

We look forward to receiving acknowledgement from the NYSDEC that the revised report is satisfactory for the project file. If you have any additional questions or comments, please do not hesitate to contact me at (315) 928-4331.

Sincerely, AECOM

Carey Letts

Carey Letts
Project Manager

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Attachments: Injection Summary and Baseline Groundwater Monitoring Report (Revised December 2018)

AECOM

INJECTION SUMMARY AND BASELINE GROUNDWATER MONITORING REPORT

NYSDEC Site Number: 734055

Former GE Farrell Road
Onondaga County
Town of Geddes, Syracuse, New York

Prepared for:
Lockheed Martin Corporation
Building EP6 – Room 100B
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November 2018
Revised December 2018

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Acronyms and Abbreviations

°C	degrees Celsius
µg/L	micrograms per liter
µS/cm	microSiemens per centimeter
COCs	Contaminants of Concern
Cr^{6+}	Hexavalent chromium
CVOCs	Chlorinated Volatile Organic Compounds
DO	Dissolved Oxygen
gal	gallons
GE	General Electric
ISCO	In-Situ Chemical Oxidation
ISMP	Interim Site Management Plan
K	Potassium
Klozur® KP	Klozur® Potassium Persulfate
Klozur® SP	Klozur® Sodium Persulfate
Lbs	pounds
mg/L	milligrams per liter
mV	milliVolts
ML	Multi-Level Monitoring Wells
MW	Monitoring Well
Na	Sodium
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
ORP	Oxygen Reduction Potential
PeroxyChem	PeroxyChem Environmental Solutions Laboratory
pH	measure of acidity
PPE	Personal Protective Equipment
PRB	Permeable Reactive Barrier
PSI	pounds per square inch
RAO	Remedial Action Objectives
ROI	Radius of Influence
SC	Specific Conductivity
SCG	Standards, Criteria and Guidance
SDS	Safety Data Sheets
SO_4^{2-}	Sulfate
sq. ft.	square feet
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1. INTRODUCTION

On behalf of Lockheed Martin Corporation (Lockheed Martin), AECOM Technical Services, Inc. (AECOM) has prepared this *Injection Summary and Baseline Groundwater Monitoring Report* for the Former General Electric (GE) Farrell Road site (the site) located in the Town of Geddes, New York. This report summarizes field activities associated with remedial activities in the wetland area of the site.

1.1 REPORT ORGANIZATION

This summary report is organized as follows:

- Section 2 presents a site description and a brief background summary.
- Section 3 presents a summary of the injection activities.
- Section 4 presents the baseline groundwater analytical data for the treatment area.
- Section 5 presents the project schedule.

2. BACKGROUND

2.1 SITE DESCRIPTION

The site consists of 16.6 acres located in an industrial setting on Farrell Road in the Town of Geddes, northeast of Routes 690 and 90 and south of the Seneca River (**Figure 1**). The site includes an industrial building (Building #2) that is approximately 310,500 square feet (sq. ft.) in size, a garage that is approximately 8,000 sq. ft. in size, and Class I wetlands on the north side of the site (**Figure 2**). Further north of the site, the Class I wetland area continues north to the Seneca River. Currently, the site is classified as Class 4 on the New York State Department of Environmental Conservation (NYSDEC) Registry of Inactive Hazardous Waste Disposal Sites (Site #734055).

2.2 SITE HISTORY

The Farrell Road site was developed in the early 1960's by GE and was used as an assembly center for radar and sonar equipment until December 1992 when GE moved all operations to other locations. The remedial history for the site spans from 1986 to the present date and a detailed description is available in the NYSDEC approved *Interim Site Management Pla*n (ISMP) dated July 25, 2017.

Remedial system optimization was undertaken in 2017 and a bench-scale study demonstrated that a combination of oxidants, Klozur® potassium persulfate (KP) and Klozur® sodium persulfate (SP), can effectively treat chemicals of concern (COCs) in a lab setting using soil and groundwater from the site. An *In Situ Chemical Oxidation Treatability Study Summary Report and Pilot Test Work Plan* was submitted to the NYSDEC on November 22, 2017. Pilot test activities were conducted in November and December 2017. The results from pilot test application of Klozur® KP and SP upgradient of the wetland area demonstrated that contact was established between groundwater COCs and the injected oxidants, and confirmed that the combined oxidants can successfully degrade the mix of COCs in groundwater at this site.

A *Remedial System Optimization Work Plan* (RSO Work Plan) was approved by the NYSDEC on August 8, 2018, and implementation of full-scale groundwater treatment in the wetlands was undertaken in August/September 2018.

2.3 REMEDIAL ACTION OBJECTIVES

In accordance with the ISMP, the remedial action objectives (RAOs) are defined as follows:

1. Mitigate the potential threat to the Class I wetland biotic community resulting from the continued migration of contaminated groundwater to the wetland from the developed portion of the property.
2. Protect potential future on-site workers.
3. Achieve groundwater standards, where practicable.
4. Provide for attainment of Standards, Criteria and Guidance (SCGs) for Class I wetlands by eliminating the discharge of contaminated groundwater into the wetland.
5. Protect human health by preventing the migration of contaminants in groundwater towards the Seneca River.

The groundwater SCGs identified for the site are based on NYSDEC Ambient Water Quality Standards and Guidance Values. 1,4-Dioxane was added to the analyte list for groundwater samples for this site in accordance with a request from the NYSDEC dated May 29, 2013. The United States Environmental Protection Agency (USEPA) has stated the level of 1,4-dioxane in drinking water that would correspond to a 1 in one million risk of cancer is 0.35 micrograms per liter (µg/L).

An additional standard for reference is the New York State Department of Health (NYSDOH) drinking water standard of 50 µg/L for Unspecified Organic Contaminants. Currently, NYSDEC does not have a groundwater standard promulgated for 1,4-dioxane. Therefore, until a standard is promulgated, 1,4-dioxane will continue to be monitored and reported to the NYSDEC without direct comparison to a cleanup objective.

3. INJECTION SUMMARY

3.1 REMEDIATION PROCESS OVERVIEW

In-situ chemical oxidation (ISCO) is a widely accepted remediation technology used for the treatment of both chlorinated compounds and petroleum based contaminants found in soils and groundwater. A slurry mixture of Klozur® KP, Klozur® SP, water, and alkaline hydrated lime for activation was injected into the subsurface to intercept a groundwater plume. During laboratory bench-scale and field pilot test studies, the target compounds, including chlorinated volatile organic compounds (CVOCs) and 1,4-dioxane, were shown to breakdown when contact was established between the treatment slurry and impacted groundwater. Results from the prior bench-scale and field pilot study were used in the design of the full-scale ISCO injections.

3.2 TREATMENT AREA

The full-scale ISCO treatment area was located in the wetlands as shown on **Figure 2** based on the extent of CVOC and 1,4-dioxane impacts in the wetland area. Three permeable reactive barriers (PRBs) were installed in the treatment area consisting of direct push injection borings spaced along a straight line.

The radius of influence (ROI) determined during pilot test activities was used as a tool to predict the overlap of injected amendments during the full scale ISCO injections. The injection points were typically spaced approximately 3.5 to 4.5 feet apart on center, with some variation to account for field conditions. To minimize the potential for daylighting, some direct push injection points were conducted on the opposite side of the access road.

The first PRB was installed near the upgradient edge of the wetland plume (PRB#1) and consisted of 36 injection locations. Initially, locations were spaced approximately 4 feet on center and in a straight line, however based on daylighting during injections, 21 of the 36 injection locations were advanced on the south side of the PRB#1 access road and the remaining 15 were advanced along the north side. This approach was conducted in an effort to maintain good contact of injected slurry and groundwater while decreasing the occurrence of daylighting.

The second PRB was installed in the center of the wetland plume (PRB#2). A total of 16 injection locations were advanced along the south side of the PRB#2 access road and the remaining 13 injection locations along the north side for reasons similar to PRB#1.

The third PRB was installed downgradient of the PMW-12 well cluster (PRB#3A and PRB#3B) and consisted of 25 injection locations. There were no variations of the installation location of the injection points in PRB#3A/3B.

3.3 CHEMICAL HANDLING, STORAGE, AND CONTAINMENT

All chemicals used as part of the full-scale ISCO treatment event, were handled in accordance with recommended personal protective equipment (PPE) on material Safety Data Sheets (SDSs). The SDSs were maintained on-site at all times with AECOM and ISOTEC's site specific health and safety plan.

All mixing, dilution and pumping equipment, located in the staging area, was placed in a secondary containment device, capable of holding at least 110% of the entire volume of material being staged. All dry chemicals were stored in 40 foot storage units and protected from weather-related impacts. Storage areas were marked with appropriate National Fire Protection Association and Department of Transportation signage for the materials being stored. ISOTEC maintained a Spill Prevention and Control Plan as part of their on-site health and safety plan.

Shallow drip pans were placed below or around each hose coupling located outside of secondary containment facilities. To aid in limiting the area of impact from any slurry daylighting, a spill boom was placed at grade around each active injection point.

When slurry daylighting was observed at either the injection borehole annulus, or at nearby locations, the flow rate was decreased and/or ceased until daylighting stopped.

In accordance with the RSO Work Plan, daylighting of injection slurry visible at grade within the treatment area during injection in the wetland area was anticipated and considered acceptable. However, in areas where daylighting did occur, the slurry mixture did not infiltrate back into the ground as expected. Instead, solids fell out of suspension from the slurry and remained at grade. The slurry material in these areas was scraped off of the ground surface and transferred to 55-gallon steel drums lined with plastic. A total of nine drums were generated and stored in the fenced enclosure adjacent to the remediation shed on-site, pending waste characterization analysis. The drums were removed from the site by Lockheed Martin's waste management contractor Veolia Environmental Services, Inc. (Veolia), on October 22, 2018 and disposed off-site at an approved, permitted landfill.

3.4 CHEMICAL INJECTIONS

The ISCO injections were implemented by ISOTEC under AECOM oversight. The ISCO injections were initiated on August 16, 2018 and were completed on September 7, 2018, with operations being completed in fifteen working days. All chemical mixing and injection procedures were conducted in accordance with the RSO Work Plan.

During the ISCO injections, daily injection production ranged between 385 gallons to 2,165 gallons per day, with an average of 1,362 gallons of substrate injected per day. The injections pressures ranged between 0 to 420 pounds per square inch (PSI) with an average of 235 PSI throughout the injection phase. A summary table of the injections is shown in **Attachment A - ISOTEC Injection Summary Table**. This table summarizes the operating time, flow rate, injection pressure, treatment interval and substrate applied for each injection location.

Throughout the ISCO event, the injection process was optimized by making minor modifications to the injection approach in the field with both project management and NYSDEC approval. Changes to the injection approach included: modification of the at-well delivery method, amending the applied chemical dose, and use of a second drill rig. At the onset of the injection phase, the planned delivery method was to use a top-down approach using targeted exposed screen tooling; however, based on the re-occurring observance of daylighting, the project team amended the approach to use bottom-up delivery methods at locations where daylighting had been observed to be an issue.

In an additional effort to minimize the occurrences of daylighting, the planned volume of water was reduced which resulted in a decrease in the overall volume of slurry delivered to the subsurface. Despite reduction of the planned water volume in the slurry, the designed oxidant demand was still achieved and the target mass of oxidants, Klozur® KP and SP, were injected into the subsurface target depths. The table below summarizes the injections for each barrier as compared to the initially planned injection mass and volume.

Barrier	Planned Klozur® KP (lbs)	Planned Klozur® SP (lbs)	Planned Hydrated Lime (lbs)	Planned Slurry Volume (gal)	Actual Klozur® KP (lbs)	Actual Klozur® SP (lbs)	Actual Hydrated Lime (lbs)	Actual Slurry Volume (gal)
PRB#1	28,652	6,612	13,200	17,100	31,520	8,243	13,007	8,403
PRB#2	24,244	6,612	10,600	14,200	20,556	6,254	8,577	4,930
PRB#3	28,652	6,612	10,600	16,000	29,442	7,543	12,416	7,090
Total	**81,548**	**19,836**	**34,400**	**47,300**	**81,548**	**22,040**	**34,000**	**20,423**

For the barriers, 100% of the planned Klozur® KP mass, 111% of the planned Klozur® SP mass, and 99% of the planned hydrated lime mass was injected. The actual mass injected of Klozur® SP was slightly above the planned mass, and the actual mass of injected hydrated lime was slightly less than planned, both due to a difference in anticipated container size of stock chemical materials delivered to the site. All injection volume adjustments were completed in consultation with project management, NYSDEC, and the chemical vendor PeroxyChem.

3.5 WASTE DISPOSAL

Waste generated during injection activities included surfaced slurry mixture which was scraped off the ground and contained in nine 55-gallon plastic-lined steel drums. The drums were removed from the site by Veolia on October 22, 2018 and disposed off-site at an approved, permitted landfill.

3.6 GROUNDWATER QUALITY MONITORING

Groundwater quality monitoring was conducted a minimum of once per week throughout the ISCO injections by measuring parameters that included: temperature in degrees Celsius (ºC), pH, dissolved oxygen (DO) in milligrams per Liter (mg/L), oxygen reduction potential (ORP) in milliVolts (mV), specific conductivity (SC) in microSiemens per centimeter (µS/cm), and approximate persulfate concentration in mg/L. Wells located within and downgradient of the injection area were subject to the weekly monitoring and included: ML-2A, ML-3E, MW-28, PMW-4S/I/D, PMW-5S/I, PMW-6S/I/D, PMW-9S/I/D, PMW-10S/I/D, PMW-11S/I/D, PMW-12S/I/D, PMW-13S/I/D, and MW-32S/I/D. Results from the water quality monitoring are presented in **Table 1**.

Data from water quality monitoring during the ISCO injections indicated minimal sustained variation in geochemical parameters as a result of the injection process; however the presence of persulfate was confirmed in wells PMW-4S/I/D, PMW-5I, PMW-6I, PMW-11I, PMW-11D, PMW-12S, and MW-28. Prior to the ISCO injection event, persulfate had been identified in PMW-4I and PMW-4D during the second and third quarter 2018 groundwater sampling events.

It is noted that the pH readings in downgradient monitoring well MW-32I have been elevated since its installation in May 2018. On May 23, 2018, during second quarter groundwater monitoring, pH readings at MW-32I were an average of 11.59. On July 31, 2018, during third quarter groundwater monitoring, pH readings at MW-32I were an average of 10.68.

During the ISCO injection event in August and September 2018, pH readings at MW-32I were an average of 10.53. Data collected for pH at adjacent shallow and deep wells, MW-32S (average of 7.72) and MW-32D (average of 7.76), showed no indication of elevated pH. At this time, it is unclear why pH readings are elevated in MW-32I. Continued monitoring will be conducted during future quarterly monitoring and sampling events.

3.7 VEGETATION OBSERVATIONS

Following the injection event, eight trees in the vicinity of daylighting occurrences were observed to display signs of stress, specifically dried or fallen leaves. The eight trees will be visually monitored during each quarterly groundwater sampling event, and general observations will be recorded for any other trees in the remediation area. All generated observations will be summarized and reported in the quarterly groundwater monitoring report.

Tree # *	Tree Species	Notes
T101	Eastern Cottonwood	--
T352	Green Ash	--
T379	Green Ash	--
T380	Green Ash	--
T381	Green Ash	Originally slated for removal during access road installation, but was successfully avoided.
T382	Green Ash	Originally slated for removal during access road installation, but was successfully avoided.
T419	Green Ash	--
T420	Red Maple	--

* Trees subject to visual monitoring - tree number coincides with trees inventoried as part of a Joint Application Form under the United States Army Corps of Engineers and the NYSDEC.

The above-referenced trees will be visually monitored during each quarterly groundwater sampling event, and general observations will be recorded for any other trees in the remediation area. Any generated observations will be summarized and reported in the quarterly groundwater monitoring report.

4. BASELINE GROUNDWATER MONITORING SUMMARY

4.1 BASELINE GROUNDWATER SAMPLING

In accordance with the RSO Work Plan, post-injection performance monitoring will be conducted on a quarterly basis to coincide with the existing quarterly groundwater monitoring program. The existing groundwater monitoring program focuses on VOC concentrations, whereas the post-injection performance monitoring will also include analysis of hexavalent chromium (Cr^{6+}), sulfate (SO_4^{2-}), dissolved sodium (Na), and dissolved potassium (K).

Analysis	Monitoring Wells
Hexavalent chromium (Cr^{6+}) – Method 7199	PMW-9S/I/D, PMW-10S/I/D, PMW-11D, PMW-12S/I/D, PMW-13D, MW-32S/I/D
Sulfate (SO_4^{2-}) – Method 9056A	
Dissolved sodium – Method 6010C	
Dissolved potassium – Method 6010C	

Baseline samples for VOCs, Cr^{6+}, SO_4^{2-}, dissolved Na, and dissolved K were collected during the site-wide third quarter 2018 groundwater sampling event for the select monitoring wells listed above. The baseline sampling was conducted before the ISCO injection event. Laboratory analytical data and associated lab reports for VOCs measured in the select monitoring wells listed above were submitted to the NYSDEC as part of the third quarter 2018 groundwater monitoring report.

4.2 BASELINE GROUNDWATER MONITORING RESULTS

Baseline groundwater analytical data for VOCs is summarized and presented in **Tables 2**, **3**, and **4** for shallow, intermediate, and deep monitoring wells, respectively.

Laboratory analytical data for Cr^{6+}, SO_4^{2-}, Na, and K, are included with this report in **Tables 5**, **6**, and **7**, for shallow, intermediate, and deep monitoring wells, respectively. Laboratory analytical reports are presented in **Attachment B**.

Baseline concentrations for Cr^{6+} were below laboratory detection limits in all wells selected for post-injection monitoring. Baseline concentrations for SO_4^{2-}ranged from 10.2 mg/L at PMW-13D to 85.9 mg/L at MW-32I. Baseline concentrations dissolved for K were below laboratory detection limits at all wells except for 2.2 mg/L at PMW-11D and 42 mg/L at MW-32I. Baseline concentrations for dissolved Na ranged from 22.1 mg/L at PMW-13D to 121 mg/L at MW-32S and MW-32D.

Baseline water quality geochemical parameters for the wells selected for post-injection monitoring that were collected during the third quarter 2018 groundwater monitoring event indicated the following: pH ranged from 6.65 at PMW-10D to 10.77 at MW-32I; temperature ranged from 11.8 ºC at PMW-12I to 18.64 ºC at PMW-11D; SC ranged from 0.323 µS/cm at PMW-12I to 1.72 µS/cm at MW-32S; ORP ranged from 17 mV at PMW-10D to -281 mV at MW-32I; DO ranged from 0.5 mg/L at PMW-9D to 7.21 mg/L at MW-32S. A historical presentation of groundwater quality parameters is presented in **Table 8**.

4.3 FUTURE COMPARISONS TO BASELINE DATA

As indicated in Section 4.2, baseline data for the wells selected for post-injection monitoring has been tabulated and presented on figures. Future quarterly groundwater monitoring reports will build upon the baseline data tables and figures by adding columns immediately adjacent to each baseline column so that a direct and simple comparison can be conducted by the reader.

5. FINAL SUMMARY OF PILOT TEST MONITORING DATA

This section is a final summary of monitoring related to the pilot test activities conducted at the site in November and December 2017 and concludes post-injection groundwater monitoring associated with the ISCO pilot test.

Table 9 is provided to compare baseline VOC concentrations in groundwater to concentrations in groundwater at 3-months, 6-months, and 9-months following the pilot test.

Monitoring well MW-29 (located approximately 5-ft downgradient of pilot test injection points) demonstrated decreases in VOC concentration (excluding acetone) from 114.6 µg/L to 0.31 µg/L during the post-pilot test monitoring timeframe. Monitoring well MW-30 (located approximately 10-ft downgradient of pilot test injection points) demonstrated decreases in VOC concentration (excluding acetone) from 184.4 µg/L to 106.6 µg/L during post-pilot test monitoring, with a low of 26 µg/L observed during the 3-month post-pilot test monitoring event.

Monitoring well PMW-4D (located approximately 85 feet downgradient of pilot test injection points) demonstrated decreases in VOC concentration from 991.3 µg/L to 580.1 µg/L during the post-pilot test monitoring timeframe. Prior to conducting the pilot test activities, concentrations at PMW-4D had exhibited a slightly downward trend. Therefore, based on VOC concentrations alone, it cannot be concluded that the decreases observed during the post-pilot test monitoring were a direct result of the pilot test activities.

Monitoring wells located further downgradient and cross-gradient to the pilot test area, including PMW-5D, PMW-6D, PMW-9D, and PMW-10D, exhibited fluctuations in VOC concentrations similar to what had been observed prior to pilot test activities. Given the distance of these wells from pilot test injection points, no discernable changes in concentration were expected to occur as a result of pilot test activities.

Monitoring well MW-31 is located approximately 38-ft downgradient of a separate pilot test area located at the south end of the site adjacent to Building #2. Subsequent monitoring of VOC and geochemical concentrations at MW-31 were performed during the same post-pilot test monitoring intervals. Notable impacts from the pilot test injections were not anticipated given the distance from the injection area, and having since gained a better understanding of VOC concentrations in the subsurface soil and groundwater in this area. Over the course of time following the pilot test injections, VOC concentrations have fluctuated from a low of 105,560 µg/L at 9-months post-pilot test injection to a high of 117,103 µg/L at 6-months post pilot test injection.

Table 10 is provided to compare baseline geochemical concentrations in groundwater to concentrations in groundwater at 3-months, 6-months, and 9-months following the pilot test.

Following pilot test injection activities, concentrations of Cr^{6+} increased from below laboratory detection limits to a high of 212 µg/L at MW-29 3-months post-injection, and to 101 µg/L at MW-30 6-months post-injection. The increased Cr^{6+} at both of these wells was likely temporary as the concentrations have decreased since the maximum observed concentrations. A detection of Cr^{6+} was noted at PMW-4D during the 9-month post-pilot test monitoring.

No supplemental action is recommended at this time; Cr^{6+} concentrations will continue to be monitored at wells in the wetland area downgradient of PMW-4D in accordance with the RSO work plan.

Concentrations for SO_4^{2-}, Na, and K have exhibited varying levels of increase at MW-29, MW-30, and PMW-4D during the post-pilot test monitoring events. This indicates that influence from some of the injected compounds has occurred at distances of 5-ft, 10-ft and up to 85-ft downgradient of the pilot test injection points. Given this evidence, it is plausible to consider that decreases in VOC concentrations at PMW-4D could be as a result of pilot test injection activities.

Increases in SO_4^{2-} and Na were noted at MW-31 9-months following pilot test injection activities. No further geochemical parameter monitoring is planned in the vicinity of MW-31 until further subsurface investigation has been conducted beneath Building #2.

6. SCHEDULE

The fourth quarter 2018 groundwater sampling event including post-injection monitoring was conducted in November and December 2018. The groundwater monitoring report will be submitted to the NYSDEC within 45 days of sampling event completion.

Tables

TABLE 1

Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	SC (mS/cm)	DO (mg/l)	ORP (mV)	Persulfate
PMW-4S	8/17/2018	13:45	7.09	18.72	0.711	2.40	88	0
	8/24/2018	9:21	6.90	16.34	0.665	4.03	39	0.7
	8/28/2018	9:17	7.68	17.43	0.643	4.84	-20	--
	9/6/2018	11:32	7.18	17.40	0.889	5.87	-33	--
PMW-4I	8/17/2018	13:30	7.00	18.91	0.665	4.36	74	25
	8/24/2018	9:33	7.62	14.50	0.693	3.78	159	8
	8/28/2018	9:31	7.55	15.60	0.647	3.99	68	--
	9/6/2018	11:40	7.41	15.51	0.863	3.82	-10	--
PMW-4D	8/17/2018	13:40	7.14	17.46	1.62	2.82	184	>70
	8/24/2018	9:25	6.89	14.78	1.80	2.91	109	>70
	8/28/2018	9:25	7.63	15.54	1.3	5.66	118	--
	9/6/2018	11:37	7.24	15.42	1.67	4.78	28	--
PMW-5S	8/17/2018	13:55	7.16	17.61	0.542	2.26	139	0
	8/22/2018	13:25	7.21	15.88	0.526	3.28	72	0
	8/27/2018	15:53	6.99	17.34	0.574	4.21	37	--
	9/6/2018	11:16	7.19	18.01	0.750	3.94	-31	--
PMW-5I	8/17/2018	13:50	7.24	18.16	0.624	2.17	183	>70
	8/22/2018	13:51	7.49	15.49	0.658	5.67	142	>70
	8/27/2018	16:02	7.16	16.23	0.599	4.56	74	--
	9/6/2018	11:23	7.45	16.12	0.788	4.02	30	--
PMW-5D	8/24/2018	9:16	7.31	15.22	0.566	5.68	47	0
PMW-6S	8/17/2018	14:20	7.18	17.59	0.507	1.87	-2	0
	8/22/2018	11:39	7.89	17.27	0.439	6.51	-106	0
	8/27/2018	15:30	8.10	18.34	0.503	6.32	-69	--
	9/6/2018	10:56	7.43	18.50	0.667	5.62	-118	--
PMW-6I	8/17/2018	14:10	6.98	16.51	1.29	3.00	249	>70
	8/22/2018	13:10	6.97	15.50	0.759	2.69	144	>70
	8/27/2018	15:48	7.10	15.27	0.664	4.85	39	--
	9/6/2018	11:10	7.19	16.35	0.956	4.80	10	--
PMW-6D	8/17/2018	14:15	7.42	15.55	0.595	2.33	253	0
	8/22/2018	12:50	7.42	16.39	0.573	2.87	104	0
	8/27/2018	15:40	7.62	16.49	0.570	6.22	24	--
	9/6/2018	11:05	7.28	16.37	0.779	4.55	-44	--
PMW-9S	8/22/2018	10:20	7.30	15.82	0.541	3.52	111	0
	8/28/2018	9:52	7.68	18.29	0.597	4.86	-140	--
	9/6/2018	12:14	7.42	17.79	0.792	4.65	-93	--
PMW-9I	8/22/2018	10:04	7.52	14.58	0.574	3.24	125	0
	8/28/2018	9:45	7.47	15.38	0.597	7.77	83.0	--
	9/6/2018	12:08	7.52	15.65	0.774	3.99	-74	--
PMW-9D	8/22/2018	9:42	8.11	14.75	0.582	4.39	89	0
	8/28/2018	9:40	7.72	15.50	0.597	4.01	54	0
	9/6/2018	12:03	7.48	15.53	0.828	5.60	50	0
PMW-10S	8/21/2018	15:50	7.27	15.30	0.587	2.87	40.0	0.0
	8/28/2018	10:34	7.43	16.35	0.590	4.27	114	--
	9/7/2018	11:00	7.58	15.51	0.599	2.10	37	--
PMW-10I	8/21/2018	15:25	7.37	14.03	0.598	2.49	116	0
	8/28/2018	10:24	8.37	14.82	0.6	4.22	123	--
	9/7/2018	11:05	7.62	16.03	0.476	3.01	98	--
PMW-10D	8/21/2018	14:57	8.02	15.00	0.589	3.75	95	0
	8/28/2018	10:18	7.63	15.37	0.599	2.46	140	0
	9/6/2018	11:10	8.31	15.40	0.571	4.30	101	--
PMW-11S	8/24/2018	10:23	7.32	17.78	0.772	4.12	-82	0.0
	8/29/2018	13:50	7.00	22.17	1.06	4.17	-144	--
	9/7/2018	11:21	7.51	15.60	0.668	3.98	17	--

TABLE 1

Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	SC (mS/cm)	DO (mg/l)	ORP (mV)	Persulfate
PMW-11I	8/24/2018	10:26	7.22	17.07	0.658	2.76	-26	2.1
	8/29/2018	14:05	7.20	17.89	0.848	3.67	-55	--
	9/7/2018	11:27	7.32	16.21	0.698	4.72	-31	--
PMW-11D	8/24/2018	10:31	7.51	13.68	0.723	4.63	9.0	0.7
	8/29/2018	14:25	7.37	14.39	0.946	3.85	-18	--
	9/7/2018	11:35	7.28	14.66	0.631	4.41	-5	--
PMW-12S	8/24/2018	10:03	7.54	14.06	0.536	3.29	0.0	2.1
	8/27/2018	12:55	7.22	16.06	0.526	4.21	-4	--
	9/6/2018	14:07	7.45	16.44	0.725	3.72	28	--
PMW-12I	8/24/2018	9:58	7.56	12.96	0.575	3.26	-48	0
	8/27/2018	13:57	7.80	14.75	0.413	7.12	73	--
	9/6/2018	14:00	7.40	15.61	0.747	3.31	43	--
PMW-12D	8/24/2018	9:51	7.49	14.15	0.614	4.95	-100	0.0
	8/27/2018	13:39	8.45	16.82	0.539	18.35	90	--
	9/6/2018	13:52	7.50	15.48	0.803	14.32	40	--
PMW-13S	8/24/2018	10:50	7.66	17.77	0.485	3.34	-18	0.0
	8/29/2018	11:42	7.18	22.12	0.658	3.82	7	--
	9/7/2018	11:45	7.32	15.53	0.701	3.56	10	--
PMW-13I	8/24/2018	10:54	7.60	17.25	0.429	4.17	-46	0
	8/29/2018	11:52	7.27	21.60	0.453	3.48	52	--
	9/7/2018	11:51	7.27	17.61	0.567	4.41	68	--
PMW-13D	8/24/2018	10:59	7.64	16.77	0.411	2.93	-62	0.0
	8/29/2018	11:59	7.29	19.05	0.573	3.47	42	--
	9/7/2018	12:00	7.46	13.47	0.589	3.38	56	--
MW-28	8/24/2018	9:09	7.92	16.31	0.665	4.03	39	0.7
	8/30/2018	8:14	7.23	17.63	0.618	5.31	-43	--
	9/6/2018	10:32	7.34	18.04	0.898	5.79	-39	--
MW-32S	8/21/2018	11:15	7.90	14.87	1.53	4.12	-42	0
	8/27/2018	14:31	7.91	14.55	1.40	5.32	-25	--
	9/6/2018	14:27	7.36	13.28	1.91	3.23	-135	--
MW-32I	8/21/2018	11:30	10.80	14.19	0.751	2.20	-152	0
	8/27/2018	14:47	10.65	14.07	0.769	4.26	-266	--
	9/6/2018	14:18	10.13	16.21	1.00	3.35	-198	--
MW-32D	8/21/2018	9:50	7.94	16.90	0.935	2.80	-119	0
	8/27/2018	14:39	7.70	14.85	1.03	4.85	-172	--
	9/6/2018	14:23	7.65	14.18	1.45	5.50	-189	--
ML-2A	8/24/2018	11:10	6.83	16.79	0.591	5.32	-6	0
	8/30/2018	10:40	6.91	17.81	0.641	5.94	-12	--
	9/7/2018	10:40	6.91	15.63	0.631	3.10	-10	
ML-3E	8/24/2018	11:20	7.22	17.43	0.673	3.76	--	0
	8/30/2018	9:02	7.64	15.79	1.06	5.79	-202	--
	9/7/2018	10:50	7.18	15.76	0.677	4.82	-4	--

Notes:
°C - degrees Celsius
NTU - nephelometric turbidity unit
SC - specific conductivity
µS/cm - microSiemens per centimeter
DO - dissolved oxygen
mg/L - milligrams per liter
ORP - oxygen reduction potential
mV - millivolts
-- - data not collected

TABLE 2

Baseline Groundwater Analytical Data
Volatile Organic Compounds - Shallow ISCO Monitoring Wells

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location		**Baseline PMW-9S 8/01/18**			**Baseline PMW-10S 8/01/18**			**Baseline PMW-12S 7/31/18**			**Baseline MW-32S 7/31/18**		
VOCs by Methods 8260C	*SCGs (µg /L)*	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
1,1,1-Trichloroethane	5	2.9	J	5	2.6	J	5	3.1	--	1	1.1	--	1
1,1,2-Trichloroethane	1	**1.9**	J	5	**1.8**	J	5	ND<1.0	U	1	ND<1.0	U	1
1,1-Dichloroethane	5	**340**	--	5	**330**	--	5	**13**	--	1	0.51	J	1
1,1-Dichloroethene	5	**780**	--	5	**710**	--	5	**25**	--	1	0.54	J	1
1,2,4-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
1,2-Dichloroethane	0.6	**27**	--	5	**26**	--	5	**0.90**	J	1	ND<1.0	U	1
1,3,5-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
1,4-dioxane	--	510	--	5	460	--	5	83	--	1	ND<40	U	1
Acetone	50 *	ND<25	U	5	ND<25	U	5	ND<5.0	U	1	ND<5.0	U	1
Benzene	1	**4.4**	J	5	**4.1**	J	5	0.51	J	1	ND<1.0	U	1
Chloroethane	5	**21**	--	5	**13**	--	5	0.34	J	1	ND<1.0	U	1
Ethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Naphthalene	10	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Toluene	5	ND<5.0	U	5	ND<5.0	U	5	0.35	J	1	ND<1.0	U	1
Trichloroethene	5	**37**	--	5	**39**	--	5	**32**	--	1	**68**	--	1
Trichlorofluoromethane	5	**7.5**	--	5	**7.5**	--	5	**13**	--	1	ND<1.0	U	1
Vinyl chloride	2	**6.2**	--	5	**13**	--	5	0.37	J	1	ND<1.0	U	1
cis-1,2-dichloroethene	5	2.5	J	5	2.7	J	5	1.9	--	1	**9.2**	--	1
m,p-Xylene	5	ND<10	U	5	ND<10	U	5	0.28	J	1	ND<2.0	U	1
o-Xylene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
trans-1,2-dichloroethene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	0.28	J	1
Total VOCs	--	1,740.4	--	--	1,609.7	--	--	173.8	--	--	79.6	--	--

Notes:
SCGs - Standards, Criteria and Guidelines (µg/L).
SCGs are provided for New York Department of Environmental Conservation (NYSDEC) Technical & Operational Guidance Series for Ambient Water Quality Standards and Guidance Values 1.1.1 unless otherwise stated.
* Guidance Value (µg/L) New York State Ambient Water Quality Standards and Guidance Values
ND - Not detected at the Method Reporting Limit (MDL)
-- indicates 'blank cell'.
Bold values represent compound exceedance of the identified SCG
U - Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrativ
J - Estimated value due to either being a Tentatively Identified Compound or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration.

AECOM

TABLE 3

Baseline Groundwater Analytical Data
Volatile Organic Compounds - Intermediate ISCO Monitoring Wells

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location		**Baseline PMW-9I 8/01/18**			**Baseline PMW-10I 8/01/18**			**Baseline PMW-12I 7/31/18**			**Baseline MW-32I 7/31/18**		
VOCs by Methods 8260C	*SCGs (µg /L)*	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
1,1,1-Trichloroethane	5	1.8	J	5	2.6	J	5	3.9	--	1	0.56	J	1
1,1,2-Trichloroethane	1	**1.9**	J	5	**3.3**	J	5	ND<1.0	U	1	ND<1.0	U	1
1,1-Dichloroethane	5	**300**	--	5	**370**	--	5	**140**	--	1	0.34	J	1
1,1-Dichloroethene	5	**680**	--	5	**830**	--	5	**180**	--	1	0.42	J	1
1,2,4-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
1,2-Dichloroethane	0.6	**23**	--	5	**27**	--	5	**7.0**	--	1	ND<1.0	U	1
1,3,5-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
1,4-dioxane	--	420	--	5	420	--	5	300	--	1	ND<40	U	1
Acetone	50 *	ND<25	U	5	ND<25	U	5	ND<5.0	U	1	13	--	1
Benzene	1	**3.5**	J	5	**5.0**	--	5	0.79	J	1	ND<1.0	U	1
Chloroethane	5	**16**	--	5	3.7	J	5	1.6	--	1	ND<1.0	U	1
Ethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Naphthalene	10	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Toluene	5	ND<5.0	U	5	ND<5.0	U	5	0.33	J	1	4.8	--	1
Trichloroethene	5	**27**	--	5	**30**	--	5	**43**	--	1	**35**	--	1
Trichlorofluoromethane	5	**6.1**	--	5	**8.0**	--	5	**14**	--	1	0.51	J	1
Vinyl chloride	2	1.5	J	5	1.6	J	5	1.1	--	1	ND<1.0	U	1
cis-1,2-dichloroethene	5	1.8	J	5	1.8	J	5	2.3	--	1	4.1	--	1
m,p-Xylene	5	ND<10	U	5	ND<10	U	5	0.32	J	1	ND<2.0	U	1
o-Xylene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
trans-1,2-dichloroethene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Total VOCs	--	1,482.6	--	--	1,703.0	--	--	694.3	--	--	58.7	--	--

Notes:
SCGs - Standards, Criteria and Guidelines (µg/L).
SCGs are provided for New York Department of Environmental Conservation (NYSDEC) Technical & Operational Guidance Series for Ambient Water Quality Standards and Guidance Values 1.1.1 unless otherwise stated.
* Guidance Value (µg/L) New York State Ambient Water Quality Standards and Guidance Values
ND - Not detected at the Method Reporting Limit (MDL)
-- indicates 'blank cell'.
Bold values represent compound exceedance of the identified SCG
U - Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrativ
J - Estimated value due to either being a Tentatively Identified Compound or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration.

AECOM

TABLE 4

Baseline Groundwater Analytical Data
Volatile Organic Compounds - Deep ISCO Monitoring Wells

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location		**Baseline PMW-9D 8/01/18**			**Baseline PMW-10D 8/01/18**			**Baseline PMW-11D 7/31/18**			**Baseline PMW-12D 7/31/18**			**Baseline PMW-13D 7/31/18**			**Baseline MW-32D 7/31/18**		
VOCs by Methods 8260C	*SCGs (µg/L)*	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
1,1,1-Trichloroethane	5	2.1	J	5	2.7	J	5	3.5	--	1	3.5	J	5	ND<1.0	U	1	0.26	J	1
1,1,2-Trichloroethane	1	**4.3**	J	5	2.9	J	5	0.37	J	1	**2.4**	J	5	ND<1.0	U	1	ND<1.0	U	1
1,1-Dichloroethane	5	**430**	--	5	**310**	--	5	**37**	--	1	**300**	--	5	1.0	--	1	0.39	J	1
1,1-Dichloroethene	5	**920**	--	5	**690**	--	5	**57**	--	1	**680**	--	5	0.29	J	1	ND<1.0	U	1
1,2,4-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
1,2-Dichloroethane	0.6	**28**	--	5	**21**	--	5	**2.7**	--	1	**22**	--	5	ND<1.0	U	1	ND<1.0	U	1
1,3,5-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
1,4-dioxane	--	450	--	5	370	--	5	24	J	1	350	--	5	ND<40	U	1	ND<40	U	1
Acetone	50 *	ND<25	U	5	ND<25	U	5	ND<5.0	U	1	ND<25	U	5	5.5	--	1	2.1	J	1
Benzene	1	**4.7**	J	5	3.7	J	5	0.31	J	1	**3.9**	J	5	ND<1.0	U	1	ND<1.0	U	1
Chloroethane	5	3.8	J	5	2.0	J	5	ND<1.0	U	1	2.7	J	5	ND<1.0	U	1	ND<1.0	U	1
Ethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Naphthalene	10	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Toluene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Trichloroethene	5	**30**	--	5	**38**	--	5	**7.4**	--	1	**50**	--	5	4.2	--	1	**12**	--	1
Trichlorofluoromethane	5	**6.8**	--	5	**9.1**	--	5	ND<1.0	U	1	**10**	--	5	ND<1.0	U	1	ND<1.0	U	1
Vinyl chloride	2	1.8	J	5	1.6	J	5	ND<1.0	U	1	1.2	J	5	ND<1.0	U	1	ND<1.0	U	1
cis-1,2-dichloroethene	5	2.7	J	5	2.0	J	5	1.0	--	1	2.4	J	5	1.9	--	1	2.4	--	1
m,p-Xylene	5	ND<10	U	5	ND<10	U	5	ND<2.0	U	1	ND<10	U	5	ND<2.0	U	1	ND<2.0	U	1
o-Xylene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
trans-1,2-dichloroethene	5	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Total VOCs	--	1,884.2	--	--	1,453.0	--	--	133.3	--	--	1,428	--	--	12.9	--	--	17.2	--	--

Notes:
SCGs - Standards, Criteria and Guidelines (µg/L).
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* Guidance Value (µg/L) New York State Ambient Water Quality Standards and Guidance Values.
ND - Not detected at the Method Reporting Limit (MDL).
-- indicates 'blank cell'.
Bold values represent compound exceedance of the identified SCG.
U - Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J - Estimated value due to either being a Tentatively Identified Compound or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration.

AECOM

TABLE 5

Baseline Groundwater Analytical Data
Geochemical Parameters - Shallow ISCO Monitoring Wells

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location	Baseline PMW-9S 8/01/18			Baseline PMW-10S 8/01/18			Baseline PMW-12S 7/31/18			Baseline MW-32S 7/31/18		
	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
Method 7199 (µg/L)												
Hexavalent Chromium	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1
Method 9056A (mg/L)												
Sulfate	21.3	--	10	23.5	--	10	16.3	--	10	64.3	--	40
Method 6010C (mg/L)												
Potassium (Dissolved)	ND<2	U	1	ND<2	U	1	ND<2	U	1	ND<2	U	1
Sodium (Dissolved)	33.9	--	1	33.9	--	1	35.4	--	1	121	--	1

Notes:
µg/L - Micrograms per liter.
mg/L - Milligrams per liter.
ND - Not detected at the Method Reporting Limit (MDL).
-- indicates 'blank cell'.
U - Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

AECOM

TABLE 6

Baseline Groundwater Analytical Data
Geochemical Parameters - Intermediate ISCO Monitoring Wells

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location	Baseline PMW-9I 8/01/18			Baseline PMW-10I 8/01/18			Baseline PMW-12I 7/31/18			Baseline MW-32I 7/31/18		
	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
Method 7199 (µg/L)												
Hexavalent Chromium	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1
Method 9056A (mg/L)												
Sulfate	24.3	--	10	24.7	--	10	20.7	--	10	85.9	--	40
Method 6010C (mg/L)												
Potassium (Dissolved)	ND<2	U	1	ND<2	U	1	ND<2	U	1	4.2	--	1
Sodium (Dissolved)	33.8	--	1	32.8	--	1	33.2	--	1	119	--	1

Notes:
µg/L - Micrograms per liter.
mg/L - Milligrams per liter.
ND - Not detected at the Method Reporting Limit (MDL).
-- indicates 'blank cell'.
U - Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

AECOM

TABLE 7

Baseline Groundwater Analytical Data
Geochemical Parameters - Deep ISCO Monitoring Wells

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location	Baseline PMW-9D 8/01/18			Baseline PMW-10D 8/01/18			Baseline PMW-11D 7/31/18		
	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
Method 7199 (µg/L)									
Hexavalent Chromium	ND<10	U	1	ND<10	U	1	ND<10	U	1
Method 9056A (mg/L)									
Sulfate	29.5	--	40	22.7	--	10	48	--	10
Method 6010C (mg/L)									
Potassium (Dissolved)	ND<2	U	1	ND<2	U	1	2.2	--	1
Sodium (Dissolved)	31.9	--	1	34.8	--	1	83.2	--	1

Sample Location	Baseline PMW-12D 7/31/18			Baseline PMW-13D 7/31/18			Baseline MW-32D 7/31/18		
	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
Method 7199 (µg/L)									
Hexavalent Chromium	ND<10	U	1	ND<10	U	1	ND<10	U	1
Method 9056A (mg/L)									
Sulfate	21.4	--	10	10.2	--	10	47.0	--	10
Method 6010C (mg/L)									
Potassium (Dissolved)	ND<2	U	1	ND<2	U	1	7.3	--	1
Sodium (Dissolved)	34.1	--	1	22.1	--	1	123	--	1

Notes:
µg/L - Micrograms per liter.
mg/L - Milligrams per liter.
ND - Not detected at the Method Reporting Limit (MDL).
-- indicates 'blank cell'.
U - Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

AECOM

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
ML-1A	8/31/2017	12:11	Dry after purging 20mL; allowed to recover & sample					
	8/1/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ML-1B	8/31/2017	12:16	7.53	19.92	397	1.02	1.68	-164
		12:21	7.6	17.63	132	0.932	1.21	-193
		12:26	7.67	16.96	56.3	0.975	1.05	-201
		12:31	7.7	16.44	19.7	0.976	0.96	-204
	8/1/2018	10:02	7.25	18.16	206.1	0.5	3.4	-39.8
		10:07	7.19	17.09	9.9	0.705	0.97	-63
		10:12	7.24	16.67	2.7	0.751	0.63	-76.3
		10:17	7.28	16.43	9.2	0.778	0.59	-81.6
ML-1C	3/7/2017	12:20	7.86	12.43	312.5	1.868	0.42	-157.5
		12:25	7.84	12.58	135.2	1.54	0.23	-172
		12:30	7.83	12.59	102	1.439	0.24	-176.4
	6/7/2017	12:54	6.6	20.7	62.4	0.873	0	-59
		12:59	6.79	16.91	60.5	0.821	0	-116
		13:04	6.93	16.95	71.7	0.778	0	-120
		13:09	6.95	17.01	64.7	0.748	0	-124
		13:14	6.95	17.07	61.2	0.715	0	-125
		13:19	6.94	17.03	55.6	0.701	0	-126
		13:24	6.92	17.05	47.5	0.687	0	-126
		13:29	6.94	17.07	47.1	0.674	0	-127
		13:34	6.95	17.11	44.5	0.665	0	-126
		13:39	6.94	17.12	43.5	0.662	0	-126
		13:44	6.91	17.11	42.5	0.66	0	-127
	8/31/2017	12:14	6.90	20.89	121	0.685	0	-275
		12:19	7.34	19.45	119	0.634	0	-251
		12:24	7.33	18.84	117	0.592	0	-242
		12:29	7.33	18.47	115	0.571	0	-237
	11/16/2017	7:52	7.77	12.63	238.3	0.212	4.29	-30.7
		7:57	7.74	12.74	47.3	0.269	2.01	-103.7
		8:02	7.75	12.96	13.3	0.329	2.69	-111.6
		8:07	7.70	13.04	4.5	0.368	3.09	-121.4
		8:12	7.64	13.06	3.8	0.376	2.99	-123.5
	3/1/2018	9:02	8.03	10.22	860	0.156	1.7	-71.1
		9:07	8.14	10.53	118.4	0.119	0.88	-81.3
		9:12	8.27	10.53	63.9	0.124	0.76	-77.4
		9:17	8.26	10.75	18.8	0.139	0.7	-62.8
	5/24/2018	10:39	8.04	16.45	104.2	0.195	5.61	-94.2
		10:44	7.74	14.51	35.9	0.456	1.16	-90.4
		10:49	7.58	14.66	10.0	0.529	1.53	-65.4
		10:54	7.65	14.61	5.9	0.593	1.63	-55.6
	7/31/2018	10:25	7.22	17.87	57.2	0.688	3.12	-43.8

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
ML-1C	7/31/2018	10:30	7.18	15.61	55.6	0.671	0.46	-55.7
		10:35	7.18	15.61	55.6	0.671	0.46	-55.7
		10:40	7.13	14.85	26.4	0.648	0.13	-64.3
		10:45	7.13	14.79	17.0	0.649	0.10	-61.9
ML-2A	3/30/2017	9:15	Dry after purging 50mL; dry after purging 40mL; recovered/sampled					
	6/6/2017	9:07	Dry after purging 0.03gal; allowed to recover & sample					
	8/29/2017	7:56	Dry after purging 100mL; dry after purging 20mL; recovered/sampled					
	11/14/2017	8:29	Dry after purging < 40mL; allowed to recover & sample					
	2/26/2018	15:50	Dry after purging 40mL; dry after purging 40mL; recoverd/sampled					
	5/23/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/30/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	8/24/2018	11:10	6.83	16.79	NC	0.591	5.32	-6
	8/30/2018	10:40	6.91	17.81	NC	0.641	5.94	-12
	9/7/2018	10:40	6.91	15.63	NC	0.631	3.10	-10
ML-2B	3/30/2017	9:30	7.28	6.79	1966.5	1.166	4.05	-52.7
		9:40	6.95	7.45	534.5	1.188	1.06	-57.7
		9:45	6.96	7.53	240.1	1.192	0.82	-58.4
	6/6/2017	9:16	6.87	14.05	149	4.42	0.86	32
		9:21	6.61	13.26	151	4.8	0	95
		9:26	Dry after purging 0.4gal; allowed to recover & sample					
	8/29/2017	8:03	6.87	16.61	37.3	3.98	0	-287
		8:05	ry after purging 750mL; dry again after purging 20mL; allowed to recover & samp					
	11/14/2017	8:35	7.39	9.53	67.8	0.859	9.71	-185.6
			Dry @ 8:37 after purging 0.1 gallon. No sample well was dry.					
	2/26/2018	10:39	Dry after purging 500mL					
		11:20	Dry					
		7:52 (2/28)	Dry; No sample was collected.					
	5/23/2018	8:45	7.25	11.87	257.0	1.144	4.97	58.4
		8:50	6.84	10.61	42.2	1.119	2.99	53.8
		8:55	6.79	10.59	11.1	1.121	3.12	43.1
	7/30/2018	12:04	6.66	31.97	341.0	0.761	4.64	1
		12:09	6.42	20.28	284.0	1.42	1.39	-55
		12:14	6.33	18.74	243.0	1.42	1.08	-62
ML-2C	3/30/2017	9:50	7.51	8.79	1849.7	0.97	2.66	-17.2
		9:55	7.47	9.07	717.3	0.988	1.56	-1.4
		10:05	7.47	9.11	501.4	0.999	1.46	4.7
	6/6/2017	9:45	7.08	13.03	545	545	0	126
		9:50	6.7	12.84	235	235	0	69
		9:55	6.33	12.69	161	161	0	53
		10:00	6.22	12.39	88.6	88.6	0	65
		10:05	6.17	12.39	81.3	81.3	0	60
		10:10	6.12	12.36	70.2	70.2	0	69.5

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
ML-2C	6/6/2017	10:15	6.08	12.24	54.2	1.97	0	41
		10:20	6.06	12.12	48.6	1.98	0	47.9
		10:25	6.05	12.07	46.8	2	0	44.4
		10:30	6.04	12.01	45.7	2	0	40.9
		10:35	6.04	11.97	45.1	2.01	0	35.4
	8/29/2017	8:14	6.83	14.83	18.9	1.69	0	-262
		8:19	6.6	14.81	0.9	1.68	0	-256
		8:24	6.52	15.12	0	1.68	0	-251
ML-2C	11/14/2017	8:44	7.16	10.92	248.7	0.918	4.63	-167.6
		8:49	6.86	10.89	79.4	0.917	2.42	-152.2
		8:54	6.73	11.31	13.4	0.922	1.89	-135.7
ML-2C	2/26/2018	10:41	8.23	8.76	464.8	1.564	4.13	11.3
		10:46	7.17	8.55	103.8	1.270	1.43	1.5
		10:51	7.01	8.65	34.7	1.190	0.64	4
		10:56	6.95	8.71	13.9	1.162	0.5	7.1
	5/23/2018	9:16	7.35	11.01	1100.0	0.714	2.36	61.1
		9:21	7.38	11.24	433.0	0.714	2.61	67.0
		9:29	7.41	11.43	467.3	0.718	2.29	89.6
		9:34	7.4	11.14	117.3	0.710	2.11	92.3
	7/30/2018	12:22	7.08	21.94	0.0	0.859	3.2	-10.0
		12:27	6.83	18.22	328.0	0.873	1.91	-8.0
		12:32	6.79	17.35	108.0	0.881	1.86	0.0
ML-2D	3/30/2017	10:10	7.6	8.94	1155.4	2.291	10.39	-30.9
			Dry after purging 500mL; allowed to recover & sample					
	6/6/2017	10:59	5.99	12.38	12.38	196	0.75	72
		11:04	6.28	11.89	11.89	118	0	29
		11:09	6.47	11.99	11.99	104	0	-11
		11:11	Dry after purging 0.45gal; allowed to recover and sample					
	8/29/2017	8:39	6.68	15.6	922	3.71	0.67	-206
		8:41	Dry after purging 1L; allowed to recover & sample					
	11/14/2017	9:02	7.25	10.61	1288	0.007	15.16	-103.8
			Dry @ 9:05, purged 0.1 gallon; allowed to recover & sample					
	2/26/2018	11:08	7.05	9.35	187.2	1.663	3.55	62.4
		11:10	Dry after purging 500mL.					
		11:21	Dry after purging 40mL.					
		15:58	Allowed to recover and sample.					
	5/23/2018	9:44	7.38	11.76	307.3	1.622	6.81	57.1
	7/30/2018	12:44	6.72	18.18	129	1.87	6.38	-59
ML-3A	3/30/2017	10:50	7.5	5.76	1164.2	1.308	5.77	-126.7
			Dry after purging 500mL; allowed to recover & sample					
	6/5/2017	12:38	7.22	14.13	1098	2.048	1.8	-88.9
		12:43	6.84	14.33	604.3	2.143	1.63	-88

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
ML-3A	6/5/2017	12:48	6.78	14.02	186.9	2.16	3.56	-73.9
		12:53	6.7	13.9	89	2.144	2.42	-60.3
		12:58	6.82	13.82	71.7	2.113	7.18	-61
		13:03	6.84	13.97	42.1	2.079	7.25	-66.1
		13:08	6.87	14.03	28.1	2.06	7.41	-67.6
		13:13	6.85	13.99	20.3	2.039	3.34	-69.8
		13:18	6.87	13.96	18.1	2.023	3.38	-71.1
		13:23	6.89	14.07	20.1	0.998	3.39	-72.7
	8/29/2017	9:35	7.07	15.93	1000	1.79	1.66	-194
		9:37	Dry after purging 1L; allowed to recover & sample					
	11/13/2017	11:10	7.05	8.85	1316.2	0.664	4.8	-29.7
			Dry @ 11:12; allowed to recover & sample					
ML-3A	2/26/2018	11:44	7.33	6.35	481.1	1.215	4.29	32
		11:49	7.06	6.34	185	1.176	4.05	-10.1
	5/23/2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	7/30/2018	14:03	7.06	25.16	651	1.55	18.18	-161
		14:08	6.67	24.21	347	1.53	10.68	-147
		14:13	6.71	24.43	199	1.52	10.61	-147
ML-3B	3/30/2017	10:55	7.34	8.53	1467.6	1.513	3.27	-122.5
		11:00	7.34	8.56	1036.7	1.505	0.7	-128.2
		11:05	7.34	8.57	761.3	1.506	0.55	-130.6
	6/5/2017	13:31	6.98	11.42	1107.3	2.026	2.63	-67.7
		13:36	6.7	10.55	486.6	2.088	0.44	-64.5
		13:41	6.73	10.48	445	2.092	0.44	-62.8
		13:46	6.73	10.54	165.3	2.088	0.43	-62.5
		13:51	6.73	10.44	97.5	2.067	0.41	-60.5
		13:56	6.72	10.32	96.2	2.059	0.39	-57.1
		14:01	6.74	10.38	90.2	2.046	0.37	-57.7
	8/29/2017	9:39	6.96	13.88	0	1.93	0	-213
		9:44	6.64	12.88	173	1.95	0	-200
		9:49	6.59	12.65	18.7	1.95	0	-190
	11/13/2017	11:25	7.02	9.67	481.7	0.785	88.2	-103.7
		11:30	6.82	10.22	202.7	0.889	2.17	-158.5
		11:35	6.81	10.22	91.1	0.909	1.77	-158.4
		11:40	6.80	10.30	44.8	0.946	1.54	-151.9
	2/26/2018	11:59	7.10	7.54	247.8	1.177	2.49	-18
		12:04	7.05	8.38	47.4	1.192	0.56	-20.9
		12:09	7.04	8.55	28.4	1.204	0.44	-22.4
		12:14	7.02	8.61	23.4	1.210	0.4	-24.3
		12:19	7.03	8.67	18.6	1.213	0.37	-25.9
	5/23/2018	10:14	7.07	11.29	406.2	1.211	3.39	-82.7
		10:19	6.94	10.14	62.8	1.196	2.93	-62.5

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
ML-3B	5/23/2018	10:24	6.94	9.79	20	1.184	2.59	-57.7
		10:29	6.95	9.71	7.2	1.188	2.41	-49.7
	7/30/2018	14:21	6.87	19.25	92.7	1.44	1.79	-172
		14:26	6.41	15.62	80.4	1.50	0.90	-129
		14:31	6.35	15.01	27.2	1.51	0.82	-124
ML-3C	3/30/2017	11:15	7.28	8.88	1910.4	1.26	0.67	-131
		11:20	7.24	8.92	900.5	1.244	0.57	-129.1
		11:25	7.22	9.03	1101.3	1.242	0.53	-128
	6/5/2017	14:06	6.93	11.25	104	1.735	1.23	-88.2
		14:11	6.8	11.03	1095.1	1.682	0.34	-86
		14:16	6.78	10.77	1105	1.688	0.3	-82.2
		14:21	6.77	10.76	1105	1.688	0.33	-80.8
		14:26	6.76	10.76	1110.3	1.691	0.32	-79.8
	8/29/2017	9:54	6.79	13.76	1000	1.51	0	-263
		9:59	6.72	12.41	768	1.51	0	-238
		10:04	6.88	12.17	208	1.5	0	-227
ML-3C	11/13/2017	11:54	7.12	9.81	631.5	0.821	6.47	-108.3
		11:59	6.92	9.91	173.8	0.829	1.91	-118.5
		12:04	6.89	9.91	47	0.832	1.48	-114.2
		12:09	6.89	9.89	17.4	0.832	1.26	-106.8
	2/26/2018	12:26	7.03	8.26	1113.4	1.159	0.53	-25.1
		12:31	7.14	8.73	306.4	1.045	0.49	-11.7
		12:36	7.16	8.92	71.1	1.043	0.44	-2.7
		12:41	7.15	8.98	17.7	1.044	0.42	4.4
	5/23/2018	10:33	7.04	10.69	258.7	1.08	2.62	-32.7
		10:38	7.07	10.38	31	1.072	2.09	-7.5
		10:43	7.07	10.35	9.8	1.071	1.56	11.5
		10:48	7.07	10.38	8	1.071	1.58	15.8
	7/30/2018	14:39	6.54	14.32	299	1.41	1.16	-116
		14:44	6.41	13.89	62.6	1.42	0.82	-92
		14:49	6.39	13.50	36.4	1.43	0.77	-85
ML-3D	3/30/2017	11:30	7.29	9.26	1974	1.003	0.68	-125.5
		11:40	7.51	9.32	437.1	0.927	0.39	-131.6
		11:45	7.5	9.31	456.7	0.976	0.28	-132.8
	6/5/2017	14:29	7.08	11.55	137.1	1.436	0.41	-122.4
		14:34	7.09	11.25	619.2	1.274	0.27	-124.6
		14:39	7.11	11.45	1105.9	1.275	0.28	-122.5
		14:44	7.14	11.6	1108.3	1.273	0.28	-117.5
		14:49	7.15	11.7	1110	1.274	0.29	-116.3
	8/29/2017	10:12	6.83	13.33	1000	1.36	0	-261
		10:17	6.96	13.2	1000	1.08	0	-255
		10:22	6.98	12.2	783	1.07	0	-245

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
ML-3D	8/29/2017	10:27	6.99	11.96	103	1.05	0	-238
	11/13/2017	12:23	7.16	9.55	1324.1	0.738	2.84	-110.5
		12:28	7.19	9.49	1323.3	0.735	1.00	-132.9
		12:33	7.21	9.53	1293.7	0.739	1.09	-133.0
	2/26/2018	12:53	7.43	9.45	482.6	0.957	1.08	11.0
		12:58	7.45	9.29	275.6	0.946	0.67	3.0
		13:03	7.45	9.26	152.6	0.941	0.5	0.3
		13:08	7.44	9.28	59.7	0.941	0.45	-2.0
		13:13	7.45	9.24	41	0.940	0.4	-6.6
	5/23/2018	10:55	7.29	11.16	414.2	1.060	3.00	-87.2
		11;00	7.34	11.10	131.3	1.033	2.00	-72.8
		11:05	7.36	11.00	65.4	1.005	2.06	-46.3
		11:10	7.37	11.08	27.2	0.993	2.02	-39.6
	7/30/2018	14:57	6.65	15.56	0	1.330	1.59	-139.0
		15:02	6.62	14.31	90.1	1.300	0.83	-122.0
		15:07	6.65	14.02	28.6	1.290	0.72	-115.0
		15:12	6.63	13.93	15.6	1.290	0.68	-114.0
ML-3E	3/30/2017	11:45	7.49	9.79	700.1	1.306	0.83	-142.7
		11:50	7.61	8.82	823.9	1.262	0.98	-145.9
		11:55	7.52	9.86	1944.4	1.161	1.15	-143.7
	6/5/2017	14:57	7.04	11.77	849.7	1.218	1.73	-94.6
		15:02	7.09	11.56	1107.2	1.298	1.29	-104.3
		15:07	7.13	11.71	880.3	1.259	0.55	-103.7
		15:12	7.14	11.64	950.3	1.239	0.5	-103.6
		15:17	7.16	11.68	948.1	1.234	0.47	-103
		15:22	7.19	11.72	942.1	1.23	0.44	-104.1
	8/29/2017	10:38	6.96	12.27	855	1.16	0	-286
		10:43	6.98	12.17	296	1.15	0	-287
		10:48	7.03	12.4	128	1.09	0	-276
	11/13/2017	12:50	7.20	9.77	1058	0.755	5.17	-171.7
		12:55	7.25	9.74	420.3	0.774	1.71	-215.8
		13:00	7.26	9.73	160.9	0.788	1.28	-216.1
		13:05	7.34	9.74	64.4	0.784	1.20	-207.2
	2/26/2018	13:20	7.35	8.8	735.8	0.988	1.19	-32.4
		13:25	7.41	9.26	434.2	0.998	0.76	-99.4
		13:30	7.49	9.31	322.4	0.962	0.60	-108.4
		13:35	7.53	9.39	198.2	0.932	0.45	-109
		13:40	7.55	9.45	272.3	0.906	0.43	-107.3
	5/23/2018	11:15	7.36	11.93	84.2	1.024	3.62	-65.6
		11:20	7.25	11.45	240.2	1.033	3.30	-153.4
		11:25	7.39	12.31	117.4	0.996	3.14	-159.0
		11:30	7.47	12.18	166.4	0.997	3.24	-150.2

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
ML-3E	7/30/2018	15:18	6.69	14.35	354	1.27	1.62	-191.0
		15:23	6.62	13.77	325	1.29	1.03	-196.0
		15:28	6.72	13.61	115	1.25	0.75	-199.0
		15:33	6.79	13.5	56	1.23	0.69	-199.0
	8/24/2018	11:20	7.22	17.43	NC	0.673	3.76	--
	8/30/2018	9:02	7.64	15.79	NC	1.06	5.79	-202
	9/7/2018	10:50	7.18	15.76	NC	0.677	4.82	-4
MW-2	9/19/2016	10:15	7.23	16.59	1.7	0.417	2.26	-78.3
		10:18	6.98	16.04	2	0.411	2.17	-82.3
		10:21	6.96	16.01	2.1	0.412	2.22	-82.2
	8/31/2017	12:55	6.73	16.14	58	1.48	1.48	-152
		13:00	6.88	15.67	26.4	1.72	1.72	-150
		13:05	6.91	15.58	5.1	2.74	2.74	-129
		13:10	6.93	15.56	19.1	3.4	3.4	-117
		13:15	6.94	15.71	5.7	3.7	3.7	-107
	7/30/2018	11:45	7.27	17.14	7.7	0.333	5.44	-11.9
		11:50	6.69	15.24	2.6	0.311	5.16	13.0
		11:55	6.58	14.68	4	0.301	5.59	33.8
		12:00	6.56	14.8	3.6	0.300	5.61	38.6
MW-3S	6/16/2016	8:46	7.84	15.61	-0.5	0.278	5.02	122.4
		8:51	7.46	15.97	2	0.002	-4.85	125.3
		8:56	7.23	20.17	-0.8	0.002	1.06	139.9
	9/19/2016	10:39	6.45	17.28	1	0.163	3.17	29
		10:42	6.45	17.42	2	0.171	2.52	11.9
		10:45	6.47	17.31	2.8	0.184	2.05	0
		10:49	6.61	17.09	0.5	0.225	0.8	-26
		10:52	6.72	17.08	0.6	0.258	0.36	-42.7
MW-3S	10/18/2016	13:29	7.15	17.35	7.5	0.44	3.77	-55
		13:34	6.95	17.12	36.3	0.427	2.41	-71.5
		13:39	6.95	17.01	33.1	0.45	1.86	-75
		13:44	6.96	17	40.8	0.463	1.8	-75.3
	8/31/2017	10:35	5.83	16.47	18.7	0.548	2.76	-90
		10:40	6.53	16.04	10.3	0.543	1.1	-130
		10:45	6.55	16.15	8.2	0.539	0.92	-135
	7/30/2018	12:23	6.94	18.40	13.8	0.566	2.01	-70.3
		12:28	6.84	16.79	20.6	0.572	0.40	-100.6
		12:33	6.66	15.97	59.1	0.473	0.13	-108.7
		12:38	6.66	16.10	41.3	0.461	0.13	-110.6
		12:43	6.66	16.03	40.1	0.457	0.13	-111.5
MW-3D	9/19/2016	11:01	7.34	16.3	215.4	0.425	5.34	21.6
		11:04	7.32	15.95	143.6	0.428	5.06	16.9
		11:09	7.35	15.64	56.1	0.434	4.78	22.5
		11:13	7.36	15.6	26.4	0.434	4.6	25.2
	8/31/2017	10:30	7.39	18.32	114	0.205	1.94	8
		10:35	7.03	17.67	80.6	0.25	0.73	28

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
ML-3D	8/31/2017	10:40	6.96	17.26	65.1	0.331	0.6	38
		10:45	6.99	17.06	58	0.387	0.67	41
		10:50	7.04	16.9	52.8	0.425	0.63	45
		10:55	7.06	16.54	48.5	0.434	0.48	45
	7/30/2018	12:46	6.72	14.9	9.0	0.372	4.33	19.9
		12:51	6.71	15.13	16.8	0.452	4.16	36.2
		12:56	6.75	15.09	19.2	0.497	4.13	36.5
		13:01	6.77	15.07	23.7	0.519	4.09	37.9
MW-4	9/20/2016	12:07	7.59	24.05	120.6	0.44	3.44	-100.8
		12:10	7.61	23.11	16.2	0.369	4.48	-83.1
		12:13	7.56	22.92	26.2	0.38	4.3	-71.6
	8/31/2017	13:30	7.28	20.66	519	0.355	1.52	-182
		13:35	7.37	21	60.1	0.345	1.31	-178
		13:40	7.41	21.12	14.6	0.349	1.84	-158
		13:45	7.44	21.01	5.5	0.352	2.48	-136
		13:50	7.48	20.72	3.7	0.357	3.06	-111
	8/1/2018	12:20	7.42	22.04	1306	0.200	0.51	-157.3
		12:25	7.83	21.76	767.3	0.176	0.37	-171.6
		12:30	7.79	21.48	592.4	0.152	0.22	-189.4
		12:35	7.8	21.41	508.6	0.153	0.29	-189.7
MW-13	9/22/2016	12:33	7.35	25.63	7.3	0.9	8.97	-42.6
		12:38	7.27	26.12	1.4	0.924	8.8	-0.3
		12:43	7.25	26.07	1	0.947	8.71	14.1
		12:47	7.24	25.9	0	0.938	8.78	29.5
	9/1/2017	8:59	6.64	18.04	623	0.681	4.34	44
		9:04	6.67	18.07	9.1	0.705	0.67	68
		9:09	6.72	18.09	9.2	0.698	0.23	74
		9:14	6.74	18.1	3.3	0.686	0	78
		9:19	6.76	18.08	2	0.689	0	80
	7/30/2018	9:46	6.44	20.41	351	0.953	10.09	94
		9:51	6.52	19.66	67.5	0.960	9.03	82
		9:56	6.53	20.08	18	0.981	8.83	80
MW-14	9/20/2016	13:08	7.91	16.51	7.6	0.902	1.17	-37.3
		13:11	7.76	16.15	4.2	0.862	1.83	-21
		13:14	7.70	16.38	1.3	0.813	3.38	-6.6
		13:18	7.68	16.39	1.5	0.819	3.75	6.1
	9/1/2017	11:38	7.02	15.52	11.6	0.91	0.63	-48
		11:43	7.14	15.07	0	0.902	0	-40
		11:48	7.14	15.12	0	0.882	0	-19
		11:53	7.14	15.28	0	0.878	0	-3
		11:58	7.14	15.25	0	0.878	0	3
	8/1/2018	13:25	7.56	19.12	310.7	1.019	2.79	-19.8
		13:30	7.32	16.71	45.7	1.020	0.97	-16.3
		13:35	7.11	15.88	30.3	1.024	0.73	-13.3
		13:40	7.12	15.85	21.8	1.027	0.67	-6.0
		13:45	7.12	15.87	16.6	1.024	0.66	-5.1

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
MW-16	9/19/2016	11:26	6.60	17.03	11.1	0.481	2.72	-63.8
		11:29	6.56	16.99	-3	0.48	2.38	-65.6
		11:33	6.52	17.31	13.6	0.482	2.09	-66.4
		11:36	6.58	17.55	14.6	0.48	1.87	-68.4
	8/31/2017	11:10	6.40	18.16	27.6	0.51	0	-134
		11:15	6.27	18.01	15.2	0.511	0	-138
		11:20	6.23	18.1	2	0.507	0	-139
	7/31/2018	9:55	6.60	19.35	19.1	0.615	1.75	-66.9
		10:00	6.43	17.51	7.9	0.606	0.23	-79.9
		10:05	6.45	17.45	292.5	0.606	0.15	-84.3
		10:10	6.45	17.44	301.6	0.600	0.11	-86.2
MW-18	6/15/2016	11:42	7.58	11.4	44.1	0.593	1.22	193.9
		11:46	7.47	11.5	13.9	0.595	0.78	198.4
		11:50	7.39	11.55	12.2	0.597	0.71	200.4
	9/21/2016	14:00	7.76	20.46	68.2	0.627	6.01	-0.4
		14:10	7.69	18.76	8.5	0.625	4.15	4.2
		14:15	7.68	18.63	6.1	0.629	3.71	6.7
		14:20	7.65	18.55	3.9	0.63	3.45	10.6
		14:30	7.64	18.46	2.6	0.63	3.16	12.3
	10/19/2016	14:55	7.81	13.96	1607.3	0.649	4.43	9.7
		15:00	7.64	14.11	1608.1	0.629	2.78	15
		15:05	7.68	13.88	1604.9	0.633	1.03	2.6
	8/28/2017	14:35	7.02	16.32	121	0.638	0.37	42
		14:40	6.91	16.54	5.5	0.639	0	25
		14:48	6.91	15.41	52.9	0.648	0	12
		14:53	6.90	14.59	15.4	0.656	0	7
	8/1/2018	11:50	7.08	17.16	40.8	0.725	5.27	26
		11:55	6.91	16.81	32.4	0.734	0.97	24
		12:00	6.89	16.12	22.2	0.727	0.73	22
		12:05	6.89	15.79	20.8	0.731	0.64	21
		12:10	6.89	15.58	18.7	0.73	0.72	19
MW-19	9/22/2016	13:13	7.37	20.76	27.4	0.551	3.8	82
		13:19	7.25	20.71	12.8	0.542	3.58	90.6
		13:24	7.24	20.89	6.1	0.543	3.59	95.6
	9/1/2017	9:59	7.04	15.41	51.4	0.495	0.75	90
		10:04	6.72	15.49	5.6	0.492	0	103
		10:09	6.64	15.54	0	0.492	0	108
		10:14	6.60	15.55	0	0.494	0	110
	7/30/2018	10:23	6.74	16.61	14.1	0.626	2.40	70
		10:28	6.64	16.20	5.8	0.624	1.32	67
		10:33	6.65	15.64	0.8	0.627	1.19	58
		10:38	6.63	15.43	0.0	0.629	1.18	55
MW-20	9/20/2016	11:43	7.52	19.03	14.5	0.357	3.78	-84.5
		11:46	7.74	18.87	5.1	0.314	5.14	-65.3
		11:49	7.80	19.14	1.8	0.294	6.29	-45.1

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
MW-20	9/20/2016	11:52	7.81	19.21	1.4	0.287	6.63	-30.4
	8/31/2017	14:01	7.55	19.77	352	0.312	6.62	-50
		14:06	7.62	18.1	89.7	0.308	4.41	-42
		14:11	7.48	17.77	11.8	0.261	4.65	-9
		14:16	7.30	17.78	5.4	0.246	5.21	11
		14:21	7.28	17.97	2.1	0.248	5.52	21
	8/1/2018	11:35	7.28	18.97	31.9	0.393	5.83	44.7
		11:40	7.37	17.85	19.9	0.388	4.4	36.7
		11:45	7.39	18.07	12.9	0.378	4.7+	43.3
		11:50	7.40	18.10	11.6	0.366	4.83	44.0
MW-21	9/20/2016	11:14	6.74	18.62	146.2	0.462	2.07	-84.6
		11:17	6.73	16.29	21.2	0.424	0.52	-92.2
		11:20	6.74	16.32	3.7	0.414	0.41	-102.3
		11:23	6.75	16.13	2.6	0.411	0.44	-101.9
	9/1/2017	12:16	6.91	14.68	23.4	0.56	0	-136
		12:21	6.61	14.7	0	0.517	0	-116
		12:26	6.48	14.73	0	0.503	0	-100
		12:31	6.49	14.94	0	0.478	0	-110
		12:36	6.46	14.89	0	0.463	0	-119
	8/1/2018	11:03	6.76	16.93	79.6	0.602	3.49	92.9
		11:08	6.29	14.88	35.1	0.572	0.59	80.7
		11:13	6.32	14.86	13.5	0.558	0.41	48.2
		11:18	6.35	14.97	7.1	0.551	0.47	21.6
		11:23	6.37	15.01	5.6	0.548	0.5	17.3
MW-22	9/20/2016	10:47	7.37	21.09	23.4	0.304	1.94	-15.5
		10:50	6.84	21.49	13.2	0.241	3.09	41.7
		10:53	6.62	21.24	6.2	0.246	3.28	60.4
		10:56	6.50	21.2	0.9	0.273	2.46	73.8
	9/1/2017	8:06	7.30	17.77	61.8	0.386	5.7	101
		8:11	6.34	18.18	37.6	0.362	0.87	125
		8:16	6.12	18.63	20.9	0.343	0	129
		8:21	6.06	18.87	6.4	0.334	0	130
		8:26	6.03	18.87	0	0.328	0	128
	7/30/2018	16:00	6.60	20.19	62.0	0.412	2.1	24.7
		16:05	6.44	19.39	49.8	0.419	1.44	43.0
		16:10	6.43	19.38	14.7	0.418	1.23	47.4
		16:15	6.42	19.37	24.6	0.419	1.21	51.7
MW-26S	9/20/2016	9:52	6.95	19.73	25.2	0.31	1.2	-63.5
		9:55	6.67	20.67	13.7	0.25	0.42	-57.9
		9:58	6.62	21.17	7.1	0.246	0.38	-65.1
	10/18/2016	11:46	7.51	21.06	19.9	0.409	2.16	-109.3
		11:51	6.86	20.88	13.3	0.388	0.36	-97.3
		11:56	6.84	21.14	7.5	0.379	0.28	-95.3
		12:01	6.83	21.16	5.2	0.379	0.25	-96.6

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
MW-26S	10/18/2016	12:06	6.81	21.42	3.2	0.38	0.25	-96.8
	8/30/2017	13:58	6.67	20.17	0.7	0.357	0	-152
		14:03	6.48	20.04	0	0.35	0	-161
		14:08	6.42	20.32	3.8	0.347	0	-162
	8/1/2018	8:52	6.76	18.04	17	0.617	1.93	101.9
		8:57	6.65	18.8	6.8	0.553	0.31	-52.3
		9:02	6.66	19.21	6.4	0.549	0.24	-76.4
		9:07	6.68	19.39	6.1	0.546	0.27	-82.6
MW-26D	6/16/2016	8:17	8.71	15.71	116.1	0.59	2.11	120.3
		8:22	7.27	15.34	18.5	0.003	8.66	133.8
		8:27	7.36	16.23	1.3	0.003	8.62	127.8
	9/20/2016	10:04	6.98	17.12	11.6	0.524	2.1	-63
		10:07	7.23	15.66	7.7	0.577	0.46	-56.5
		10:10	7.40	15.66	7.5	0.412	0.39	-45.8
		10:13	7.35	15.65	5	0.322	0.33	-36.3
	10/18/2016	11:15	7.69	17.18	56.9	0.659	2.69	-62
		11:20	7.53	16.66	22.8	0.555	2.02	-52.7
		11:25	7.49	16.2	9.6	0.505	1.29	-46.1
		11:30	7.43	16.16	6.1	0.531	1.18	-44.9
		11:35	7.39	16.15	4.9	0.552	1.08	-42.3
	6/7/2017	10:10	7.52	13.46	6.8	0.39	4.59	32
		10:15	7.26	13.3	4.1	0.567	0.61	3
		10:20	7.24	13.37	3.8	0.57	0.54	6.5
		10:25	7.24	13.29	3.4	0.575	0.52	6.7
		10:30	7.23	13.37	3.2	0.575	0.51	3.1
	8/30/2017	14:03	7.32	19.04	12	0.634	1.75	-93
		14:08	7.19	18.04	0	0.628	0.94	-82
		14:13	6.66	18.55	0	0.627	2.71	-79
		14:18	7.29	18.44	0	0.629	1.25	-67
		14:23	7.18	18.01	0	0.633	0.86	-77
		14:28	7.17	17.61	0	0.629	0.8	-78
	11/16/2017	10:45	7.42	13.64	4.8	0.486	6.02	-53.6
		10:50	7.27	13.77	5	0.489	5.89	-55.6
		10:55	7.25	13.85	1.7	0.489	6.02	-56.8
		11:00	7.23	13.86	1.3	0.486	5.99	-56.3
	2/28/2018	13:44	Persulfate above 7mg/l; Purged 3 well volumes & sampled					
	5/21/2018	12:45	7.30	14.43	-2.20	2.392	3.71	246.10
		12:50	6.87	14.00	3.00	2.148	0.67	347.60
		12:55	6.88	14.08	4.30	2.656	0.75	366.40
		13:00	6.90	14.09	3.40	2.064	0.87	371.40
		13:05	6.90	13.66	2.60	1.888	1.12	373.10
		13:10	6.90	13.72	2.40	1.877	1.13	373.40
	8/1/2018	8:30	7.40	17.66	20.00	0.732	4.15	38.9
		8:35	6.66	16.66	18.10	1.955	2.40	196.2
		8:40	6.59	16.56	12.60	3.145	0.74	300.8
		8:45	6.58	16.63	9.30	3.381	0.30	330.1

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
MW-26D	8/1/2018	8:50	6.57	16.66	7.10	3.394	0.25	336.0
MW-27	9/22/2016	13:43	7.63	23.43	35.8	0.375	3.22	-80.1
		13:48	7.24	22.45	28.2	0.357	1.8	-96.7
		13:53	7.24	22.37	17.1	0.367	1.69	-113.6
	6/6/2017	16:39	7.20	12.69	95.3	0.24	1.29	-20.9
		16:44	7.02	12.17	38.2	0.231	0.57	-25.7
		16:49	6.94	12.1	36.1	0.23	0.46	-27.1
		16:54	6.90	12.12	35	0.229	0.4	-27.4
		16:59	6.87	12.13	34.5	0.229	0.4	-27.7
		17:04	6.86	12.14	35.1	0.229	0.38	-26.1
	9/1/2017	11:04	7.02	16.9	33.9	0.259	0	-180
		11:09	6.96	17	14.1	0.257	0	-184
		11:14	6.94	17.15	7.8	0.256	0	-187
	11/15/2017	15:19	7.71	13.27	46	0.247	7.93	-39.3
		15:24	7.24	14.44	17	0.243	1.44	-91.6
		15:29	7.18	14.66	8.7	0.243	1.44	-102.9
		15:34	7.16	14.79	5.1	0.242	1.48	-108.5
		15:39	7.16	14.79	4.6	0.241	1.43	-111.2
	3/1/2018	10:00	Persulfate above 70mg/l; Purged 3 well volumes & sampled.					
	5/22/2018	NC	NC	NC	NC	NC	NC	NC
	8/1/2018	NC	NC	NC	NC	NC	NC	NC
MW-28	3/6/2017	11:21	6.93	8.74	Wrong YSI meter delivered; waiting for replacement.	0.603	0.77	38.6
		11:28	7.03	9.58		0.602	0.4	41.3
		11:34	7.06	9.84		0.601	0.58	40.5
		11:41	7.08	10.04		0.601	0.46	37.1
		11:48	7.10	10.23		0.600	0.22	37.9
	6/5/2017	16:10	7.12	16.14	500.2	0.692	2.72	6.6
		16:15	6.96	14.92	64.4	0.685	0.6	-57.6
		16:20	6.90	15.04	35.1	0.680	0.48	-68.8
		16:25	6.88	15.02	24.6	0.677	0.46	-62.6
		16:30	6.88	14.98	20.4	0.678	0.46	-52
		16:35	6.88	14.9	19.6	0.677	0.44	-47.7
	8/28/2017	10:37	5.92	18.39	0	0.540	0.44	-45
		10:42	5.55	17.15	1000	0.552	0	-27
		10:47	5.56	16.69	867	0.557	0	-20
		10:52	5.59	15.29	246	0.574	0	-16
	11/15/2017	10:07	7.41	11.49	1344.6	0.342	5.36	-28.3
		10:12	7.09	11.03	1340.3	0.338	1.62	-84.5
		10:17	7.08	10.98	1339.7	0.335	1.76	0-81.8
		10:22	7.07	11.1	1340.9	0.335	1.74	-77.5
	2/27/2018	8:23	7.42	7.62	1151.6	0.491	0.71	66.8
		8:28	7.37	8.85	1084.6	0.427	0.45	25.5
		8:33	7.34	9.66	220.9	0.479	0.37	25.6
		8:38	7.33	9.99	82.2	0.483	0.36	29.8
	5/24/2018	9:05	7.41	12.75	333.8	0.589	7.58	10.6
		9:10	7.15	12.77	189.5	0.557	3.04	13.0

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
MW-28	5/24/2018	9:15	7.12	12.98	81.8	0.555	2.56	26.2
		9:20	7.11	13.05	41.7	0.556	2.55	35.3
	8/1/2018	12:20	6.99	18.29	1000	0.685	1.9	-124
		12:25	6.76	18.49	386	0.675	0.88	-106
		12:30	6.74	18.61	284	0.673	0.68	-105
		12:35	6.74	18.76	152	0.670	0.66	-99
	8/24/2018	9:09	7.92	16.31	NC	0.665	4.03	39
	8/30/2018	8:14	7.23	17.63	NC	0.618	5.31	-43
	9/6/2018	10:32	7.34	18.04	NC	0.898	5.79	-39
MW-29	12/1/2017	10:24	7.01	NC	NC	0.828	1.58	-110.9
		10:29	6.95	NC	NC	0.83	1.14	-131.5
		10:34	6.92	NC	NC	0.84	0.92	-142.2
		10:39	6.90	NC	NC	0.845	0.73	-143.2
		10:44	6.89	NC	NC	0.847	0.66	-145.9
	2/28/2018	12:54	Persulfate above 7mg/l; Purged 3 well volumes & sampled.					
	5/21/2018	N/A	NC	NC	NC	NC	NC	NC
	7/31/2018	N/A	NC	NC	NC	NC	NC	NC
MW-30	12/1/2017	10:22	7.31	11.58	NC	1.143	3.2	-76.1
		10:27	7.28	16.71	NC	1.166	2.01	-94.2
		10:32	7.27	17.02	NC	1.144	1.49	-123.3
		10:37	7.26	17.03	NC	1.135	1.4	-129
		10:42	7.25	17.01	NC	1.131	1.37	-130.6
	2/28/2018	11:30	Persulfate above 70mg/l; Purged 3 well volumes & sampled.					
	5/21/2018	10:34	8.44	17.84	37.4	5.076	2.09	253.1
		10:39	8.45	16.97	12.1	4.953	-9.03	304.1
		10:44	8.45	16.46	6.4	4.870	-5.54	319.1
		10:49	8.43	16.46	10.4	4.778	-5.90	328.4
	8/2/2018	11:19	7.87	23.23	9.8	3.36	41.58	94
		11:24	8.44	22.78	5.6	3.15	41.65	118
		11;29	8.44	22.24	5.1	3.16	37.91	135
		11;34	8.42	22.13	5.4	3.17	37.69	142
MW-31	11/28/2017	15:08	7.49	13.1	NC	0.521	6.2	130.5
		15:13	7.39	13.48	NC	0.497	5.5	97.4
		15:18	7.35	13.63	NC	0.486	4.88	47.2
		15:23	7.34	13.71	NC	0.491	4.76	36.1
	3/1/2018	10:19	7.93	7.78	80.3	0.337	0.00	42.0
		10:24	7.64	10.66	74.2	0.717	2.90	-39.3
		10:29	7.58	10.98	63.1	0.664	0.89	-70.6
		10:34	7.55	11.03	47.1	0.614	0.72	-78.9
		10:39	7.47	11.12	22.2	0.552	0.68	-87.0
		10:44	7.40	11.25	10.0	0.502	0.63	-90.6
	5/22/2018	9:36	7.35	12.32	11.7	0.894	1.04	-139.9
		9:41	7.25	12.06	12.8	0.765	0.93	-122.6
		9:46	7.17	11.53	6.5	0.645	0.66	-119.4
		9:51	7.15	11.44	2.8	0.624	0.62	-117.4
		9:56	7.14	11.44	3.5	0.65	0.65	-117.7

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
MW-31	8/2/2018	12:44	6.87	14.93	108.2	6.664	0.49	-119.1
		12:49	6.87	15.07	60.7	6.343	0.32	-124.0
		12:54	6.86	14.87	23.2	4.893	0.32	-120.3
		12:59	6.85	14.73	12.9	4.164	0.28	-115.8
MW-32S	5/23/2018	15:08	7.42	13.7	43.2	1.557	1.92	5.7
		15:13	7.36	13.65	49.2	1.562	1.62	22.3
		15:18	7.37	13.54	54.2	1.546	1.62	32.1
	7/31/2018	8:57	7.41	21.66	822	1.70	15.4	-72
		9:02	6.92	19.69	267	1.69	7.27	-85
		9:07	6.85	18.41	207	1.72	7.21	-88
	8/21/2018	11:15	7.90	14.19	NC	1.53	4.12	-42
	8/27/2018	14:31	7.91	14.55	NC	1.4	5.32	-25
	9/6/2018	14:27	7.36	13.28	NC	1.91	3.23	-135
MW - 32I	5/23/2018	15:55	11.61	12.92	8.4	1.556	2.64	20.3
		16:00	11.57	12.32	7.7	1.550	1.69	41.6
		16:05	11.57	11.86	5.7	1.535	1.74	55.2
		16:10	11.62	12.01	9.2	1.536	1.68	59.3
	7/31/2018	9:45	10.52	18.32	14.9	1.290	2.61	-197
		9:50	10.67	17.83	9.2	1.200	0.97	-254
		9:55	10.74	17.32	11.1	1.210	0.82	-275
		10:00	10.77	17.53	5.7	1.210	0.73	-281
	8/21/2018	11:30	10.80	14.19	NC	0.751	2.2	-152
	8/27/2018	14:39	10.65	10.65	NC	0.769	4.26	-266
	9/6/2018	14:23	10.13	14.18	NC	1.000	5.5	-198
MW - 32D	5/23/2018	15:26	7.37	15.26	98.6	1.577	1.94	40.7
		15:31	7.52	13.36	541.6	1.147	3.92	110.2
		15:36	7.51	13.13	244.8	1.138	3.83	142.2
		15:41	7.50	12.67	127.8	1.12	3.94	170.2
		15:46	7.49	12.57	94.9	1.12	4.05	180.1
	7/31/2018	9:20	6.97	17.92	52.7	1.49	2.4	-104
		9:25	6.92	17.43	69.8	1.55	1.16	-148
		9:30	6.96	17.17	52.7	1.48	1.05	-144
		9:35	6.93	17.04	43.0	1.43	0.97	-136
	8/21/2018	9:50	7.94	16.9	NC	0.935	2.80	-119
	8/27/2018	14:39	7.70	14.85	NC	1.03	4.85	-172
	9/6/2018	14;23	7.65	14.18	NC	1.45	5.50	-189
MW-101	8/3/2018	11:25	6.36	16.71	568	0.469	3.04	88
		11:35	6.23	17.26	438	0.460	3.07	90
		11:45	5.96	17.22	244	0.482	2.99	105
		11:55	5.97	17.34	143	0.493	2.96	109
		12:10	6.00	17.5	69.6	0.504	4.43	112
MW-102	8/3/2018	9:24	6.77	19.63	0.0	0.802	5.21	18
		9:29	6.32	19.17	971	0.896	3.87	41
		10:47	6.32	18.36	132	1.53	3.52	87
		11:00	6.24	17.84	112	1.61	3.60	96
		11:13	6.24	18.13	180	1.58	4.21	101

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
MW-103	8/2/2018	14:05	7.01	17.12	748.9	0.702	3.09	-57.4
		14:10	6.77	15.38	71.1	0.718	0.77	-85.6
		14:54	6.76	15.27	16.1	0.704	2.72	-66.6
		15:16	6.77	15.28	14.6	0.704	2.22	-65.8
MW-104	8/2/2018	13:22	7.34	15.08	620.8	0.510	1.23	-64.8
		13:27	7.27	14.71	1236.4	0.480	1.55	-85.1
		13:34	7.29	14.84	1237.6	0.486	3.94	-39.4
MW-105	8/3/2018	8:12	7.21	23.37	73.0	0.658	2.43	-9
		8:17	6.84	22.07	43.0	0.654	3.7	-95
		8:30	6.71	20.81	16.8	0.692	4.34	-121
		8:35	6.75	20.57	6.8	0.681	4.65	-149
		8:43	6.78	20.2	3.1	0.698	3.99	-152
		8:51	6.75	19.77	4.4	0.697	5.24	-158
MW-106	8/2/2018	15:30	7.48	21.83	1.0	0.843	6.84	2.17
		15:36	7.28	21.04	0.0	0.85	7.74	2.16
PMW-1S	9/20/2016	9:07	7.74	19.68	471.6	0.31	4.19	15.2
		9:10	7.48	20.12	51.8	0.289	2.5	11.9
	10/18/2016	10:44	7.32	22.11	42.4	0.315	2.08	13.8
		10:49	7.23	20.41	25.6	0.31	0.68	40.2
		10:54	7.26	20.05	12.9	0.294	1.53	53.2
	8/30/2017	15:08	6.98	18.91	0	0.433	0	-185
		15:15	6.94	16.88	0	0.57	0	-191
		15:20	7.02	16.68	0	0.601	0	-188
		15:25	7.02	16.69	4.4	0.604	0	-186
	7/31/2018	15:25	7.49	21.76	81.4	0.371	5.39	23.8
		15:30	6.70	21.00	24.7	0.345	0.78	40.9
		15:35	6.60	19.38	14.6	0.349	0.46	41.9
		15:40	6.63	19.14	8.5	0.352	0.41	37.0
PMW-1I	9/20/2016	9:19	7.33	17.57	906.5	0.44	2.19	-71.8
		9:22	7.23	16.76	146	0.461	0.58	-83.9
		9:25	7.21	16.59	87.6	0.474	0.41	-81
	10/18/2016	10:52	7.46	18.36	26.9	0.519	2.2	-76.6
		10:57	7.17	17.27	2.8	0.642	0.58	-72.8
		11:02	7.06	17.25	-3.3	0.702	0.45	-66.1
	8/30/2017	15:27	6.82	19.94	23.8	0.312	0	-107
		15:32	6.69	19.75	0	0.307	0	-88
		15:57	6.71	19.68	0	0.31	0	-84
	7/31/2018	15:39	7.27	21.85	179	0.565	3.66	-193
		15:44	6.83	20.55	92.9	0.559	1.46	-172
		15:49	6.71	19.97	78.3	0.597	1.00	-172
		15:54	6.65	19.44	75.7	0.635	0.85	-171
		15:59	6.62	19.4	69.6	0.626	0.78	-169
PMW-1D	9/20/2016	9:33	7.27	15.92	35.2	0.542	0.79	-87.4
		9:36	7.32	15.58	4.5	0.558	0.4	-95.5
		9:39	7.33	15.51	7.7	0.565	0.36	-98.3
	10/18/2016	10:25	7.58	17.16	31.5	0.615	3.13	-75.9

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-1D	10/18/2016	10:30	7.38	15.63	0	0.623	1.06	-67.4
		10:35	7.40	15.77	-4	0.626	0.87	-69
	6/7/2017	10:45	6.64	14.27	45.8	0.476	0	-45
		10:50	6.55	14.2	45.4	0.476	0	-63
		10:55	6.51	14.36	44.3	0.513	0	-64
		11:00	6.47	14.48	44.6	0.587	0	-62
		11:05	6.38	14.64	44.2	0.616	0	-62
		11:10	6.38	14.83	44	0.645	0	-64
		11:15	6.41	14.95	44	0.651	0	-69
		11:20	6.42	14.98	43.5	0.653	0	-70
		11:25	6.44	14.67	43.9	0.659	0	-72
		11:30	6.44	14.72	42.3	0.662	0	-74
		11:35	6.45	14.73	43.3	0.662	0	-77
	8/30/2017	14:47	6.80	20.15	4.1	0.447	1.21	-134
		14:52	6.72	17.98	38.5	0.476	0	-134
		14:57	6.66	17.22	52.9	0.479	0	-130
		15:02	6.49	17.32	51.3	0.481	0	-129
	11/16/2017	9:08	7.31	13.77	11.4	0.354	3.94	-103.9
		9:13	7.16	13.87	4.9	0.413	4.84	-108.7
		9:18	7.17	13.89	3.6	0.429	5.08	-105.4
		9:23	7.19	13.87	2	0.444	5.16	-105.5
	2/28/2018	14:07	7.91	15.65	-2.7	0.584	8.86	105.6
		14:12	7.24	14.97	1.6	0.558	1.60	9.6
		14:17	7.18	14.38	0	0.560	5.85	-15.3
		14:22	7.16	14.12	5.5	0.552	14.30	-3.1
		14:27	7.15	14.10	4.6	0.551	17.03	4.2
	5/21/2018	14:50	7.47	17.03	37.70	0.598	6.04	1.7
		14:55	7.25	16.78	18.30	0.607	1.14	-41.5
		15:00	7.30	16.75	0.00	0.61	0.65	-69.5
		15:05	7.32	16.73	0.00	0.611	0.62	-76.4
		15:10	7.33	16.70	0.00	0.613	0.61	-78.6
	7/31/2018	15:48	6.97	18.93	36.50	0.635	1.90	-42
		15:53	6.97	17.80	3.50	0.667	0.40	-80.9
		15:58	6.96	17.52	10.60	0.67	0.29	-84.7
		16:03	6.96	17.47	54.20	0.673	0.25	-86.3
PMW-2S	9/20/2016	7:57	7.75	19.91	1650.1	0.356	1.18	-123.6
		8:00	7.13	19.09	1633.2	0.345	0.56	-129.2
		8:03	7.04	18.53	1632.2	0.324	0.47	-128.3
	10/18/2016	9:19	7.43	21.2	1000.3	0.43	3.5	-93.7
		9:24	6.97	19.93	449.3	0.426	0.48	-95
	8/30/2017	13:05	6.23	20.49	800	0.351	1.79	-114
		13:10	5.28	20.15	365	0.329	2.88	-89
		13:15	6.28	20.22	587	0.335	1.13	-135
		13:20	6.26	20.18	498	0.342	1	-139
	7/31/2018	12:40	6.77	20.00	57.9	0.363	1.28	-62.0
		12:45	6.67	18.52	48.2	0.402	0.43	-100.6

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-2S	7/31/2018	12:50	6.69	18.38	594.4	0.414	0.29	-105.4
		12:55	6.70	18.47	519.7	0.417	0.23	-108.2
PMW-2I	9/20/2016	8:14	6.98	16.82	1609.3	0.507	0.53	-87.5
		8:17	7.02	16.27	1602.1	0.492	0.35	-91.3
		8:21	7.01	15.91	1598.7	0.498	0.34	-91.6
	10/18/2016	9:46	7.35	18.1	2260.3	0.592	4.34	-63.2
		9:51	7.13	16.77	666	0.624	1.14	-66.5
		9:56	7.09	16.68	983.1	0.654	1.05	-65.5
	8/30/2017	13:30	6.62	20.02	217	0.54	1.98	-129
		13:35	6.53	18.3	360	0.588	1.12	-126
		13:40	6.60	17.67	139	0.609	1.65	-148
		13:45	6.61	17.33	59.3	0.634	0.84	139
	7/31/2018	13:00	6.76	19.47	80.5	0.614	1.93	-60.3
		13:05	6.77	18.63	115.6	0.658	0.43	-71.3
		13:10	6.78	17.18	123.8	0.666	0.21	-80.6
		13:15	6.76	17.11	186.6	0.669	0.18	-81.1
PMW-2D	9/20/2016	8:32	7.73	16.21	1602.7	0.614	1.25	-145.7
		8:35	7.81	15.27	697.2	0.59	0.47	-119.7
		8:39	7.68	15.12	497.6	0.575	0.38	-117.5
		8:43	7.60	15.07	494.6	0.573	0.35	-116
	10/18/2016	9:45	7.93	17.76	1376.4	0.686	1.51	-94.5
		9:50	7.65	16.57	143.7	0.691	0.42	-99.8
		9:55	7.50	16.14	36.8	0.688	0.37	-100.7
		10:00	7.51	16.07	24.7	0.684	0.33	-100.9
		10:05	7.51	15.98	15.1	0.682	0.33	-101.9
	6/7/2017	12:55	9.06	14.73	7.8	0.633	3.53	24.5
		13:00	8.63	14.93	9.4	0.629	1.96	-7.6
		13:05	7.64	15.05	16.4	0.627	1.23	-113.9
		13:10	7.42	15.09	15.1	0.625	0.98	-112.5
		13:15	7.38	15	14.9	0.62	0.91	-111.1
		13:20	7.33	15.05	14.3	0.62	0.88	-112
		13:25	7.29	15.03	13.9	0.617	0.86	-111.5
	8/30/2017	13:22	6.91	19.72	144	0.618	0	-158
		13:27	7.10	17.31	74.7	0.621	0	-167
		13:32	7.11	16.71	88	0.618	0	-170
		13:37	7.11	16.42	31.7	0.616	0	-170
	11/16/2017	9:40	7.49	13.73	285.9	0.468	5.66	-66.7
		9:45	7.35	13.76	61.7	0.458	4.79	-92
		9:50	7.28	13.75	19.3	0.463	5.16	-96.9
		9:55	7.25	13.77	7	0.465	5.22	-101.1
	2/28/2018	12:51	7.73	14.68	42.7	2.588	8.84	247.6
		12:56	7.52	14.66	16.5	2.240	-5.05	259.9
		13:01	7.13	14.67	31.7	2.882	5.52	273
		13:06	7.11	14.65	28.7	2.117	5.12	277.8
		13:11	7.08	14.61	11.1	1.621	4.32	286.9

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-2D	5/21/2018	14:21	9.29	15.97	14.60	2.069	0.57	266.5
		14:26	9.02	15.66	11.10	1.856	10.49	283.4
		14:31	8.40	15.84	4.30	1.873	4.65	296.7
		14:36	8.17	15.91	1.00	1.830	9.06	315.0
		14:41	8.05	15.93	0.70	1.804	8.53	318.0
	7/31/2018	12:20	9.00	17.87	41.80	2.007	10.77	199.2
		12:25	8.95	18.71	31.10	1.894	10.1	224.3
		12:30	8.70	16.86	18.80	1.901	9.9	231.0
		12:35	8.64	17.00	17.50	1.897	9.84	231.5
PMW-3S	9/19/2016	15:27	7.14	22.73	64.8	0.553	1.75	-102.2
		15:31	6.81	21.4	104.8	0.542	0.6	-103.9
		15:34	6.78	21.09	22.6	0.543	0.52	-103.8
	10/17/2016	15:33	7.24	20.7	118.7	0.572	0.87	-95.3
		15:38	7.11	20.15	117.1	0.572	0.69	-98.5
		15:43	6.88	19.64	221	0.545	1.01	-91
	8/30/2017	12:54	6.55	20.31	187	0.557	0	-165
		12:59	6.39	20.55	30.4	0.538	0	-167
		13:04	6.29	20.62	24.2	0.534	0	-166
	7/31/2018	10:30	6.62	20.78	146.6	0.618	1.09	-74.1
		10:35	6.62	19.65	101.2	0.614	0.27	-86.8
		10:40	6.61	19.22	131.7	0.611	0.21	-86.8
		10:45	6.61	19.17	47.9	0.616	0.18	-87.2
PMW-3I	9/19/2016	15:46	7.10	17.96	213.6	0.526	0.75	-100.3
		15:49	7.03	17.44	267.3	0.576	0.46	-95.3
	10/18/2016	8:26	7.27	17.98	245.2	0.621	0.91	-87.7
		8:31	7.22	17.09	28.2	0.522	0.43	-90.2
		8:37	7.16	17.06	6.2	0.539	0.34	-90.9
	8/30/2017	12:37	6.98	21.43	47.5	0.43	4.2	-105
		12:42	6.03	18.35	7.5	0.524	1.67	-110
		12:47	6.10	17.74	3.2	0.58	1.29	-112
		12:52	6.20	17.99	1.4	0.609	1.2	-117
	7/31/2018	11:22	7.06	17.24	5.5	0.623	2.4	28.9
		11:27	6.92	16.41	0	0.569	0.73	-59.3
		11:33	6.86	15.91	3	0.605	0.21	-83.9
		11:38	6.84	15.85	2.5	0.609	0.17	-83.8
PMW-3D	9/19/2016	15:58	7.93	17.65	59.4	0.617	1.75	-167.4
		16:01	7.77	16.22	26.2	0.591	0.56	-133.6
		16:04	7.55	15.98	8.6	0.585	0.32	-122
		16:07	7.50	15.98	4.3	0.585	0.3	-120.2
	10/18/2016	8:22	8.14	16.38	257.6	0.664	2.94	-104.2
		8:27	7.78	15.52	41.5	0.674	1.12	-92.1
		8:32	7.63	15.37	13.2	0.642	0.58	-86.2
	6/7/2017	10:50	7.81	15.43	2.1	0.6	4.79	74.7
		10:57	7.83	15.21	3.5	0.601	3.33	70.5
		11:00	7.74	14.93	2.1	0.6	2.06	24.7
		11:05	7.55	14.98	1.8	0.598	1.25	-95.2

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-3D	6/7/2017	11:10	7.50	15	1.5	0.603	1.05	-122.6
		11:15	7.48	15.02	1.1	0.607	0.84	-131.6
		11:20	7.46	15.03	1	0.607	0.79	-129
		11:25	7.40	15.08	1	0.606	0.75	-126.6
	8/30/2017	12:33	7.10	21.35	61.8	0.572	6.85	-194
		12:38	7.09	19.14	32.7	0.575	0	-182
		12:43	7.07	18.61	8.6	0.577	0	-179
		12:48	7.04	18.3	0.4	0.582	0	-178
	11/16/2017	10:17	7.62	13.87	13.8	0.452	5.13	-113.4
		10:22	7.50	13.85	6	0.46	5.01	-132.2
		10:27	7.42	13.78	2.7	0.463	5.36	-128.2
		10:32	7.40	13.78	1.5	0.467	5.38	-128.4
	2/28/2018	11:42	7.52	14.12	15.3	1.347	2.75	180.7
		11:47	7.18	15.07	34	1.419	3.07	210.4
		11:52	7.09	15.27	21.5	1.443	3.16	224.6
		11:57	7.03	14.97	12.8	1.445	3.25	239.4
	5/21/2018	13:54	7.84	17.52	1.3	1.101	7.08	309.2
		13:59	8.08	16.53	1	1.132	8.03	317.7
		14:04	8.47	16.34	1	1.213	8.89	312.6
		14:09	8.73	16.26	1.1	1.273	8.85	308.1
	7/31/2018	10:50	7.00	17.19	108.7	0.842	4.65	8.4
		10:55	7.51	16.53	64.7	1.036	7.41	114
		11:00	7.85	16.4	62.7	1.165	8.85	199.2
		11:05	8.02	16.12	43.0	1.217	9.24	239.9
PMW-4S	9/22/2016		7.12	15.88	89.7	0.739	3.89	-8.7
		11:06	7.08	15.97	17.3	0.716	3.43	11.3
		11:11	7.08	15.73	3.1	0.702	3.35	20.4
	10/20/2016	11:25	7.23	14.1	211	0.818	3.54	57.2
		11:30	6.88	14.32	453.2	0.812	0.79	51.3
	8/28/2017	13:21	8.12	15.58	183	0.78	0	6
		13:26	6.63	14.9	43.6	0.763	0	2
		13:31	6.50	14.8	14.3	0.761	0	4
	8/2/2018	9:13	6.49	17.89	13.6	0.967	1.78	-21
		9:18	6.41	17.77	7.7	0.941	0.69	-26
		9:23	6.42	17.32	8	0.942	0.68	-30
	8/17/2018	13:45	7.09	18.72	NC	0.711	2.40	88
	8/24/2018	9:21	6.90	16.34	NC	0.665	4.03	39
	8/28/2018	9:17	7.68	17.43	NC	0.643	4.84	-20
	9/6/2018	11:32	7.18	17.40	NC	0.889	5.87	-33
PMW-4I	6/15/2016	14:40	7.35	12.82	105.1	0.556	1.28	97.9
		14:44	7.28	13.04	49.6	0.553	0.83	96.7
		14:48	7.17	12.81	16.5	0.552	0.58	96.1
	9/22/2016	11:38	7.57	16.81	86.6	0.572	3.5	-29.4
		11:43	7.40	15.72	55.4	0.565	2.43	-13.8
		11:48	7.39	16.01	42.3	0.689	2.25	-10.5
		11:53	7.38	16.38	23.9	0.576	2.23	-7.4

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-4I	3/31/2017	10:10	7.78	6.63	125.9	0.408	8.38	52.4
		10:15	7.53	8.57	54.9	0.414	2.2	44.1
		10:20	7.48	9.16	37.4	0.418	1.97	36.1
	6/7/2017	8:22	7.13	11.01	7.8	0.599	1.06	191.7
		8:27	7.10	11.15	3.9	0.565	0.68	173.6
		8:32	7.09	11.2	4.1	0.556	0.65	164.2
		8:37	7.10	11.26	3.7	0.553	0.6	160.2
		8:42	7.09	11.3	3.6	0.55	0.58	153.1
	8/28/2017	13:59	6.97	15.06	77.2	0.567	0	-69
		14:04	6.89	14.9	84.1	0.572	0	-64
		14:09	6.8	14.85	14.3	0.576	0	-42
		14:14	6.79	14.9	13.9	0.576	0	-39
	11/15/2017	14:38	7.30	11.66	31.8	0.395	3.99	-9
		14:43	7.18	11.74	10	0.394	2.89	3.8
		14:48	7.16	11.77	5.3	0.394	2.69	0.3
		14:53	7.17	11.76	3.9	0.394	2.52	-2.9
	2/27/2018	12:33	7.47	11.67	7.4	0.557	0.89	68.8
		12:38	7.41	11.87	5.4	0.531	0.73	62.7
		12:43	7.38	11.90	2.5	0.513	0.59	58.9
		12:48	7.37	11.97	2.6	0.511	0.54	57.9
	5/22/2018	12:56	6.90	12.73	5.4	1.639	6.03	365.1
		13:01	6.83	12.80	8.2	1.628	4.89	321.6
		13:06	6.83	12.57	3.2	1.618	4.23	327.6
		13:11	6.82	12.77	1.2	1.603	4.61	333.4
	8/2/2018	10:01	7.00	17.44	3.0	1.07	2.68	115
		10:06	6.70	17.25	0.0	1.01	0.78	107
		10:11	6.67	17.11	0.0	0.995	0.58	97
		10:20	6.68	17.07	0.0	0.995	0.58	94
	8/17/2018	13:30	7.00	18.91	NC	0.665	4.36	74
	8/24/2018	9:33	7.62	14.50	NC	0.693	3.78	159
	8/28/2018	9:31	7.55	15.60	NC	0.647	3.99	68
	9/6/2018	11:40	7.41	15.51	NC	0.863	3.82	-10
PMW-4D	6/15/2016	14:28	7.35	12.41	13.3	0.65	1.28	96.1
		14:32	7.33	12.37	9.1	0.647	0.77	97.4
		14:36	7.29	12.73	46.3	0.645	0.55	98.5
	9/22/2016	11:20	7.44	15.44	100.4	0.602	2.9	-45.8
		11:25	7.40	14.59	72.9	0.626	2.57	-20.8
		11:30	7.41	14.44	30	0.625	2.47	-8.7
	10/20/2016	11:06	7.43	13	124.8	0.735	3.38	48.5
		11:11	7.25	12.64	48.5	0.737	1.35	52.3
		11:16	7.21	12.62	7.2	0.737	0.73	53.1

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-4D	3/31/2017	10:25	7.57	8.84	57.4	0.496	3.24	-41.8
		10:35	7.60	9.83	26.9	0.512	0.71	-26.6
		10:40	7.59	10.04	22.2	0.513	0.52	-11.3
	6/7/2017	8:48	7.26	11.36	11.2	0.546	2.13	-12.9
		8:53	7.21	11.32	4.3	0.568	0.91	-32.7
		8:58	7.22	11.40	3.2	0.598	0.72	-10.8
		9:03	7.22	11.50	3	0.602	0.68	13.9
		9:08	7.22	11.55	2.8	0.605	0.6	22.1
		9:13	7.22	11.58	2.7	0.605	0.58	24.6
	8/28/2017	13:38	6.85	16.14	69.3	0.639	0	-111
		13:43	6.78	15.29	10.3	0.643	0	-69
		13:48	6.83	15.17	0.4	0.641	0	-52
		13:53	6.83	15.18	0	0.642	0	-45
	11/15/2017	14:04	7.38	11.69	47.2	0.45	3.12	-32.5
		14:09	7.28	11.83	11.5	0.45	2.5	-30
		14:14	7.25	11.62	5.6	0.437	2.19	-24.7
		14:19	7.23	11.52	7	0.436	2.2	-21.2
		14:24	7.23	11.48	4.4	0.439	2.23	-16.1
	2/27/2018	11:59	7.75	11.21	27.1	0.737	2.07	118.1
		12:04	7.60	11.49	8	0.713	1.05	96.1
		12:09	7.50	11.66	3.8	0.694	0.72	87.9
		12:14	7.48	11.83	1.9	0.673	0.57	83.2
		12:19	7.47	11.9	1.8	0.666	0.52	81.1
	5/22/2018	12:27	6.93	12.79	10.7	1.549	-0.80	137.5
		12:32	6.86	12.73	4.7	2.132	0.95	248.7
		12:37	6.91	12.96	1.1	1.925	0.96	282.6
		12:42	6.95	12.89	1.2	1.786	0.37	290.2
		12:47	6.96	12.96	1.9	1.700	0.62	293.8
	8/2/2018	9:30	6.57	17.56	3.0	1.95	1.35	44
		9:35	6.63	17	0.0	1.72	0.96	93
		9:40	6.65	16.82	0.0	1.68	0.78	107
		9:45	6.66	16.72	0.0	1.62	0.63	124
		9:50	6.66	16.61	0.0	1.61	0.59	134
	8/17/2018	13:40	7.14	17.46	NC	1.62	2.82	184
	8/24/2018	9:25	6.89	14.78	NC	1.80	2.91	109
	8/28/2018	9:25	7.63	15.54	NC	1.3	5.66	118
	9/6/2018	11:37	7.24	15.42	NC	1.67	4.78	28
PMW-5S	9/22/2016	9:50	7.32	17.34	197.8	0.671	2.34	-0.6
		9:55	7.22	16.42	83.6	0.637	2.23	-0.8
	10/20/2016	10:20	7.17	13.44	628.4	0.722	2.95	52.6
		10:25	6.99	14.61	588.8	0.638	0.47	28.2
	8/28/2017	12:20	6.34	16.26	150	0.788	4.5	-1
		12:25	6.3	16.33	66.7	0.671	0.26	1

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-5S	8/28/2017	12:30	6.32	16.25	26.2	0.661	0	9
		12:35	6.34	16.25	5.8	0.655	0	-1
	8/2/2018	8:52	6.70	17.51	56.3	0.847	1.76	0
		8:57	6.57	17.45	45.3	0.817	0.93	-23
		9:02	6.56	17.35	13.7	0.796	0.89	-33
	8/17/2018	13:55	7.16	17.61	NC	0.542	2.26	139
	8/22/2018	13:25	7.21	15.88	NC	0.526	3.28	72
	8/27/2018	15:53	6.99	17.34	NC	0.574	4.21	37
	9/6/2018	11:16	7.19	18.01	NC	0.750	3.94	-31
PMW-5I	9/22/2016	10:31	7.29	15.45	211.8	0.637	2.96	16.7
		10:36	7.19	14.76	29	0.651	2.67	22
		10:41	7.18	14.67	6.3	0.65	2.45	24.7
		10:45	7.18	14.64	1.6	0.649	2.55	26.6
	10/20/2016	10:43	7.22	13.65	278.8	0.748	2.17	52.1
		10:48	6.96	13.5	40.8	0.755	0.53	50
	3/31/2017	11:00	7.30	8.85	82.4	0.53	2.3	26.8
		11:10	7.24	9.64	77.6	0.554	0.72	29.6
		11:15	7.21	9.73	75.4	0.546	0.68	31.4
	6/7/2017	9:25	7.11	11.75	18.7	0.596	1.69	148.9
		9:30	7.03	11.47	15.1	0.595	0.9	127
		9:35	6.94	11.44	15.7	0.614	0.6	65.2
		9:40	6.92	11.47	14	0.618	0.5	48.4
		9:45	6.92	11.5	13.8	0.616	0.46	43.1
		9:50	6.92	11.53	13.6	0.618	0.44	40.2
	8/28/2017	13:02	6.68	16.01	147	0.646	0	-30
		13:07	6.47	15.31	18.8	0.665	0	-3
		13:12	6.45	15.08	3.2	0.665	0	0
	11/15/2017	12:20	7.05	11.96	27.4	0.422	5.81	25.2
		12:25	6.93	12.21	15.5	0.439	3.26	21.6
		12:30	6.92	12.21	7.6	0.443	3.05	20.4
		12:35	6.91	12.4	4.3	0.447	3.04	19.8
	2/27/2018	10:47	7.78	9.92	460.6	0.566	1.83	76.3
		10:52	7.30	10.36	61.8	0.593	0.74	70.6
		10:57	7.20	10.56	12.9	0.598	0.55	67.8
	5/22/2018	12:01	7.16	12.49	2.2	0.626	3.52	90.4
		12:06	6.99	12.28	1.0	0.641	1.52	77.3
		12:11	6.99	12.5	1.2	0.644	1.28	72.4
		12:16	7.00	12.8	1.1	0.646	1.12	66.9
	8/2/2018	8:28	6.93	19.62	65.6	0.706	1.75	0
		8:33	6.87	19.67	60.4	0.714	0.96	-3
		8:38	6.79	19.63	36.9	0.717	0.68	4
		8:43	6.72	19.54	16.0	0.72	0.62	5
	8/17/2018	13:50	7.24	18.16	NC	0.624	2.17	183

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-5I	8/22/2018	13:51	7.49	15.49	NC	0.658	5.67	142
	8/27/2018	16:02	7.16	16.23	NC	0.599	4.56	74
	9/6/2018	11:23	7.45	16.12	NC	0.788	4.02	30
PMW-5D	9/22/2016	10:07	7.40	14.9	98.7	0.644	2.95	-13.6
		10:13	7.28	14.29	12.9	0.66	2.16	9.8
		10:17	7.29	14.27	6.8	0.658	2.27	17.3
		10:22	7.28	14.13	5.2	0.656	2.22	20.6
	10/20/2016	9:59	7.30	13.1	75.3	0.713	1.87	44.4
		10:04	7.08	12.87	14.9	0.705	0.42	46.1
		10:09	6.99	12.85	9.2	0.704	0.39	48
	3/31/2017	10:45	7.49	8.83	32.2	0.499	1.81	8.4
		10:50	7.44	9.85	6.9	0.538	0.48	23.7
		10:55	7.46	9.91	4.3	0.541	0.31	41.6
	6/7/2017	9:37	6.36	12.32	45	0.741	0	180
		9:42	6.33	12.3	44.2	0.754	0	153
		9:47	6.30	12.44	43.6	0.766	0	129
		9:52	6.30	12.51	44	0.769	0	118
		9:57	6.28	12.57	43.7	0.771	0	111
		10:02	6.28	12.6	43.8	0.771	0	106
		10:07	6.28	12.61	43.7	0.771	0	103
	8/28/2017	12:42	6.63	15.96	70.6	0.689	1.7	11
		12:47	6.51	15.95	7.2	0.693	0	8
		12:52	6.50	15.38	0	0.701	0	10
		12:57	6.51	15.59	0	0.697	0	12
	11/15/2017	11:53	7.22	11.56	81.8	0.423	4.86	19
		11:58	7.12	11.58	18	0.425	3.12	11
		12:03	7.10	11.78	4.8	0.43	2.86	10.2
		12:08	7.09	11.94	2.5	0.434	2.73	10.6
	2/27/2018	10:10	7.77	9.67	195	0.591	1.61	75.9
		10:15	7.49	10.61	28.1	0.590	0.69	65.6
		10:20	7.40	11.07	16	0.594	0.55	62.2
		10:25	7.36	11.17	4.4	0.597	0.45	60.9
		10:30	7.34	11.32	2.1	0.600	0.4	59.8
	5/22/2018	11:35	7.31	12.55	3.7	0.620	2.05	83.0
		11:40	7.22	12.7	1.0	0.626	0.77	80.5
		11:45	7.18	12.77	1.4	0.634	0.71	81.5
		11:50	7.18	12.83	1.1	0.633	0.74	82.5
	8/1/2018	14:18	7.16	18.67	11.4	0.809	2.26	-2.0
		14:23	6.73	18.48	9.6	0.801	0.56	-11.0
		14:28	6.71	17.95	8.3	0.811	0.48	-12.0
		14:33	6.71	18.04	8.1	0.809	0.51	-13.0
	8/24/2018	9:16	7.31	15.22	NC	0.566	5.68	47
PMW-6S	6/15/2016	13:40	7.42	13.27	115.7	0.613	1.57	133.4

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-6S	6/15/2016	13:44	7.33	12.83	197.4	0.614	1.25	109.4
	9/22/2016	9:26	7.32	16.04	194	0.626	2.92	-28.8
		9:31	7.31	16.19	52.6	0.606	2.16	-51.6
		9:35	7.29	16.01	19.6	0.595	2.2	-58.1
	10/20/2016	8:47	8.67	14.76	491.2	0.675	1.96	-16.7
		8:52	7.50	14.77	417.2	0.622	0.49	-58.3
	8/28/2017	11:07	5.97	17.97	703	0.637	1.8	-8
		11:12	5.81	16.15	214	0.616	0	-42
		11:17	5.81	15.86	223	0.607	0	-56
		11:22	5.84	15.7	50.6	0.609	0	-60
	8/1/2018	13:23	7.04	20.02	624	0.741	12.2	-71
		13:28	6.78	19.1	182	0.713	1.56	-117
		13:33	6.74	18.55	91.8	0.698	0.99	-128
		13:38	6.74	18.27	55.2	0.698	0.84	-132
		13:43	6.73	17.97	17	0.698	0.71	-136
	8/17/2018	14:20	7.18	17.59	NC	0.507	1.87	-2
	8/22/2018	11:39	7.89	17.27	NC	0.439	6.51	-106
	8/27/2018	15:30	8.10	18.34	NC	0.503	6.32	-69
	9/6/2018	10:56	7.43	18.50	NC	0.667	5.62	-118
PMW-6I	6/15/2016	14:07	6.97	13.44	219.5	0.934	1.37	118.2
		14:12	6.85	12.74	400	0.945	1.03	106
		14:16	6.83	12.84	104.8	0.979	0.64	104.5
	9/22/2016	8:49	7.95	15.46	241.7	0.866	2.87	-15.3
		8:54	7.20	14.53	84.1	0.883	2.81	4.5
		8:58	7.09	14.41	30.6	0.884	2.86	9.6
	10/20/2016	9:33	7.02	13.74	152.3	0.942	1.82	48.5
		9:38	6.70	13.55	25.1	0.969	0.43	45.9
		9:43	6.65	13.36	15	0.973	0.36	44.4
	3/31/2017	11:20	7.21	8.49	32.5	0.643	3.5	6.4
		11:25	7.12	9.63	24.1	0.701	0.76	19.1
		11:30	7.17	9.61	21.2	0.703	0.31	23.6
	6/7/2017	9:03	6.15	12.08	65.4	0.95	0	89
		9:08	6.07	12.12	58.6	0.969	0	62
		9:13	6.06	12.15	56.9	0.974	0	64
		9:18	6.02	12.2	56.1	0.972	0	65
		9:23	6.00	12.24	55.6	0.971	0	65
	8/28/2017	12:01	6.13	15.63	176	0.845	0	-29
		12:06	6.04	14.69	40	0.857	0	-8
		12:11	6.06	14.55	16.2	0.857	0	-3
	11/15/2017	11:17	7.12	11.35	86.9	0.470	6.54	23.5
		11:22	6.84	11.76	30.4	0.481	3.89	15.6
		11:27	6.82	11.79	17	0.487	3.46	14.6
		11:32	6.81	12.12	9.8	0.500	3.39	13.1

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-6I	2/27/2018	9:37	7.26	9.65	180.7	0.653	1.08	53.9
		9:42	7.07	10.1	34.5	0.713	0.54	52.7
		9:47	7.03	10.46	11.2	0.731	0.46	52.7
		9:52	7.03	10.55	10.6	0.734	0.42	52.5
	5/22/2018	11:08	6.98	12.47	22.3	0.798	4.25	49.1
		11:13	6.88	12.04	4.8	0.784	1.14	45.4
		11:18	6.87	11.97	0.4	0.782	1.15	47.4
	8/2/2018	8:02	7.02	21.33	510	0.987	6.00	-55
		8:07	6.65	19.89	214	0.969	1.99	-52
		8:12	6.55	19.05	126	0.974	1.53	-46
		8:17	6.49	18.3	48.6	0.986	1.19	-43
	8/17/2018	14:10	6.98	16.51	NC	1.29	3.00	249
	8/22/2018	13:10	6.97	15.50	NC	0.759	2.69	144
	8/27/2018	15:48	7.10	15.27	NC	0.664	4.85	39
	9/6/2018	11:10	7.19	16.35	NC	0.956	4.80	10
PMW-6D	6/15/2016	13:48	7.21	13.29	849.1	0.367	1.1	114.6
		13:53	7.07	13.3	229.2	0.367	0.69	124.6
		13:57	7.05	12.71	126.3	0.356	0.62	126.5
	9/22/2016	9:09	7.38	14.7	100.8	0.645	2.79	3.8
		9:14	7.24	14.2	14.2	0.63	2.06	26.5
		9:19	7.21	14.11	4.6	0.627	2.07	32.7
	10/20/2016	9:08	7.61	13.35	500.1	0.725	3.59	29.1
		9:13	7.04	13.01	90.3	0.721	0.41	37.7
		9:18	6.9	12.98	37.4	0.721	0.29	42.6
	3/31/2017	11:40	7.46	8.67	56.2	0.555	5.3	30.1
		11:50	7.37	10.27	23.8	0.608	1.11	37.3
		11:55	7.35	10.14	19.7	0.604	0.98	46.7
	6/7/2017	8:10	5.46	11.15	66.6	0.841	0	263
		8:15	5.92	11.83	48.7	0.831	0	225
		8:20	6.00	12.01	45.3	0.833	0	205
		8:25	6.05	12.2	43.5	0.834	0	188
		8:30	6.07	12.22	42.7	0.835	0	177
		8:35	6.08	12.26	42.1	0.836	0	169
		8:40	6.10	12.31	41.9	0.837	0	167
		8:45	6.10	12.35	41.8	0.837	0	160
	8/28/2017	11:34	6.20	16.64	246	0.684	0	-1
		11:39	5.99	15.56	28.3	0.683	0	13
		11:44	5.98	15.21	5.3	0.685	0	22
		11:49	6.01	15.01	0	0.686	0	26
	11/15/2017	10:45	7.51	10.88	1339.4	0.394	7.99	-8.9
		10:50	7.05	10.88	867.1	0.403	2.67	-3.7
		10:55	7.01	10.98	348.2	0.407	2.68	0.1

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-6D	11/15/2017	11:00	7.01	11.13	180.1	0.411	2.62	3.2
		11:05	7.01	11.19	108.9	0.409	2.54	5.6
	2/27/2018	8:57	7.51	9.32	351.7	0.595	1.14	53.7
		9:02	7.38	10.12	72	0.621	0.83	48.7
		9:07	7.33	10.51	15	0.634	0.42	48.4
		9:12	7.30	10.82	4.7	0.648	0.37	49.2
		9:17	7.29	11.07	3.2	0.656	0.37	50.6
	5/22/2018	10:34	7.19	12.78	1.9	0.693	2.25	0.2
		10:39	7.14	12.88	1	0.690	0.79	17.1
		10:44	7.13	12.9	1.4	0.689	0.71	30.7
		10:49	7.13	12.98	1.6	0.690	0.63	40.1
	8/1/2018	13:51	6.92	17.79	5.9	0.829	2.19	-88
		13:56	6.68	17.7	2.6	0.839	0.8	-74
		14:01	6.66	17.62	2.2	0.844	0.6	-64
		14:06	6.65	17.54	2.1	0.846	0.53	-60
		14:11	6.65	17.49	1.9	0.847	0.52	-57
	8/17/2018	14:15	7.42	15.55	NC	0.595	2.33	253
	8/22/2018	12:50	7.42	16.39	NC	0.573	2.87	104
	8/27/2018	15:40	7.62	16.49	NC	0.570	6.22	24
	9/6/2018	11:05	7.28	16.37	NC	0.779	4.55	-44
PMW-7	9/20/2016	14:17	7.03	15.98	994.6	1.089	1.14	59.2
		14:20	6.90	15.5	1294.6	0.934	1	69.6
	10/19/2016	14:29	7.22	14.57	492.3	1.171	2.94	18.1
		14:34	7.11	14.3	428.2	1.054	1.45	16.3
	8/30/2017	10:39	6.67	15.76	0	1.69	0	40
		10:44	6.56	15.57	0	1.63	0	45
		10:49	6.50	15.26	1000	1.47	0	45
		10:54	6.50	14.93	1000	0.952	0	35
		10:59	6.49	14.97	833	0.877	0	35
	7/30/2018	16:21	6.27	16.6	1000	1.79	1.57	-1
		16:26	6.41	15.63	1000	1.71	1.05	-9
		16:31	6.45	14.34	1000	1.52	0.70	-15
		16:36	6.42	14.14	1000	1.13	0.65	-17
PMW-8	9/20/2016	13:59	7.78	18.19	1036.8	0.342	6.37	-11.1
		14:02	7.46	17.62	384.6	0.33	5.28	1.7
	10/19/2016	14:06	8.10	15.18	118.9	0.411	4.02	-5.7
		14:11	7.60	14.85	104.3	0.416	5.76	16.5
	8/30/2017	11:12	7.08	15.82	432	0.384	5.4	49
		11:17	6.88	15.73	289	0.366	0	61
		11:17	6.79	15.67	232	0.371	0	68
		11:27	6.77	15.58	257	0.373	0	68
	7/30/2018	15:57	7.44	16.92	75.9	0.501	9.1	-71
		16:02	6.67	16.12	52.3	0.47	4.4	-43
		16:07	6.63	15.39	66.1	0.482	3.79	-36

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-8	7/30/2018	16:12	6.60	14.96	25.2	0.492	3.94	-27
PMW-9S	12/18/2015	10:00	6.70	9.7	72	0.841	1.6	-367
		11:25	6.70	9.6	22	0.771	0	-297
		12:00	6.70	9.6	21	0.77	0	-281
	6/15/2016	12:07	7.40	12.58	374.2	0.642	1.19	188.1
		12:12	7.22	12.11	461.9	0.679	1.02	149.1
	9/21/2016	12:47	7.35	18.7	732	0.726	2.44	21.7
		12:51	7.14	18.27	977	0.786	1.68	-31.7
	10/19/2016	11:57	7.08	14.81	1337.6	0.791	1.9	50
		12:02	6.96	14.31	133.2	0.64	1.51	51.3
	3/31/2017	8:50	8.34	5.15	1444.6	0.499	9.78	39.2
		9:00	7.76	5.72	1982.6	0.505	2.42	46.2
		9:05	7.60	7.6	90	0.468	1.43	58.2
	6/6/2017	13:58	1.65	11.66	1105.7	0.759	3.75	63.7
		14:03	2.45	11.31	625.4	0.759	0.9	52
		14:08	2.35	11.26	1106.8	0.759	0.69	50.7
		14:13	2.45	11.24	1107	0.757	0.58	54.5
		14:18	2.45	11.2	1106.8	0.756	0.55	51
		14:23	2.45	11.19	1106.4	0.756	0.53	53.1
	8/30/2017	10:06	7.00	14.37	286	0.757	0	22
		10:11	6.87	14.97	196	0.75	0	-30
		10:16	6.86	15.18	0	0.739	0	-44
		10:21	6.86	15.45	961	0.654	0	-40
	11/15/2017	8:20	7.29	9.59	527.6	0.354	2.62	596.2
		8:25	7.14	8.74	423.8	0.348	1.09	442.7
		8:30	7.12	9.51	376.1	0.371	0.87	364.2
		8:35	7.11	10.01	256.4	0.380	0.76	59.1
		8:40	7.11	10.31	109.6	0.383	0.69	59.5
	2/27/2018	13:00	7.53	12.38	122.4	0.576	2.6	74.6
		13:05	7.41	9.36	1158.6	0.603	1.18	78
		13:10	7.46	9.04	1153.6	0.583	0.87	79.6
		13:15	7.34	9.04	1153.8	0.580	0.72	82
	5/22/2018	15:17	7.32	10.93	1470.3	0.653	2.44	234.2
		15:23	7.26	12.09	1451.1	0.640	1.13	234.6
		15:28	7.25	11.34	704.3	0.608	0.74	233.8
		15:33	7.26	11.59	701.3	0.607	0.7	221.6
		15:38	7.26	11.64	697.1	0.605	0.68	215.8
	8/1/2018	10:16	6.90	16.91	1000	0.881	2.08	38
		10:21	6.66	16.8	1000	0.898	1.15	-72
		10:25	6.68	16.98	1000	0.889	1.64	-86
		10:31	6.70	15.83	746	0.848	0.89	-72

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-9S	8/1/2018	10:36	6.71	15.57	1000	0.879	0.72	-58
	8/22/2018	10:20	7.30	15.82	NC	0.541	3.52	111
	8/28/2018	9:52	7.68	18.29	NC	0.597	4.86	-140
	9/6/2018	12:14	7.42	17.79	NC	0.792	4.65	-93
PMW-9I	12/18/2015	15:22	7.50	11.21	100	0.971	0	-200
		16:00	7.41	11.21	77	0.97	0	-197
	6/15/2016	12:20	7.26	10.76	119.5	0.644	0.79	120.8
		12:25	7.19	10.51	832.4	0.642	0.56	130.7
	9/21/2016	12:30	7.42	16.24	1602.1	0.678	1.49	5.6
		12:34	7.35	15.61	1593.6	0.669	1.13	14.8
		12:38	7.32	15.48	1592.9	0.667	0.97	24.5
	10/19/2016	11:28	7.19	13.77	150.1	0.645	2	101.8
		11:33	7.01	12.84	803.5	0.641	0.47	99.2
		11:38	7.03	12.81	420.1	0.642	0.35	92.1
	3/31/2017	9:10	7.56	7.87	2009.5	0.555	6.61	-7.3
		9:15	7.53	8.24	2015.5	0.558	1.49	14.2
		9:20	7.49	8.43	22	0.554	0.92	39.7
	6/6/2017	14:33	7.92	11.55	103.2	0.84	3.48	48.2
		14:37	7.10	10.72	291.4	0.756	1.39	50.2
		14:43	7.00	10.63	871.4	0.755	1.2	46.7
		14:47	6.91	10.46	1039.1	0.754	0.74	48.8
		14:53	6.88	10.42	1035.1	0.754	0.56	52.7
		14:57	6.88	10.37	1030.1	0.754	0.54	54.2
		15:03	6.87	10.35	1030	0.754	0.5	55.3
		15:07	6.87	10.37	1026.1	0.755	0.48	56.7
	8/30/2017	9:50	6.96	13.97	0	0.722	0	-10
		9:55	6.94	13.77	0	0.722	0	-8
		10:00	6.93	13.61	1000	0.722	0	-5
	11/15/2017	8:55	7.57	8.49	893.7	0.364	3.72	893.8
		9:00	7.25	8.77	1257.3	0.339	1.47	64.1
		9:05	7.17	9.35	1071.9	0.358	1.38	60.2
		9:10	7.13	9.54	766.1	0.376	1.31	57.5
	2/27/2018	13:24	7.48	11.65	797.3	0.590	3.9	82.4
		13:29	7.40	10.08	495.6	0.600	1.37	84.1
		13:34	7.35	10.43	648.4	0.610	0.86	82.6
		13:39	7.35	10.36	241.8	0.610	0.72	80.5
	5/22/2018	14:57	7.53	11.85	801.6	0.647	3.51	235.2
		15:02	7.37	10.95	532.1	0.63	0.96	237.2
		15:07	7.31	11.47	335.1	0.639	1.31	235.7
		15:12	7.30	11.36	296.7	0.637	1.26	234.5
	8/1/2018	10:44	6.89	16.71	1000	0.835	1.4	-9

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-9I	8/1/2018	10:49	6.78	14.96	883	0.857	0.54	-13
		10:54	6.75	14.77	539	0.860	0.51	-14
	8/22/2018	10:04	7.52	14.58	NC	0.574	3.24	125
	8/28/2018	9:45	7.47	15.38	NC	0.597	7.77	83.0
	9/6/2018	12:08	7.52	15.65	NC	0.774	3.99	-74
PMW-9D	12/18/2015	9:25	6.90	11.2	-	0.977	-	-321
		11:05	6.70	11.11	10	0.987	-	-300
	6/15/2016	12:35	7.35	11.53	838.6	0.659	1.26	135.2
		12:40	7.22	11.1	553.5	0.655	0.63	139
		12:45	7.11	10.93	199.3	0.657	0.47	144.8
	9/21/2016	12:11	7.96	19.32	145.4	0.717	2.81	-46.4
		12:15	7.49	16.37	1372.6	0.688	1.2	-16.9
		12:19	7.36	15.74	1595.7	0.68	0.96	-0.1
		12:22	7.30	15.72	1595.8	0.678	0.88	9
	10/19/2016	10:53	7.44	13	1318.3	0.733	2.79	99.3
		10:58	6.95	11.93	1307.9	0.729	0.52	99.2
		11:03	6.90	11.71	1305.8	0.725	0.37	95.4
		11:08	6.95	12.82	1100.3	0.592	0.43	97.8
	3/31/2017	9:25	7.62	5.28	140.5	0.497	9.32	50.6
		9:35	7.45	6.34	79	0.512	2.6	55.3
		9:40	7.42	6.89	29.9	0.522	1.65	57.4
	6/6/2017	15:14	7.06	11.34	76	0.732	3.52	75.6
		15:19	6.87	10.91	45.1	0.755	0.54	68.1
		15:24	6.83	10.94	237	0.758	0.44	61.6
		15:29	6.82	10.97	230.1	0.758	0.42	60.7
		15:34	6.81	10.93	221.1	0.759	0.4	60.4
		15:39	6.81	10.9	219.3	0.76	0.4	60.2
	8/30/2017	9:27	7.18	14.89	162	0.714	6.95	-60
		9:32	6.92	14.04	109	0.717	0	-20
		9:37	6.88	13.78	45.1	0.719	0	-19
		9:42	6.88	13.47	40.6	0.726	0	-23
	11/15/2017	9:25	7.28	7.85	130.4	0.337	7.21	70.6
		9:30	7.95	7.95	81.0	0.340	2.81	67.7
		9:35	7.07	8.01	71.1	0.337	2.51	63.7
	11/15/2017	9:40	7.05	8.00	64.7	0.335	1.81	60.9
	2/27/2018	13:50	7.75	10.81	69.7	0.627	4.08	84.5
		13:55	7.35	10.85	69.4	0.660	0.75	82.4
		14:00	7.33	10.75	43.1	0.629	0.83	82
		14:05	7.29	10.90	29.6	0.630	0.51	81.6
		14:10	7.27	11.27	23.2	0.636	0.48	80.9
	5/22/2018	14:29	7.32	12.10	249.6	0.680	4.71	231.8

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-9D	5/22/2018	14:34	7.15	12.09	96.2	0.667	1.09	235.1
		14:39	7.15	11.92	18.6	0.661	1.00	234.6
	8/1/2018	11:16	7.34	19.25	881	0.864	2.74	13
		11:21	6.73	16.43	561	0.852	0.54	14
		11:26	6.68	16.11	175	0.858	0.51	12
		11:31	6.67	16.12	91.1	0.859	0.52	11
		11:36	6.67	16.07	58.9	0.862	0.50	11
	8/22/2018	9:42	8.11	14.75	NC	0.582	4.39	89
	8/28/2018	9:40	7.72	15.50	NC	0.597	4.01	54
	9/6/2018	12:03	7.48	15.53	NC	0.828	5.60	50
PMW-10S	12/9/2015	12:50	6.67	10.99	197	0.672	0	-7
		13:00	7.02	11.48	-	0.891	0	-6
		13:57	6.90	11.49	27.4	0.889	0	-27
	6/14/2016	15:23	7.42	11.07	835.7	0.572	1.41	95.2
		15:27	7.30	9.93	828.6	0.576	0.94	69.2
		15:31	7.26	9.76	827.6	0.574	1.11	51
	9/21/2016	11:25	7.50	16.07	1600.2	0.608	1.99	-3.5
		11:29	7.39	15.52	1593.2	0.561	1.13	-7.3
		11:33	7.36	15.28	1590	0.531	1.06	-8.4
	10/19/2016	10:36	7.64	14.4	1484.8	0.627	2.61	-27.2
		10:41	7.38	14.04	1529.8	0.615	0.83	-39.9
		10:46	7.37	13.98	1607.3	0.617	0.51	-46
	3/31/2017	14:15	7.77	7.38	1941	0.515	9.71	32.1
		14:20	7.33	7.39	526.3	0.493	1.9	32.9
		14:25	7.50	7.46	109.3	0.463	1.48	28.2
		14:30	7.49	7.47	22.5	0.487	1.43	19.2
	6/6/2017	10:45	7.01	10.84	1105	0.737	0.9	71.5
		10:50	7.00	10.8	1105	0.737	0.84	70.7
		10:55	6.89	10.58	1104.7	0.736	0.6	64.6
		11:00	6.85	10.48	1104.1	0.736	0.64	57.9
		11:05	6.84	10.4	1103.8	0.738	0.61	51.1
	8/29/2017	14:15	7.04	16.2	0	0.707	0.79	-16
		14:32	6.81	16.51	874	0.692	0	-49
		14:37	6.86	15.4	0	0.572	0	-57
		14:42	6.87	14.58	998	0.552	0	-78
		14:47	6.86	14.42	1000	0.705	0	-87
	11/14/2017	10:30	7.60	9.85	1327.2	0.513	7.38	1.3
		10:35	7.13	11.08	1341.1	0.537	1.06	-4.1
		10:40	7.12	11.29	1343.1	0.543	1.13	-7.9
	2/27/2018	16:08	7.32	8.91	1152.4	0.601	0.75	63.7
		16:13	7.32	8.74	92.1	0.501	0.61	64.5

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-10S	2/27/2018	16:18	7.34	9.07	49.2	0.428	0.53	63.5
		16:23	7.33	9.06	38.4	0.4	0.53	45.5
	5/23/2018	14:38	7.34	10.17	1347.2	0.574	0.97	112.3
		14:43	7.34	10.08	1000.3	0.619	1.31	102.3
		14:48	7.35	10.13	1500.8	0.63	1.49	88.6
		14:53	7.44	10.14	1501.4	0.632	1.6	78.6
	8/1/2018	8:41	7.22	21.67	1000	0.780	7.03	34
		8:46	6.89	17.79	1000	0.832	5.87	-15
		8:51	6.81	17.03	1000	0.845	5.67	-26
		8:56	6.69	17.27	1000	0.840	1.92	-24
		9:01	6.69	17.37	823	0.853	1.92	-20
	8/21/2018	15:50	7.27	15.30	NC	0.587	2.87	40.0
	8/28/2018	10:34	7.43	16.35	NC	0.590	4.27	114
	9/7/2018	11:00	7.58	15.51	NC	0.599	2.10	37
PMW-10I	12/9/2015	14:28	6.82	12.84	637	0.831	0	-146
		14:35	6.88	12.54	403	0.832	0	-151
		14:50	6.88	12.42	200	0.835	0	-151
	6/14/2016	14:56	7.37	10	828.7	0.578	1.52	95.3
		15:00	7.29	10.19	830.4	0.417	1.33	99.1
	9/21/2016	11:07	7.50	15.56	388.1	0.61	1.98	-68.6
		11:11	7.41	14.4	1578.6	0.601	1.28	-34.5
		11:16	7.31	14.11	1575.2	0.59	0.81	-17.6
	10/19/2016	9:57	7.41	13.34	1241.8	0.682	2.19	7.6
		10:02	7.39	13.02	1594.8	0.668	0.77	3.5
		10:07	7.39	12.87	1592.8	0.666	0.48	4.1
	3/30/2017	14:30	7.66	7.98	217	0.566	4.99	-12.8
		14:35	7.50	8.56	291.1	0.572	2.64	4
		14:40	7.45	8.77	1411	0.313	2.79	24.7
	6/6/2017	11:15	7.13	10.7	504.1	0.754	1	70.8
		11:20	6.92	10.39	326.1	0.765	0.48	67.4
		11:25	6.88	10.61	405.1	0.77	0.48	65.9
		11:30	6.87	10.58	1082.1	0.769	0.46	65.9
		11:35	6.88	10.54	1080	0.77	0.43	66.1
		11:40	6.87	10.54	1077.1	0.771	0.4	66.8
	8/29/2017	14:55	6.88	14.01	0	0.727	0	-83
		15:00	6.84	13.28	0	0.737	0	-65
		15:05	6.81	13.11	0	0.728	0	-55
	11/14/2017	10:54	7.23	10.75	757.3	0.516	1.76	-10.4
		10:59	7.13	10.65	1310.5	0.526	1.01	-15.5
		11:04	7.12	11.07	962.0	0.531	0.89	-18.7
		11:09	7.12	11.10	827.4	0.531	0.81	-20.9

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-10I	2/27/2018	15:43	7.37	9.68	70.1	0.637	1.27	79
		15:48	7.35	9.70	348.3	0.620	0.56	65.5
		15:53	7.35	9.85	689.4	0.621	0.47	63
		15:58	7.34	9.86	372.4	0.620	0.42	61.6
		16:03	7.34	9.91	170.6	0.621	0.4	61.2
	5/23/2018	14:07	7.41	11.80	86.0	0.679	1.95	-1.5
		14;12	7.32	10.60	1484.0	0.656	1.44	48.6
		14:17	7.30	10.62	1506.4	0.652	1.53	88.1
		14:22	7.29	10.48	1488.6	0.602	1.23	109.1
		14:27	7.29	10.56	837.1	0.548	0.91	119.4
		14:32	7.29	10.63	645.7	0.519	0.88	126.4
	8/1/2018	9;07	7.10	19.09	1000	0.84	3.74	2
		9:12	6.73	14.36	1000	0.898	1.08	3
		9:17	6.70	13.59	1000	0.901	0.80	5
		9:22	6.68	13.14	953	0.911	0.76	8
	8/21/2018	15:25	7.37	14.03	NC	0.598	2.49	116
	8/28/2018	10:24	8.37	14.82	NC	0.6	4.22	123
	9/7/2018	11:05	7.62	16.03	NC	0.476	3.01	98
PMW-10D	12/9/2015	11:47	6.15	10.57	8.7	-	-	-
		11:55	6.79	10.8	0	0.86	0	-502
		12:03	6.79	10.79	0	0.859	0	-499
	6/14/2016	14:37	8.02	11.01	834.7	0.694	1.3	96.4
		14:41	7.72	10.37	230.6	0.637	0.54	97.9
		14:45	7.44	10.06	72.6	0.627	0.45	99.8
		14:49	7.35	10.02	43.9	0.626	0.44	100.7
	9/21/2016	10:45	7.58	15.16	138	0.638	2.34	-73.8
		10:49	7.44	13.47	863.4	0.633	1.16	-53.7
		10:55	7.37	13.04	647.1	0.64	1.04	-28.9
		10:58	7.34	12.97	382.2	0.64	1.04	-22.6
	10/19/2016	9:13	6.53	12.76	248.7	0.924	2.27	35.4
		9:18	6.93	12.1	121.8	0.697	0.83	19.7
		9:23	7.06	11.92	121.2	0.685	0.62	15.7
		9:28	7.16	11.84	121.1	0.679	0.57	11.9
	3/30/2017	14:55	7.46	8.09	169.4	0.562	2.2	31.5
		15:05	7.43	9.09	52.4	0.574	1.67	33.6
		15:10	7.44	9.41	51.7	0.584	1.32	36.5
	6/6/2017	11:50	7.08	12.06	210.1	0.75	2.55	49.3
		11:55	6.94	11.38	22.7	0.754	0.68	48.3
		12:00	6.90	11.08	16.6	0.761	0.51	45.4
		12:05	6.88	10.99	13.6	0.761	0.46	51.9
		12:10	6.88	11.1	7.9	0.769	0.46	56.9

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-10D	6/6/2017	12:15	6.88	11.2	8.1	0.769	0.47	57.1
		12:20	6.86	11.22	8.3	0.772	0.47	57.3
	8/29/2017	15:13	6.89	14.12	446	0.728	0	-94
		15:18	6.77	12.29	207	0.756	0	-68
		15:23	6.75	12.09	214	0.753	0	-58
	11/14/2017	12:40	7.56	9.98	157.3	0.507	9.25	117.1
		12:45	7.23	10.10	33.4	0.519	7.20	14.0
		12:50	7.13	10.18	30.6	0.512	1.39	7.6
		12:55	7.15	10.28	29.4	0.518	1.32	-0.1
		13:00	7.13	10.30	21.6	0.520	1.16	-5.2
	2/27/2018	14:26	7.30	11.51	75.1	0.630	2.82	82
		14:31	7.29	9.87	25.8	0.631	0.66	83.7
		14:36	7.30	10.17	28.8	0.642	0.47	83.1
		14:41	7.30	10.28	42.6	0.653	0.44	81.2
	5/23/2018	13:52	7.34	12.30	16.8	0.681	2.03	68.6
		13:57	7.26	11.83	5.2	0.680	2.03	76.7
		14:02	7.27	11.79	6.6	0.680	1.85	86.7
	8/1/2018	9:43	7.64	19.00	984	0.936	3.85	9
		9:48	6.70	15.80	127	0.864	1.24	24
		9:53	6.65	15.07	17.4	0.888	0.88	21
		9:58	6.64	14.71	15.5	0.892	0.77	19
		10:03	6.65	14.55	4.2	0.895	0.73	17
	8/21/2018	14:57	8.02	15.00	NC	0.589	3.75	95
	8/28/2018	10:18	7.63	15.37	NC	0.599	2.46	140
	9/6/2018	11:10	8.31	15.40	NC	0.571	4.30	101
PMW-11S	12/11/2015	9:00	7.00	6.7	200	1.55	0	-30
		13:00	7.00	6.6	200	1.44	0	-22
		15:00	7.10	6.5	55	1.39	0	-21
	6/14/2016	11:22	6.88	11.58	619.5	0.424	0.47	45.9
		11:27	6.85	11.72	805.5	0.357	0.42	27
	9/21/2016	8:51	8.70	16.46	72.3	0.966	67.7	-42.3
		8:55	7.26	16.55	25.7	0.989	1.65	-42.1
	10/19/2016	12:23	7.23	14.78	1187.1	1.038	2.43	-10.2
		12:28	6.67	14.38	533.8	1.058	0.7	-23.6
	6/6/2017	14:57	6.73	11.54	369	1.25	5.43	18
		15:02	6.42	11.58	135	1.34	0	9
		15:07	6.29	11.62	64.7	1.39	0	5
		15:12	6.23	11.67	69.1	1.42	0	0
		15:17	6.22	11.69	70.4	1.43	0	-1
		15:22	6.20	11.71	74.3	1.44	0	-3

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-11S	8/29/2017	11:07	7.03	15.81	187	0.987	0	-136
		11:12	6.68	15.81	207	0.989	0	-146
		11:17	6.58	16.21	130	0.986	0	-150
	11/13/2017	14:39	7.05	10.19	1330.8	0.684	3.08	-16.6
		14:44	6.81	9.78	725.4	0.666	1.67	-37.2
		14:49	6.78	9.76	263.5	0.657	1.44	-46.5
		14:54	6.77	9.74	108.7	0.651	1.42	-52
	2/26/2018	14:46	7.35	7.28	111.4	0.823	2.03	-45.7
		14:51	7.14	6.33	43.7	0.769	1.82	-37.8
		14:56	7.04	6.03	24.2	0.752	1.45	-29.6
		15:01	7.02	5.88	14.9	0.749	1.24	-25
		15:06	7.02	5.87	17.5	0.747	1.09	-23.2
	5/23/2018	12:07	7.01	11.73	1185.7	0.875	3.01	-42.6
		12:12	6.90	11.71	976.4	0.876	2.48	-44.9
		12:15	6.90	11.68	568.4	0.878	2.37	-45.7
	7/31/2018	13:41	6.62	19.56	512	1.1	6.39	-114
		13:46	6.47	19.01	343	1.13	1.96	-121
		13:51	6.43	18.83	295	1.14	1.36	-124
		13:56	6.42	18.74	196	1.15	1.07	-126
	8/24/2018	10:23	7.32	17.78	NC	0.772	4.12	-82
	8/29/2018	13:50	7.00	22.17	NC	1.06	4.17	-144
	9/7/2018	11:21	7.51	15.60	NC	0.668	3.98	17
PMW-11I	12/11/2015	12:00	6.72	9.55	200	1.30	0	-33
		16:45	6.84	9.78	138	1.29	0	-26
	6/14/2016	10:44	6.92	10.1	61.8	0.785	0.44	133.6
		10:50	6.88	10.74	-0.3	0.356	1.19	123.4
		10:55	6.86	10.9	-0.4	0.35	0.97	123.8
	9/21/2016	9:05	7.01	14.51	1580.6	0.836	1.49	9.5
		9:10	6.98	14.21	1576.5	0.82	1.13	26.9
	10/19/2016	12:22	7.13	14.4	1611.3	0.929	2.15	20.6
		12:27	7.05	14.09	1607.3	0.911	0.62	18.3
		12:32	7.03	13.94	1605.1	0.909	0.48	18.2
	8/29/2017	11:23	6.80	16.4	0	0.804	0	-93
		11:28	6.65	15.18	0	0.811	0	-72
		11:33	6.61	14.24	0	0.814	0	-67
		11:38	6.59	14.49	0	0.815	0	-63
	7/31/2018	13:59	6.74	19.20	146	0.948	3.02	-88
		14:04	6.59	16.76	113	0.977	0.81	-72
		14:09	6.55	15.81	102	0.992	0.66	-63
		14:14	6.56	15.43	88.8	1.00	0.85	-52
		14:19	6.55	15.36	82.7	1.01	0.76	-49

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-11I	8/24/2018	10:26	7.22	17.07	NC	0.658	2.76	-26
	8/29/2018	14:05	7.20	17.89	NC	0.848	3.67	-55
	9/7/2018	11:27	7.32	16.21	NC	0.698	4.72	-31
PMW-11D	12/11/2015	12:00	7.14	10.3	335	1.41	4.1	-33
		14:50	6.05	10.78	83	1.4	0	-145
	6/14/2016	9:55	7.33	9.95	162.2	0.768	0.58	149.5
		10:00	6.97	9.74	48.7	0.764	0.51	146.7
		10:05	6.92	9.83	140.5	0.515	0.44	137.3
	9/21/2016	9:19	7.24	13.67	1559.6	0.849	2.46	31
		9:23	7.17	12.96	635.2	0.835	2	29
		9:27	7.21	12.73	301.2	0.821	1.43	24.8
		9:30	7.22	12.53	172.2	0.813	1.05	27.5
	10/19/2016	11:39	7.48	12.63	1588.2	0.903	2.4	4.6
		11:44	7.34	12.22	-43.4	0.89	0.62	4.7
		11:49	7.32	12.04	-238.3	0.886	0.49	3.1
		11:54	7.30	12.05	-259.2	0.806	0.42	2.3
	3/30/2017	12:50	7.62	8	22.7	0.73	4.05	-4
		12:55	7.47	8.74	67.3	0.736	1	8.3
		13:00	7.39	8.88	86.7	0.737	0.82	3.7
	6/6/2017	13:54	7.52	12.22	271	1.24	3.76	180
		13:59	7.13	11.7	234	1.2	0	157
		14:04	6.82	11.46	169	1.18	0	133
		14:09	6.73	11.37	171	1.18	0	126
		14:14	6.64	11.27	163	1.18	0	116
		14:19	6.56	11.19	160	1.19	0	105
		14:24	6.52	11.14	152	1.17	0	100
		14:29	6.51	11.13	149	1.19	0	96
		14:34	6.49	11.13	146	1.19	0	95
	8/29/2017	11:47	6.80	15	994	0.876	0	-58
		11:52	6.82	14.49	1000	0.873	0	-69
		11:57	6.81	14.59	0	0.866	0	-74
	11/13/2017	15:11	7.18	9.56	1324.8	0.618	5.20	-36.9
		15:16	7.13	9.74	1326.5	0.628	1.79	-35.2
		15:21	7.08	9.68	932.9	0.628	1.41	-32.6
		15:26	7.08	9.72	400.3	0.627	1.28	-31.8
	2/26/2018	15:27	7.06	7.84	144.5	0.764	1.08	-5.7
		15:30	7.20	8.69	119.9	0.758	0.66	-4.2
		15:35	7.26	8.94	65.6	0.750	0.50	-2.7
	5/23/2018	11:43	7.34	13.18	73.4	0.985	2.85	-81.2
		11:48	7.30	11.47	17.7	0.829	2.06	-42.1
		11:53	7.20	11.38	12.8	0.818	2.38	-35.5

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-11D	5/23/2018	11:58	7.21	11.49	18.1	0.813	2.16	-26.6
	7/31/2018	14:24	6.92	18.83	49.4	0.974	2.87	-81
		14:29	6.79	18.84	43.7	0.953	0.85	-71
		14:34	6.76	18.76	41.0	0.947	0.60	-65
		14:39	6.74	18.64	24.0	0.943	0.54	-61
	8/24/2018	10:31	7.51	13.68	NC	0.723	4.63	9.0
	8/29/2018	14:25	7.37	14.39	NC	0.946	3.85	-18
	9/7/2018	11:35	7.28	14.66	NC	0.631	4.41	-5
PMW-12S	12/16/2015	16:14	6.10	9.52	309	0.855	3.5	-92
		16:25	6.77	9.79	305	0.837	0.29	-120
	6/14/2016	12:56	7.38	10.57	832.3	0.537	1.09	55.7
		13:01	7.35	10.53	832.1	0.537	1.09	55.6
	9/21/2016	9:54	7.73	16.09	123.3	0.584	2.56	35.6
		9:58	7.47	15.88	34.4	0.574	1.04	25
	10/18/2016	15:22	7.83	15.76	1355.7	0.67	2.35	101.4
		15:27	7.54	14.95	1348.1	0.666	0.53	94.1
	3/30/2017	13:20	7.69	8.16	458	0.492	5.1	5.2
		13:25	7.57	7.72	880.6	0.48	1.36	8.3
		13:30	7.5	7.42	1936.3	0.473	0.67	22.6
	6/6/2017	9:40	7.05	11.15	27	0.694	0.61	54.6
		9:45	7.00	10.88	22.8	0.691	0.48	50.5
		9:50	6.95	10.9	20.1	0.68	0.44	41.1
		9:55	6.94	11	21.1	0.68	0.41	38.1
		10:00	6.93	11.04	22	0.679	0.4	30.1
	8/29/2017	13:54	7.09	16.13	0	0.609	0	-37
		13:59	6.91	15.45	0	0.616	0	-42
		14:04	6.87	15.32	0	0.615	0	-41
	11/14/2017	13:24	7.37	10.15	1330.9	0.448	2.97	12.2
		13:29	7.18	10.76	1337.2	0.457	0.88	9.8
		13:34	7.17	11.00	1339.8	0.464	0.86	6.2
	2/28/2018	8:59	7.41	8.55	981.1	0.494	0.71	111.5
		9:04	7.40	8.25	330.8	0.437	0.47	110.7
		9:09	7.41	8.29	199.8	0.412	0.41	108.8
		9:14	7.41	8.26	199.4	0.410	0.39	107.7
	5/24/2018	8:08	7.72	10.00	444.1	0.539	3.17	32.4
		8:13	7.28	9.59	1494.4	0.525	2.13	42.5
		8:19	7.27	9.81	1497.6	0.527	2.22	49.3
	7/31/2018	10:20	7.79	17.69	766	0.728	0.61	-47
		10:25	7.32	16.98	582	0.738	0.55	-34
		10:30	7.11	16.77	482	0.744	0.53	-27

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-12S	8/24/2018	10:03	7.54	14.06	NC	0.536	3.29	0.0
	8/27/2018	12:55	7.22	16.06	NC	0.526	4.21	-4
	9/6/2018	14:07	7.45	16.44	NC	0.725	3.72	28
PMW-12I	12/16/2015	14:20	6.34	9.79	100	0.877	-	0.21
	6/14/2016	12:40	7.38	10.51	22.5	0.469	0.63	47.2
		12:45	7.33	10.45	26.9	0.473	0.62	48
	9/21/2016	10:08	7.49	14.14	1679.8	0.559	1.64	-77.8
		10:12	7.44	14.26	1577.4	0.544	1.28	-65.1
	10/18/2016	14:50	7.68	14.88	460.7	0.658	3	62.7
		14:55	7.40	13.61	67	0.531	0.46	75.1
		15:00	7.35	13.24	71.8	0.528	0.35	90.5
	8/29/2017	13:27	7.01	15.96	352	0.563	0	-101
		13:32	6.93	14.94	1000	0.45	0	-66
		13:37	6.94	14.21	0	0.419	0	-56
		13:42	6.89	14.07	936	0.415	0	-46
	7/31/2018	10:40	7.16	16.59	1000	0.761	0.67	-12
		10:45	6.89	13.95	1000	0.610	0.55	-15
		10:50	6.86	11.85	1000	0.327	0.56	-11
		10:55	6.84	11.80	1000	0.323	0.55	-7
	8/24/2018	9:58	7.56	12.96	NC	0.575	3.26	-48
	8/27/2018	13:57	7.80	14.75	NC	0.413	7.12	73
	9/6/2018	14:00	7.40	15.61	NC	0.747	3.31	43
PMW-12D	12/10/2015	11:41	7.41	12.96	370	0.763	1.6	-441
		11:55	6.69	11.61	47.9	0.801	3.98	-474
		12:03	6.89	11.53	21.1	0.803	2.95	-460
	6/14/2016	12:05	7.56	11.13	808.4	0.567	0.74	45.5
		12:10	7.46	10.97	828.4	0.547	0.77	-15.4
		12:15	7.40	11.19	118.5	0.297	0.74	-8.6
		12:20	7.41	11.36	36.5	0.003	0.7	1.2
		12:24	7.43	17.56	18.3	0.002	0.53	7
	9/21/2016	10:21	7.52	13.86	1571.5	0.537	1.34	-84.1
		10:25	7.42	13.35	1565.1	0.53	1.12	-55.8
	10/18/2016	14:20	7.59	14.26	1335.6	0.62	2.38	-5.6
		14:25	7.24	12.05	1317.3	0.618	0.36	18.9
		14:30	7.24	11.94	1316.3	0.62	0.32	24.5
		14:35	7.30	11.71	1314.1	0.63	0.26	37.1
		14:40	7.32	11.69	1313.2	0.632	0.26	34
	3/30/2017	13:40	7.64	8.12	768.1	0.44	7.58	-10.9
		13:50	7.50	9.2	815.2	0.538	1.4	2.4
		13:55	7.47	9.52	769.1	0.546	0.98	10.4
	6/6/2017	9:00	6.52	10.57	19.9	0.738	0.79	-13.7

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-12D	6/6/2017	9:05	6.51	10.24	94.7	0.735	0.38	2.1
		9:10	6.62	10.12	470	0.74	0.34	5.9
		9:15	6.74	10.1	298	0.742	0.44	12.1
		9:20	6.78	10.19	300.1	0.743	0.42	11.8
		9:25	6.81	10.22	296.1	0.743	0.4	17.5
		9:30	6.81	10.3	290.9	0.743	0.39	19.9
	8/29/2017	13:04	7.42	17.82	471	0.638	0	-128
		13:09	7.08	15.23	444	0.676	0	-82
		13:14	6.97	13.92	303	0.693	0	-84
		13:19	6.92	13.81	154	0.696	0	-84
	11/14/2017	13:51	7.53	9.62	360.4	0.468	3.79	-50.7
		13:56	7.15	9.89	336.5	0.497	0.87	-50.6
		14:01	7.17	9.97	183.3	0.504	0.89	-45.4
		14:06	7.13	10.02	167.4	0.506	0.79	-41.8
		14:11	7.15	10.00	131.2	0.506	0.74	-40.1
	2/28/2018	8:34	7.37	7.48	403.8	0.475	0.98	121.6
		8:39	7.40	9.15	1158	0.579	0.4	115.6
		8:44	7.39	9.51	1151.8	0.605	0.39	114.6
		8:49	7.38	9.57	1161.3	0.610	0.38	113.8
	5/24/2018	8:30	7.30	11.68	55.6	0.656	6.02	-9.6
		8:35	7.25	11.46	119.4	0.664	5.00	15.3
		8:40	7.24	11.33	166.2	0.664	5.53	30.9
		8:45	7.25	11.39	113.9	0.665	5.32	33.6
	7/31/2018	11:09	7.04	17.92	754	0.840	2.34	-105
		11:14	6.81	16.70	163	0.824	0.87	-77
		11:19	6.78	16.52	52.9	0.828	0.83	-65
		11:24	6.77	16.27	22	0.834	0.76	-60
	8/24/2018	9:51	7.49	14.15	NC	0.614	4.95	-100
	8/27/2018	13:39	8.45	16.82	NC	0.539	18.35	90
	9/6/2018	13:52	7.50	15.48	NC	0.803	14.32	40
PMW-13S	12/8/2015	15:30	6.70	9.7	200	0.811	0	-322
		16:00	6.70	9.6	79	0.79	0	-320
	6/15/2016	10:57	7.49	11.55	278.5	0.474	1.42	194.3
		11:01	7.39	11	139.6	0.531	0.83	181.4
		11:03	7.31	11.19	834.2	0.537	0.52	176.5
	9/21/2016	13:02	7.50	19.35	231.6	0.651	3.07	-59.4
		13:06	7.31	18.33	592.6	0.617	1.4	-64.3
	10/19/2016	10:07	6.46	14.62	1063.3	0.597	1.17	77.8
		10:12	6.86	14.58	426.3	0.589	0.65	48.4
	3/31/2017	9:50	7.77	4.3	193.5	0.379	11.72	57.9

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-13S	3/31/2017	10:00	7.60	5.75	151	0.325	1.46	62.1
		10:05	7.61	5.9	13.5	0.32	0.81	62.7
	8/30/2017	7:57	7.58	16.47	0	0.538	3.43	33
		8:02	7.21	14.82	0	0.529	0	-2
		8:07	7.09	14.53	0	0.419	0	-42
		8:12	7.03	14.4	1000	0.339	0	-34
	11/14/2017	9:27	7.61	9.57	1328.5	0.624	4.56	-61.6
		9:32	7.23	10.92	701.4	0.427	0.96	-62.5
		9:37	7.22	11.18	461.8	0.41	1.05	-63.9
		9:42	7.19	11.31	440.3	0.398	0.94	-64.5
	2/28/2018	9:36	8.05	9.27	1156.2	0.483	2.38	111.1
		9:41	7.64	9.09	551.8	0.449	0.72	109.1
		9:46	7.54	9.41	338.6	0.427	0.68	107.5
		9:51	7.50	9.45	220.4	0.399	0.52	106.4
	5/23/2018	13:27	7.47	14.78	1557.4	0.686	4.63	1.2
		13:32	7.35	11.22	580.4	0.474	1.12	41.8
		13:39	7.36	11.11	417.1	0.461	1.13	48.9
	7/30/2018	11:36	7.12	17.53	1000	0.718	3.01	-1
		11:41	6.90	16.49	1000	0.71	1.23	-20
		11:46	6.86	15.92	1000	0.717	1.01	-25
		11:51	6.84	15.62	1000	0.633	0.94	-24
	8/24/2018	10:50	7.66	17.77	NC	0.485	3.34	-18
	8/29/2018	11:42	7.18	22.12	NC	0.658	3.82	7
	9/7/2018	11:45	7.32	15.53	NC	0.701	3.56	10
PMW-13I	12/8/2015	15:00	6.80	8.7	97	0.972	0.2	-107
		15:30	6.80	8.7	90	0.978	0	-101
	6/15/2016	10:28	7.42	10.21	839.7	0.279	1.35	137.4
		10:36	7.52	10.4	852.6	0.292	1.53	135.2
		10:40	7.36	9.99	840.3	0.319	1.14	139.4
		10:44	7.27	10.01	842.3	0.324	1	141.8
	9/21/2016	13:16	7.57	19.08	156.1	0.566	2.33	-70.5
		13:20	7.49	18.07	1625	0.546	2.49	-58.3
		13:24	7.45	17.05	1631.6	0.54	0.98	-15.8
	10/19/2016	9:39	6.47	14.27	971.1	0.553	3.6	69
		9:44	7.02	13.3	7.3	0.38	0.84	74.2
	8/30/2017	8:20	7.02	14.87	0	0.561	0	25
		8:25	6.95	13.76	1000	0.319	0	30
		8:30	6.93	13.37	1000	0.356	0	29
	7/31/2018	12:01	6.95	18.42	1000	0.665	1.89	16
		12:06	6.90	18.05	769	0.428	0.59	9
		12:11	6.86	15.65	1000	0.376	0.54	6

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-13I	7/31/2018	12:16	6.84	13.9	1000	0.281	0.61	5
	8/24/2018	10:54	7.60	17.25	NC	0.429	4.17	-46
	8/29/2018	11:52	7.27	21.60	NC	0.453	3.48	52
	9/7/2018	11:51	7.27	17.61	NC	0.567	4.41	68
PMW-13D	12/8/2015	11:30	6.60	8.7	75	0.972	0	-97
		13:50	6.60	8.7	25	0.971	0	-87
	6/15/2016	10:10	7.85	10.74	833.6	0.499	1.3	136.5
		10:15	7.36	10.44	832.4	0.497	0.76	147.6
		10:20	7.16	10.21	830.6	0.495	0.65	150.3
	9/21/2016	13:38	8.5	21.95	175.8	0.582	2.98	-74.7
		13:42	7.75	19.89	479.6	0.559	1.44	-99.4
		13:48	7.50	18.21	954.5	0.552	0.97	-65.4
	10/19/2016	9:14	6.64	12.11	1309.1	0.628	2.86	92.9
		9:19	6.63	11.77	1306.2	0.596	0.77	79.1
		9:24	6.72	11.6	1304.5	0.587	0.49	72.5
	6/5/2017	15:35	7.46	14.65	1118.4	0.679	3.88	18.6
		15:40	7.27	13.82	1115.6	0.664	2.29	20.3
		15:45	7.15	13.46	1114.4	0.656	1.62	28.5
		15:50	7.14	13.59	1114.9	0.639	1.22	34.5
		15:55	7.15	13.6	1114	0.635	1.2	35.8
		16:00	7.17	13.65	1117	0.67	1.18	36.2
	8/30/2017	8:42	7.13	14.25	358	0.538	0	-142
		8:47	6.99	13.44	339	0.54	0	-144
		8:52	6.96	12.74	245	0.548	0	-120
		8:57	6.95	12.67	235	0.542	0	-115
	7/31/2018	12:22	6.96	17.37	219	0.601	1.61	-74
		12:27	6.85	17.49	98.1	0.602	0.52	-77
		12:32	6.85	17.32	83	0.602	0.42	-69
		12:37	6.82	17.06	71	0.606	0.6	-59
	8/24/2018	10:59	7.64	16.77	NC	0.411	2.93	-62
	8/29/2018	11:59	7.29	19.05	NC	0.573	3.47	42
	9/7/2018	12:00	7.46	13.47	NC	0.589	3.38	56
PMW-14S	-	16:17	6.80	10.47	160	0.896	10.85	-18
		16:20	6.80	10.44	20.6	0.896	8.77	-20
	6/15/2016	12:31	7.16	15.95	16.3	0.528	2.11	-24.1
	9/19/2016	14:36	7.68	24.14	1442.6	0.199	5.51	-8.5
		14:39	7.73	24.1	1589.3	0.321	3.5	-47.2
	8/31/2017	9:42	6.24	19.43	800	0.523	1.27	-74
		9:47	6.43	19.29	355	0.544	1.36	-84
	7/31/2018	9:23	6.65	21.65	214	0.642	2.82	-34.9
PMW-14I	12/21/2015	14:35	6.90	13.7	273	0.977	0	111

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-14I	12/21/2015	14:40	6.91	13.92	225	0.98	0	61
		14:45	6.9	14.14	210	0.977	0	31
		14:50	6.99	14.15	210	0.975	0	16
		14:55	7.00	14.43	200	0.976	0	4
	6/16/2016	12:17	6.93	15.03	859.7	0.758	2.4	60.4
		12:22	6.88	15.58	862.7	0.769	1.69	50.9
		12:26	6.82	14.08	853.7	0.733	1.04	46.3
	9/19/2016	14:46	7.09	18.95	416.2	0.652	1.88	15.8
		14:49	6.96	17.36	1615.9	0.579	1.12	24.9
		14:52	6.93	17.26	1183.5	0.57	0.95	25.3
	10/17/2016	11:53	7.13	18.31	2267.3	0.778	2.55	-13.7
		11:58	6.99	17.58	2252.8	0.749	0.69	-31.5
		12:03	6.98	17.42	2250.3	0.748	0.51	-44.47
	8/31/2017	9:52	6.85	18.32	605	0.778	0	-72
		9:57	6.60	17.84	522	0.751	0	-79
		10:02	6.56	17.09	450	0.725	0	-78
		10:07	6.54	16.94	409	0.715	0	-79
	7/31/2018	8:55	6.80	17.06	1258.3	0.905	2.34	-31.3
		9:00	6.73	15.94	1267.1	0.845	0.46	-32.6
		9:05	6.70	15.71	1251.6	0.837	0.23	-41.3
		9:10	6.69	15.68	1245.7	0.835	0.19	-49.0
PMW-14D	12/21/2015	15:00	7.17	14.38	109	1.16	0	62
		15:05	7.13	14.49	92.3	1.16	0	32
		15:15	7.13	14.6	74.9	1.16	0	29
	6/16/2016	11:57	8.16	17.84	874.3	0.647	6.24	44.8
		12:02	7.44	15.71	568.3	0.864	2.63	53.6
		12:07	7.14	15.29	407.2	0.885	2.25	57.7
	9/19/2016	15:02	7.59	16.97	1610	0.719	1.9	32
		15:05	7.30	16.03	1598.6	0.75	1.21	36.6
		15:08	7.25	15.63	1649.4	0.66	1.16	42.3
	10/17/2016	11:16	6.58	17	2238.6	0.886	2.06	-18.8
		11:21	6.88	16.06	2223.1	0.858	1.58	-26.1
		11:26	7.04	15.74	2217.1	0.836	1.7	-23.6
	8/31/2017	9:34	7.15	17.87	277	0.638	1.39	-14
		9:39	6.88	17.97	934	0.759	0	15
		9:44	6.87	17.47	619	0.811	0	23
	7/31/2018	8:35	7.66	17.52	975.6	0.489	5.06	-23.5
		8:40	7.02	16.44	1092.4	0.843	1.52	-16.4
		8:45	7.02	16.07	442.6	0.859	1.65	-18.9
		8:50	7.04	16.36	348.7	0.867	1.59	-21.0
PMW-15S	12/21/2015	15:58	7.04	13.8	461	0.743	4.35	-6

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-15S	6/16/2016	10:01	6.93	17.21	873.2	0.523	1.4	-80.1
		10:05	6.86	16.02	865.1	0.005	0.52	-98.6
	9/19/2016	11:48	6.74	23	1580.4	0.348	2.51	-37.8
		11:51	6.80	20.2	1653.4	0.342	1.74	-49.8
		11:53	6.81	21.3	1667.4	0.345	0.82	-58.2
	10/17/2016	15:22	7.19	20.32	2237	0.534	2.82	-70.9
	8/31/2017	7:45	6.29	18.98	0	0.488	3.45	-158
		7:50	6.63	18.61	0	0.498	1.67	-188
		7:55	6.62	18	474	0.496	1.34	-185
		8:00	6.63	17.55	800	0.503	1.19	-191
	7/30/2018	14:09	6.74	20.28	848.5	0.534	0.86	-79.6
		14:14	6.71	20.40	1287.2	0.525	0.37	-78
		14:19	6.70	20.38	1306.7	0.526	0.34	-71.1
		14:24	6.69	20.41	1313.9	0.527	0.29	-68.7
PMW-15I	12/21/2015	12:40	6.59	14.37	32.0	1.09	0.85	13
		12:55	6.73	14.66	24.4	1.09	0	4
	6/16/2016	9:50	7.22	18.82	694.6	0.659	2.79	59.2
		9:54	7.09	15.29	328.1	0.646	1.74	56.5
	9/19/2016	12:18	6.51	21.37	450.9	0.191	6.44	-10.3
		12:21	9.78	17.86	138.4	0.164	4.5	35.9
	10/17/2016	15:06	8.22	18.71	2256.3	0.292	7.63	-34.7
		15:11	7.74	17.55	1897.6	0.4	3.9	-42.4
		15:14	7.54	17.4	1300.2	0.488	2.76	-46.2
	8/31/2017	8:09	6.93	17.15	0	0.508	1.45	-2
		8:14	6.55	16.06	0	0.56	0	-20
		8:19	6.49	15.92	0	0.572	0	-17
		8:24	6.44	15.93	854.0	0.582	0	-11
	7/30/2018	13:46	7.01	18.82	238.5	0.481	1.76	50.4
		13:51	6.85	17.33	892.8	0.524	0.52	39.1
		13:56	6.78	17.01	368.9	0.547	0.37	36.1
		14:01	6.76	16.94	350.1	0.555	0.33	34.2
PMW-15D	12/22/2015	13:15	7.29	13.55	279	0.833	7	1.11
		13:20	7.28	13.72	265	0.831	-6	0
		13:25	7.29	13.7	202	0.829	-10	0
	6/16/2016	9:23	9.38	17.35	874.1	0.597	3.49	128.1
		9:28	7.92	14.36	343.2	0.349	1.16	124.1
		9:33	7.52	14.35	92.9	0.667	1.27	116
		9:37	7.29	14.29	29.6	0.004	6.8	105.4
	9/19/2016	12:30	8.07	18.97	775.6	0.571	3.11	126.4
		12:34	7.53	16.65	130.8	0.623	0.5	107.9
		12:38	7.37	16.23	69.6	0.62	0.36	94.3

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-15D	10/17/2016	14:34	7.52	18.58	2121.2	0.593	4.89	-45.3
		14:39	7.37	16.01	1304.1	0.669	1.15	-61.3
		14:44	7.32	15.74	570.3	0.687	0.71	-70.6
	8/31/2017	7:40	7.25	19.18	32.2	0.589	2.3	82
		7:45	6.99	17.36	5.1	0.639	0	73
		7:50	6.94	17.14	3.1	0.645	0	51
		7:55	6.87	16.92	0	0.647	0	44
	7/30/2018	13:25	7.26	19.70	32.1	0.663	0.00	14.2
		13:30	6.88	17.03	202.6	0.771	0.35	27.1
		13:35	6.82	16.67	23.2	0.778	0.23	32.3
		13:40	6.81	16.42	46.6	0.779	0.19	33.7
PMW-24S	6/15/2016	11:15	7.32	18.16	879	0.279	3.84	-42.6
		11:20	7.33	18.61	882.2	0.276	2.53	-33.1
		11:25	7.34	21.28	178.3	0.29	1.79	-26.8
		11:30	7.34	22.63	88.9	0.302	2.17	-18.6
	9/19/2016	13:30	6.76	22.3	654.3	0.412	2	-18.3
		13:40	6.67	20.03	352.4	0.367	2.24	-25.4
		13:45	6.61	19.61	58.1	0.354	1.57	-29.6
		13:48	6.64	20.1	30.8	0.359	1.16	-39.9
	10/17/2016	12:55	7.32	19.49	1320.3	0.277	2.43	-132.1
		13:00	7.09	19.37	374.2	0.267	2.06	-52.9
		13:05	7.05	19.42	212.7	0.271	1.58	-63.6
		13:10	7.02	19.23	234.1	0.284	0.99	-85.4
		13:15	7.01	19.08	155.9	0.294	0.75	-92.5
		13:20	7.02	18.96	102.9	0.305	0.74	-92.8
	8/31/2017	8:45	6.33	17.66	237	0.408	2.78	-61
		8:50	6.37	17.6	132	0.381	1.54	-72
		8:55	6.47	17.76	101	0.396	1.18	-85
		9:00	6.49	17.76	91.8	0.438	1.08	-101
		9:05	6.56	17.73	79.7	0.49	0.96	-111
	7/30/2018	15:30	6.98	17.97	42.5	0.179	1.11	-2.3
		15:35	6.84	18.185	33.4	0.172	0.29	2.4
		15:40	6.75	17.85	35	0.187	0.15	-22.2
		15:45	6.69	17.63	74.3	0.193	0.18	-33.6
		15:50	6.67	17.59	76.1	0.196	0.21	-40.1
PMW-24I	12/22/2015	11:17	7.08	14.19	67.1	0.786	0	-65.0
	6/15/2016	10:57	7.33	14.43	856.1	0.404	1.03	-88.2
		11:02	7.13	14.02	778.9	0.411	0.84	-93.1
		11:07	7.11	13.92	341.9	0.413	0.55	-96.9
	9/19/2016	14:03	7.32	17.09	510.4	0.382	0.89	-86.7
		14:06	7.22	16.21	106.5	0.387	0.36	-89.6
	10/17/2016	14:08	7.42	16.98	2144.6	0.426	1.33	-86.4
		14:13	7.31	16.62	994.8	0.421	0.47	-90.5

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-24I	10/17/2016	14:18	7.28	16.47	134.9	0.425	0.34	-92.5
		14:23	7.28	16.29	86.7	0.424	0.31	-93.1
	8/31/2017	9:00	7.16	17.58	703	0.385	0	-121
		9:05	6.84	16.77	252	0.384	0	-97
		9:10	6.78	16.86	229	0.39	0	-101
	7/30/2018	15:08	6.99	18.13	288.3	0.491	1.39	-29.1
		15:13	6.82	15.94	494.6	0.468	0.25	-38.4
		15:18	6.83	15.61	221.7	0.459	0.18	-40.2
		15:23	6.84	15.54	136.9	0.453	0.14	-43.6
PMW-24D	12/22/2015	10:53	7.80	13.70	26.6	0.784	1.58	-145
		10:58	7.53	13.90	20.8	0.779	0.92	-152
	6/15/2016	10:38	7.61	15.89	133.8	0.622	1.26	-126
		10:43	7.55	15.34	37.4	0.633	0.78	-143.1
		10:48	7.48	14.98	7.6	0.348	0.67	-135.9
	9/19/2016	14:19	7.51	18.08	146.8	0.625	0.66	-145.5
		14:22	7.54	16.41	41.1	0.61	0.43	-154.5
		14:25	7.54	16.13	27	0.602	0.33	-159.8
	10/17/2016	13:36	7.38	16.68	1814.1	0.681	3.02	-111.4
		13:41	7.55	15.68	150	0.683	0.55	-133.2
		13:46	7.61	15.52	28.2	0.683	0.36	-139.4
		13:51	7.64	15.51	21.6	0.683	0.34	-140.1
		13:56	7.65	15.51	20	0.684	0.34	-141.2
		14:01	7.65	15.53	24.8	0.684	0.32	-141.4
	6/7/2017	13:30	7.90	16.21	22.2	0.006	7.02	20.2
		13:35	7.62	14.86	4.1	0.311	3.36	31.7
		13:40	7.44	14.8	13.1	0.425	1.62	-122.3
		13:45	7.42	14.9	25.6	0.498	0.93	-154.2
		13:50	7.44	14.99	17.4	0.506	0.9	-164.2
		13:55	7.45	15.03	16.1	0.51	0.82	-164.4
		14:00	7.45	15.06	16	0.515	0.79	-164.7
	8/31/2017	8:41	7.06	16.97	225	0.549	0	-176
		8:46	7.08	16.39	63	0.554	0	-195
		8:51	7.10	16.4	22.9	0.556	0	-200
	11/16/2017	8:30	7.69	13.59	1344.6	0.420	4.39	-106.8
		8:35	7.51	13.79	302.7	0.447	3.89	-146.5
		8:40	7.49	13.86	114.3	0.456	4.49	-155.4
		8:45	7.49	13.85	62.4	0.46	4.73	-159.2
		8:50	7.49	13.87	27.9	0.464	4.77	-161.4
	3/1/2018	8:21	7.99	11.37	106.5	0.453	0	12.7
		8:26	7.83	11.5	24.7	0.467	0.95	-90.1
		8:31	7.77	11.35	10.2	0.468	0.84	-106.2

TABLE 8

Historical Groundwater Quality Parameters

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road
Syracuse, New York

Well	Date	Time	pH	Temp. (°C)	Turbidity (NTU)	SC (µS/cm)	DO (mg/L)	ORP (mV)
PMW-24D	3/1/2018	8:36	7.74	11.66	5.3	0.471	0.94	-114.6
		8:41	7.72	11.89	3.4	0.474	0.65	-121.2
		8:46	7.70	11.96	2.5	0.476	0.64	-126.8
	5/24/2018	10:16	7.62	16.93	6.9	0.599	4.5	-131.2
		10:21	7.60	15.38	4.7	0.573	2.13	-155.3
		10:26	7.60	15.30	-5.6	0.572	2.16	-158.2
	7/30/2018	14:50	7.40	17.63	18.7	0.612	1.63	-116.7
		14:55	7.37	17.01	7.2	0.612	0.51	-140.4
		15:00	7.37	17.09	2.8	0.61	0.3	-145.7
		15:05	7.37	17.18	2.7	0.609	0.26	-150.6

Notes:
1. Data prior to June 2016 was not collected by AECOM.
2. NC - Not Collected

°C - degrees Celsius
NTU - nephelometric turbidity unit
SC - specific conductivity
µS/cm - microSiemens per centimeter
DO - dissolved oxygen
mg/L - milligrams per liter
ORP - oxygen reduction potential
mV - millivolts

TABLE 9

Groundwater Analytical Data
Volatile Organic Compounds - Post-ISCO Pilot Test

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location		Baseline MW-29 12/01/2017			3-Month Post-ISCO MW-29 2/28/2018			6-Month Post-ISCO MW-29 5/21/18			9-Month Post-ISCO MW-29 7/31/18			Baseline MW-30 12/01/2017			3-Month Post-ISCO MW-30 2/28/2018			6-Month Post-ISCO MW-30 5/21/18			9-Month Post-ISCO MW-30 8/2/18		
VOCs by Methods 8260C	*SCGs (µg/L)*	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
1,1,1-Trichloroethane	5	0.40	J	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	0.39	J	1	0.27	J	1	0.29	J	1
1,1,2-Trichloroethane	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	0.34	J	1
1,1-Dichloroethane	5	**19**	--	1	0.22	J	1	0.23	J	1	0.31	J	1	**40**	--	1	**9.1**	--	1	**15**	--	1	**47**	--	1
1,1-Dichloroethene	5	**40**	--	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	**72**	--	1	**11**	--	1	ND<1.0	U	1	ND<1.0	U	1
1,2,4-Trimethylbenzene	5	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1
1,2-Dichloroethane	0.6	**2.0**	--	1	ND<1.0	J	1	ND<1.0	U	1	ND<1.0	--	1	**3.5**	--	1	**0.61**	J	1	**1.0**	--	1	**3.9**	--	1
1,3,5-Trimethylbenzene	5	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1
1,4-dioxane	--	30	J	1	ND<40	U	1	ND<40	U	1	ND<40	J	1	55	--	1	ND<40	U	1	16	J	1	51	--	1
Acetone	50 *	5.2	--	1	**150**	--	1	**55**	--	1	**74**	--	1	7.1	--	1	31	--	1	31	--	1	34	--	1
Benzene	1	0.29	J	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	0.48	J	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1
Chloroethane	5	2.1	--	1	ND<1.0	J	1	ND<1.0	U	1	ND<1.0	U	1	**5.4**	--	1	0.37	J	1	0.49	J	1	1.8	--	1
Ethylbenzene	5	1.5	--	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1
Naphthalene	10	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1
Toluene	5	**7.5**	--	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	0.57	J	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1
Trichloroethene	5	1.7	--	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	3.8	--	1	3.5	--	1	0.83	J	1	2.0	--	1
Trichlorofluoromethane	5	ND<1.0	U	1	ND<1.0	J	1	ND<1.0	U	1	ND<1.0	U	1	0.48	J	1	0.42	J	1	ND<1.0	U	1	ND<1.0	U	1
Vinyl chloride	2	0.32	J	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	0.44	J	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1
cis-1,2-dichloroethene	5	0.46	J	1	ND<1.0	J	1	ND<1.0	U	1	ND<1.0	J	1	1.4	--	1	0.64	J	1	ND<1.0	U	1	0.27	J	1
m,p-Xylene	5	**6.8**	--	1	ND<2.0	U	1	ND<2.0	U	1	ND<2.0	U	1	1.1	J	1	ND<2.0	U	1	ND<2.0	U	1	ND<2.0	U	1
o-Xylene	5	2.5	--	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	0.24	J	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1
trans-1,2-dichloroethene	5	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1	ND<1.0	U	1
Total VOCs	--	119.8	--	--	150	--	--	55	--	--	74	--	--	191.5	--	--	57.0	--	--	64.6	--	--	140.6	--	--

Notes:
SCGs - Standards, Criteria and Guidelines (µg/L).
SCGs are provided for New York Department of Environmental Conservation (NYSDEC) Technical & Operational Guidance Series for Ambient Water Quality Standards and Guidance Values 1.1.1 unless otherwise state
* Guidance Value (µg/L) New York State Ambient Water Quality Standards and Guidance Values
ND - Not detected at the Method Reporting Limit (MDL)
-- indicates 'blank cell'.
Bold values represent compound exceedance of the identified SCG
U - Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrativ
J - Estimated value due to either being a Tentatively Identified Compound or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibratio

TABLE 9

Groundwater Analytical Data
Volatile Organic Compounds - Post-ISCO Pilot Test

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location		Baseline MW-31 11/28/17			3-Month Post-ISCO MW-31 3/01/18			6-Month Post-ISCO MW-31 5/22/18			9-Month Post-ISCO MW-31 8/2/18			Baseline PMW-4D 11/15/17			3-Month Post-ISCO PMW-4D 2/27/18			6-Month Post-ISCO PMW-4D 5/22/18			9-Month Post-ISCO PMW-4D 8/2/18		
VOCs by Methods 8260C	*SCGs (µg/L)*	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
1,1,1-Trichloroethane	5	**1,400**	--	500	**4,200**	--	250	**2,600**	--	500	**1,200**	--	500	ND<5.0	U	5	ND<5.0	U	5	1.5	--	1	1.5	--	1
1,1,2-Trichloroethane	1	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	ND<5.0	U	5	ND<5.0	U	5	0.43	J	1	0.41	J	1
1,1-Dichloroethane	5	**230**	J	500	**930**	--	250	**570**	--	500	**160**	J	500	**130**	--	5	**160**	--	5	**99**	--	1	**110**	--	1
1,1-Dichloroethene	5	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	**470**	--	5	**470**	--	5	**180**	D	2.5	**190**	D	2
1,2,4-Trimethylbenzene	5	ND<500	U	500	**73**	J	250	**320**	J	500	ND<500	U	500	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
1,2-Dichloroethane	0.6	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	**18**	--	5	**21**	--	5	**12**	--	1	**14**	--	1
1,3,5-Trimethylbenzene	5	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
1,4-dioxane	--	ND<2000	U	500	ND<1000	U	250	ND<2000	U	500	ND<2000	U	500	300	--	5	360	--	5	230	--	1	200	--	1
Acetone	50 *	ND<2500	U	500	ND<1300	U	250	ND<2500	U	500	ND<2500	U	500	ND<25	U	5	ND<25	U	5	6.9	--	1	9.2	--	1
Benzene	1	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	**2.8**	J	5	**3.2**	J	5	**2.0**	--	1	**1.9**	--	1
Chloroethane	5	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	**49**	--	5	**50**	--	5	**36**	--	1	**35**	--	1
Ethylbenzene	5	**6,500**	--	500	**6,900**	--	250	**13,000**	--	500	**7,300**	--	500	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Naphthalene	10	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Toluene	5	**46,000**	--	500	**64,000**	D	250	**68,000**	--	500	**49,000**	--	500	ND<5.0	U	5	ND<5.0	U	5	0.26	J	1	ND<1.0	U	1
Trichloroethene	5	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	**13**	--	5	**14**	--	5	**10**	--	1	**12**	--	1
Trichlorofluoromethane	5	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	2.2	J	5	2.7	J	5	2.6	--	1	2.1	--	1
Vinyl chloride	2	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	**2.2**	J	5	**2.2**	J	5	1.7	--	1	1.3	--	1
cis-1,2-dichloroethene	5	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	4.1	J	5	4.6	J	5	2.8	--	1	2.7	--	1
m,p-Xylene	5	**32,000**	--	500	**32,000**	--	250	**68,000**	--	500	**38,000**	--	500	ND<10	U	5	ND<10	U	5	ND<2.0	U	1	ND<2.0	U	1
o-Xylene	5	**9,700**	--	500	**9,000**	--	250	**17,000**	--	500	**9,900**	--	500	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
trans-1,2-dichloroethene	5	ND<500	U	500	ND<250	U	250	ND<500	U	500	ND<500	U	500	ND<5.0	U	5	ND<5.0	U	5	ND<1.0	U	1	ND<1.0	U	1
Total VOCs	--	95,830	--	--	117,103	--	--	169,490	--	--	105,560	--	--	991.3	--	--	1,088	--	--	585.2	--	--	580.1	--	--

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TABLE 9

Groundwater Analytical Data
Volatile Organic Compounds - Post-ISCO Pilot Test

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location		Baseline PMW-5D 11/15/17			3-Month Post-ISCO PMW-5D 2/27/18			6-Month Post-ISCO PMW-5D 5/22/18			9-Month Post-ISCO PMW-5D 8/1/18			Baseline PMW-6D 11/15/17			3-Month Post-ISCO PMW-6D 2/27/18			6-Month Post-ISCO PMW-6D 5/22/18			9-Month Post-ISCO PMW-6D 8/1/18		
VOCs by Methods 8260C	*SCGs (µg/L)*	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
1,1,1-Trichloroethane	5	ND<5.0	U	5	ND<5.0	U	5	2.4	J	5	ND<5	U	5	2.4	J	5	3.8	DJ	10	ND<5.0	U	5	1.6	J	5
1,1,2-Trichloroethane	1	**2.2**	J	5	**2.7**	J	5	**5.3**	--	5	**3.3**	J	5	**4.3**	J	5	**6.2**	DJ	10	**2.2**	J	5	**3.4**	J	5
1,1-Dichloroethane	5	**300**	--	5	**390**	--	5	**450**	--	5	**390**	--	5	**380**	--	5	**640**	D	10	**290**	--	5	**370**	--	5
1,1-Dichloroethene	5	**630**	--	5	**680**	--	5	**970**	--	5	**760**	--	5	**900**	--	5	**1,200**	D	10	**450**	--	5	**780**	--	5
1,2,4-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5	U	5	ND<5.0	U	5	ND<10	U	10	ND<5.0	U	5	ND<5.0	U	5
1,2-Dichloroethane	0.6	**21**	--	5	**23**	--	5	**24**	--	5	**24**	--	5	**25**	--	5	**35**	D	10	**17**	--	5	**22**	--	5
1,3,5-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5	U	5	ND<5.0	U	5	ND<10	U	10	ND<5.0	U	5	ND<5.0	U	5
1,4-dioxane	--	340	--	5	430	--	5	430	--	5	350	--	5	410	--	5	740	D	10	300	--	5	380	--	5
Acetone	50 *	ND<25	U	5	ND<25	U	5	ND<25	U	5	ND<25	U	5	6.4	J	5	ND<50	J	10	ND<25	U	5	ND<25	U	5
Benzene	1	**2.6**	J	5	**3.4**	J	5	**5.3**	--	5	**3.7**	J	5	**4.8**	J	5	**7.8**	DJ	10	**2.2**	J	5	**4.3**	J	5
Chloroethane	5	**6.1**	--	5	**12**	--	5	2.9	J	5	4.7	J	5	2.5	J	5	4.1	DJ	10	**7.4**	--	5	3.3	J	5
Ethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5	U	5	ND<5.0	U	5	ND<10	U	10	ND<5.0	U	5	ND<5.0	U	5
Naphthalene	10	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5	U	5	ND<5.0	U	5	ND<10	U	10	ND<5.0	U	5	ND<5.0	U	5
Toluene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5	U	5	ND<5.0	U	5	ND<10	U	10	ND<5.0	U	5	ND<5.0	U	5
Trichloroethene	5	**21**	--	5	**23**	--	5	**29**	--	5	**21**	--	5	**29**	--	5	**39**	D	10	**18**	--	5	**25**	--	5
Trichlorofluoromethane	5	3.3	J	5	4.1	J	5	**6.8**	--	5	3.2	J	5	**8.0**	--	5	**11**	D	10	2.5	J	5	**6.0**	--	5
Vinyl chloride	2	ND<5.0	U	5	ND<5.0	U	5	**2.1**	J	5	1.3	J	5	1.9	J	5	ND<10	U	10	ND<5.0	U	5	1.8	J	5
cis-1,2-dichloroethene	5	ND<5.0	U	5	ND<5.0	U	5	**5.0**	--	5	1.9	J	5	2.0	J	5	4.5	DJ	10	1.4	J	5	4.7	J	5
m,p-Xylene	5	ND<10	U	5	ND<10	U	5	ND<10	U	5	ND<10	U	5	ND<10	U	5	ND<20	U	10	ND<10	U	5	ND<10	U	5
o-Xylene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<10	U	10	ND<5.0	U	5	ND<5.0	U	5
trans-1,2-dichloroethene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<10	U	10	ND<5.0	U	5	ND<5.0	U	5
Total VOCs	--	1,326.2	--	--	1,568	--	--	1,932.8	--	--	1,563.1	--	--	1,776.3	--	--	2,691	--	--	1,090.7	--	--	1,602.1	--	--

Notes:
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ND - Not detected at the Method Reporting Limit (MDL)
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Bold values represent compound exceedance of the identified SCG
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TABLE 9

Groundwater Analytical Data
Volatile Organic Compounds - Post-ISCO Pilot Test

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location		**Baseline PMW-9D 11/15/17**			**3-Month Post-ISCO PMW-9D 2/27/18**			**6-Month Post-ISCO PMW-9D 5/22/18**			**9-Month Post-ISCO PMW-9D 8/1/18**			**Baseline PMW-10D 11/14/17**			**3-Month Post-ISCO PMW-10D 2/27/18**			**6-Month Post-ISCO PMW-10D 5/23/18**			**9-Month Post-ISCO PMW-10D 8/1/18**		
VOCs by Methods 8260C	*SCGs (µg /L)*	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Diution	Result	Qualifier	Diution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
1,1,1-Trichloroethane	5	2.5	J	5	**2.9**	J	5	2.4	J	5	2.1	J	5	4.0	J	5	4.1	J	5	2.8	J	5	2.7	J	5
1,1,2-Trichloroethane	1	**3.6**	J	5	**5.2**	--	5	4.1	J	5	**4.3**	J	5	**2.3**	J	5	**3.0**	J	5	**3.0**	J	5	**2.9**	J	5
1,1-Dichloroethane	5	**330**	--	5	**470**	--	5	**360**	--	5	**430**	--	5	**280**	--	5	**370**	--	5	**300**	--	5	**310**	--	5
1,1-Dichloroethene	5	**780**	--	5	**920**	--	5	**840**	--	5	**920**	--	5	**670**	--	5	**690**	--	5	**720**	--	5	**690**	--	5
1,2,4-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5
1,2-Dichloroethane	0.6	**23**	--	5	**31**	--	5	**21**	--	5	**28**	--	5	**20**	--	5	**24**	--	5	**17**	--	5	**21**	--	5
1,3,5-Trimethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5
1,4-dioxane	--	310	--	5	470	--	5	420	--	5	450	--	5	400	--	5	500	--	5	360	--	5	370	--	5
Acetone	50 *	ND<25	U	5	ND<25	U	5	ND<25	U	5	ND<25	U	5	6.6	J	5	7.3	J	5	ND<25	U	5	ND<25	U	5
Benzene	1	**4.3**	J	5	**5.8**	--	5	**4.3**	J	5	**4.7**	J	5	**3.5**	J	5	**4.3**	J	5	**4.1**	J	5	3.7	J	5
Chloroethane	5	2.6	J	5	**5.5**	--	5	4.1	J	5	3.8	J	5	2.1	J	5	2.9	J	5	2.4	J	5	2.0	J	5
Ethylbenzene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5
Naphthalene	10	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5
Toluene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5
Trichloroethene	5	**28**	--	5	**34**	--	5	**30**	--	5	**30**	--	5	**45**	--	5	**51**	--	5	**39**	--	5	**38**	--	5
Trichlorofluoromethane	5	**6.1**	--	5	**9.9**	--	5	**6.3**	--	5	**6.8**	--	5	**12**	--	5	**13**	--	5	**9.2**	--	5	**9.1**	--	5
Vinyl chloride	2	ND<5.0	U	5	**2.3**	J	5	1.8	J	5	1.8	J	5	ND<5.0	U	5	1.8	J	5	1.5	J	5	1.6	J	5
cis-1,2-dichloroethene	5	2.4	J	5	2.4	J	5	2.0	J	5	2.7	J	5	3.3	J	5	3.3	J	5	2.3	J	5	2.0	J	5
m,p-Xylene	5	ND<10	U	5	ND<10	U	5	ND<10	U	5	ND<10	U	5	ND<10	U	5	ND<10	U	5	ND<10	U	5	ND<10	U	5
o-Xylene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5
trans-1,2-dichloroethene	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5	ND<5.0	U	5
Total VOCs	--	1,492.5	--	--	1,959.0	--	--	1,696.0	--	--	1,884.2	--	--	1,448.8	--	--	1,675	--	--	1,461.3	--	--	1,453.0	--	--

Notes:
SCGs - Standards, Criteria and Guidelines (µg/L).
SCGs are provided for New York Department of Environmental Conservation (NYSDEC) Technical & Operational Guidance Series for Ambient Water Quality Standards and Guidance Values 1.1.1 unless otherwise state
* Guidance Value (µg/L) New York State Ambient Water Quality Standards and Guidance Values
ND - Not detected at the Method Reporting Limit (MDL)
-- indicates 'blank cell'.
Bold values represent compound exceedance of the identified SCG
U - Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrativ
J - Estimated value due to either being a Tentatively Identified Compound or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibratio

TABLE 10

Groundwater Analytical Data
Geochemical Parameters - Post-ISCO Pilot Test

LOCKHEED MARTIN CORPORATION
Former GE Farrell Road Site
Syracuse, New York

Sample Location	Baseline MW-29 12/01/2017			3-Month Post-ISCO Pilot Test MW-29 2/28/2018			6-Month Post-ISCO Pilot Test MW-29 5/21/2018			9-Month Post-ISCO Pilot Test MW-29 7/31/2018			Baseline MW-30 12/01/2017			3-Month Post-ISCO Pilot Test MW-30 2/28/2018			6-Month Post-ISCO Pilot Test MW-30 5/21/2018			9-Month Post-ISCO Pilot Test MW-30 8/1/2018		
	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
Method 7199 (µg/L)																								
Hexavalent Chromium	ND<10	U	1	212	--	1	66	--	1	78	--	1	ND<10	U	1	82	--	1	101	--	1	63	--	1
Method 9056A (mg/L)																								
Sulfate	56.6	--	10	1,310	--	400	815	--	200	1,040	--	400	338	--	40	1,000	--	200	1,230	--	200	681	--	200
Method 6010C (mg/L)																								
Potassium (Dissolved)	3.9	--	1	3,950	--	100	1,830	--	50	2,540	--	100	14.4	--	1	742	--	10	1,020	--	50	643	--	10
Sodium (Dissolved)	30.3	--	1	432	--	10	138	--	1	96.5	--	1	35.3	--	1	492	--	10	567	--	50	317	--	10

Sample Location	Baseline PMW-4D 12/01/2017			3-Month Post-ISCO Pilot Test PMW-4D 2/27/2018			6-Month Post-ISCO Pilot Test PMW-4D 5/22/2018			9-Month Post-ISCO Pilot Test PMW-4D 8/2/2018			Baseline PMW-5D 12/01/2017			3-Month Post-ISCO Pilot Test PMW-5D 2/27/2018			6-Month Post-ISCO Pilot Test PMW-5D 5/22/2018			9-Month Post-ISCO Pilot Test PMW-5D 8/1/2018		
	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
Method 7199 (µg/L)																								
Hexavalent Chromium	ND<10	U	1	ND<10	U	1	ND<10	U	1	11	--	1	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1
Method 9056A (mg/L)																								
Sulfate	32.1	--	10	186	--	40	515	--	100	396	--	40	23.2	--	10	146	--	40	23.8	--	10	26.1	--	10
Method 6010C (mg/L)																								
Potassium (Dissolved)	ND<2	U	1	ND<2	U	1	ND<2	U	1	39.1	--	1	ND<2	U	1	ND<2	U	1	ND<2	U	1	ND<2	U	1
Sodium (Dissolved)	43.7	--	1	43.5	--	1	160	--	1	113	--	1	31.8	--	1	29.4	--	1	30.7	--	1	28.4	--	1

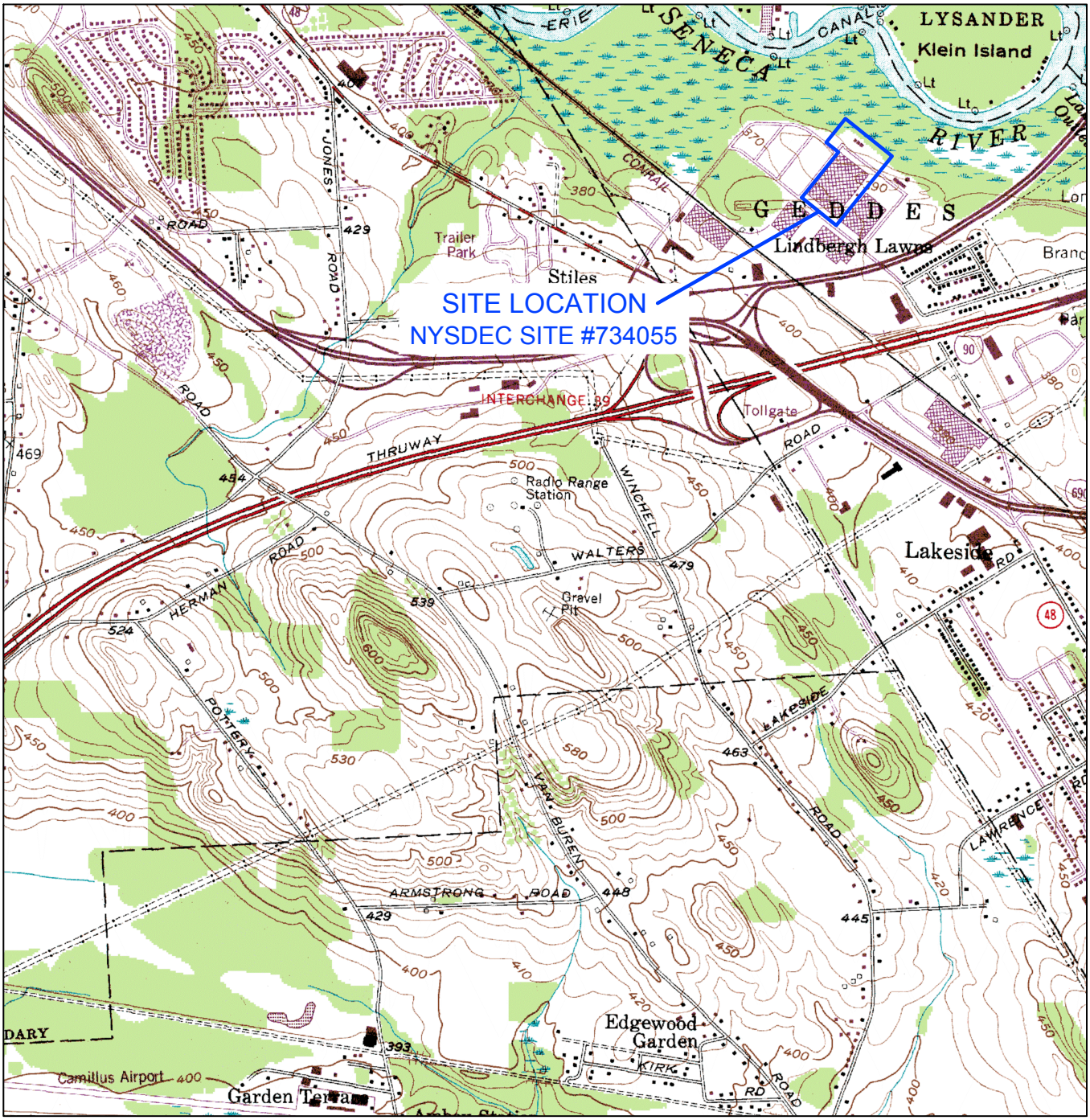
Sample Location	Baseline PMW-6D 12/01/2017			3-Month Post-ISCO Pilot Test PMW-6D 2/27/2018			6-Month Post-ISCO Pilot Test PMW-6D 5/22/2018			9-Month Post-ISCO Pilot Test PMW-6D 8/1/2018			Baseline PMW-9D 12/01/2017			3-Month Post-ISCO Pilot Test PMW-9D 2/27/2018			6-Month Post-ISCO Pilot Test PMW-9D 5/22/2018			9-Month Post-ISCO Pilot Test PMW-9D 8/1/2018		
	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
Method 7199 (µg/L)																								
Hexavalent Chromium	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1
Method 9056A (mg/L)																								
Sulfate	23	--	10	22.6	--	10	22.1	--	10	23.7	--	10	21.8	--	10	150	--	40	24.1	--	10	29.5	--	40
Method 6010C (mg/L)																								
Potassium (Dissolved)	ND<2	U	1	ND<2	U	1	ND<2	U	1	ND<2	U	1	ND<2	U	1	ND<2	U	1	ND<2	U	1	ND<2	U	1
Sodium (Dissolved)	33.9	--	1	31.6	--	1	32.8	--	1	30.6	--	1	33.2	--	1	29.7	--	1	33	--	1	319	--	1

Sample Location	Baseline PMW-10D* 12/01/2017			3-Month Post-ISCO PMW-10D 2/27/2018			9-Month Post-ISCO PMW-10D 8/1/2018			Baseline MW-31 11/28/2017			3-Month Post-ISCO MW-31 3/1/2018			6-Month Post-ISCO MW-31 5/22/2018			9-Month Post-ISCO MW-31 8/2/2018		
	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution	Result	Qualifier	Dilution
Method 7199 (µg/L)																					
Hexavalent Chromium	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1	ND<10	U	1
Method 9056A (mg/L)																					
Sulfate	21.5	--	10	22.9	--	10	22.7	--	10	71.0	--	10	65.1	--	10	307	--	100	2,470	--	400
Method 6010C (mg/L)																					
Potassium (Dissolved)	ND<2	U	1	ND<2	U	1	ND<2	U	1	NC	--	--	ND<2	U	1	ND<2	U	1	2.4	--	1
Sodium (Dissolved)	34.6	--	1	35.3	--	1	34.8	--	1	NC	--	--	31.9	--	1	39.3	--	1	734	--	10

Notes:
µg/L - Micrograms per liter.
mg/L - Milligrams per liter.
ND - Not detected at the Method Reporting Limit (MDL).
NC - Not collected.
-- indicates 'blank cell'.
U - Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
* A 6-month Post-ISCO sample was not required for PMW-10D.

AECOM

Figures



NOTE: MAP DERIVED FROM U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, CAMILLUS, NY, DATED 1955, PHOTOREVISED 1978.

LOCKHEED MARTIN CORPORATION
FORMER G.E. FARRELL ROAD SITE
TOWN OF GEDDES, ONONDAGA COUNTY, NEW YORK
Project No.: 60518568 Date: NOVEMBER 23, 2016

SITE LOCATION MAP

AECOM

Figure: 1

WIDEWATERS PROPERTY

MW-32S
MW-32D
MW-32I
WOOD PLANK CRANE MATS
PRB#3B
PRB#3A
WETLAND A
PFO
PMW-12D
PMW-12I
PMW-12S
PMW-13I
PMW-13D
PMW-13S
PMW-10S
PMW-10D
PMW-10I
ML-3
MW-18
PMW-11S
PRB#2A
PMW-11I
PMW-11D
PRB#2B
PMW-9S
PMW-9D
PMW-9I
MW-17
PZ-2B
PZ-3B
PZ-4B
PZ-5B
ML-2
PRB#1
PMW-6I
PMW-6S
MW-28
PZ-1B
PMW-4I
PMW-4S
PMW-4D
PMW-5I
PMW-6D
PMW-5S
PMW-5D
GRAVEL
PZ-1A
RW-4
PZ-2A
RW-5
PZ-3A
TP-1
RW-6
PZ-4A
RW-7
PZ-5A
MW-26S
MW-26D
TP-2
RW-8
RW-9
MW-30
RW-10
TP-3
RW-11
MW-29
PMW-1D
PMW-2D
PMW-1S
PMW-3I
PMW-3D
PMW-1I
PMW-2I
PMW-3S
PMW-2S
MW-16
PMW-7
MW-9
ASPHALT PAVEMENT
ASPHALT PAVEMENT
RW-1
PMW-8
MW-25
GARAGE (~8,000 SQ. FT.)
PMW-14
PMW-24
PMW-15
RW-2
EFFLUENT DISCHARGE
MW-22
MW-3D
MW-3S
EDGE OF PAVEMENT
MW-21
MW-1
CONC
CONCRETE
ML-1
RW-3
MW-23
SHED
UR
FIRE SUPPRESSION POST (TYP.)
CONC
MW-20
FENCE

LEGEND

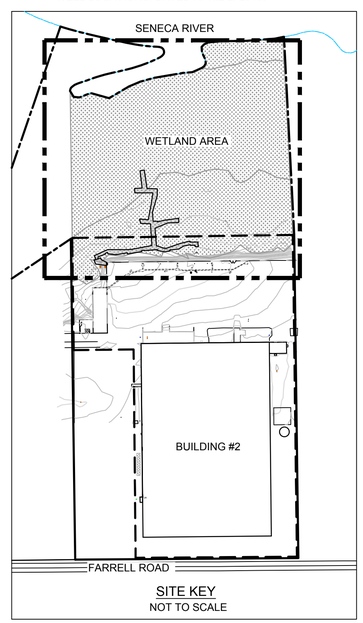
- MW-2 — MONITORING WELL LOCATION (PMW-1 THROUGH PMW-6, PMW-9 THROUGH PMW-13, PMW24 AND MW-32 ARE DEEP, INTERMEDIATE AND SHALLOW-SCREENED SETS OF WELLS.)
- RW-4 — GROUNDWATER EXTRACTION WELL LOCATION
- ML-1 — CONTINUOUS MULTICHAMBER TUBING (CMT) WELLS
- PZ-2A — PIEZOMETER LOCATION
- 241 FARRELL ROAD - 16.6 ACRES SITE BOUNDARY AS DEFINED IN APRIL 26, 2012 NYSDEC CORRESPONDENCE (REFER TO INTERIM SITE MANAGEMENT PLAN, JULY 25, 2017)
- WIDEWATERS PROPERTY
- 370 — TOPOGRAPHIC CONTOUR
- CHAINLINK FENCE
- SUBGRADE SYSTEM PIPING FOR THE GROUNDWATER EXTRACTION TREATMENT SYSTEM
- ST — STORM SEWER LINE
- UNKNOWN MANHOLE
- WETLAND AREA DELINEATED IN MAY 2017
- PEM — PALUSTRINE EMERGENT
- PFO — PALUSTRINE FORESTED
- TRENCH OUTLINE
- WETLAND CONSTRUCTION MAT TEMPORARY ACCESS ROAD LOCATION
- PERMEABLE REACTIVE BARRIER

NOTE

1. ABANDONED / DECOMMISSIONED WELL LOCATIONS ARE SHOWN IN GRAY. LOCATIONS WERE NOT SURVEYED AND ARE APPROXIMATE.

0' 40' 80'
APPROXIMATE SCALE

REFERENCE:
SITE LAYOUT BASED ON SURVEY INFORMATION PROVIDED BY CNY LAND SURVEYING DRAWING, FARRELL ROAD TOPOGRAPHIC SURVEY AND MONITORING WELL LOCATIONS, DATED APRIL 2, 2016.



SITE KEY
NOT TO SCALE

AECOM

Figure: 2

PERMEABLE REACTIVE BARRIER LOCATION MAP

LOCKHEED MARTIN CORPORATION
FORMER G.E. FARRELL ROAD SITE
TOWN OF GEDDES, ONONDAGA COUNTY, NEW YORK
Project No.: 60564181 Date: OCTOBER 10, 2018

Project Management Initials: Designer: Checked: Approved: ANSI D 22" x 34"

Last saved by: HEATHER.PRESSING(2018-10-18) Last Plotted: 2018-10-25
Filename: C:\CIVIL 3D PROJECTS\LMC - FARRELL ROAD\BASELINE FIGURES\FULL SCALE ISCO IMPLEMENTATION_10-11-2018.DWG

Project Management Initials: Designer: Checked: Approved: ANSI D 22" x 34"

Last saved by: HEATHER.PRESSING(2018-10-25) Last Plotted: 2018-10-25
Filename: C:\CIVIL 3D PROJECTS\LMC- FARRELL ROAD\BASELINE FIGURES\FULL SCALE ISCO IMPLEMENTATION_10-25-2018-INJECTION_LOC.DWG

MW-32S
MW-32I
MW-32D
WOOD PLANK CRANE MATS
PMW-12D
PMW-12I
PMW-12S
PMW-13I
PMW-13D
PMW-13S
PMW-10I
PMW-10S
PMW-10D
ML-3
PMW-11S
PMW-11I
PMW-11D
PMW-9S
PMW-9D
PMW-9I
MW-17
PZ-2B
PZ-3B
ML-2
PZ-1B
PMW-5I
PMW-5S
PMW-6I
PMW-6D
PMW-6S
MW-28
PMW-4I
PMW-4S
PMW-4D
PMW-5D
GRAVEL
PZ-1A
RW-4
PZ-2A
RW-5
PZ-3A
TP-1
RW-6
MW-26D
MW-26S
TP-2
RW-8
RW-9
MW-30
RW-10
MW-29
TP-3
PMW-1D
PMW-1S
PMW-1I
PMW-2D
PMW-2I
PMW-2S
PMW-3I
PMW-3D
PMW-3S
PMW-7

LEGEND

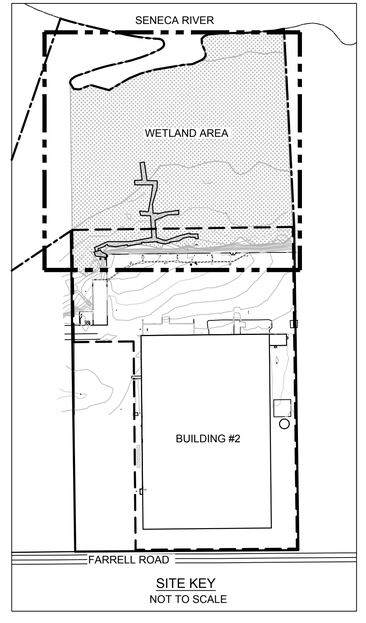
- MW-2 — MONITORING WELL LOCATION (PMW-1 THROUGH PMW-6, PMW-9 THROUGH PMW-13, PMW24 AND MW-32 ARE DEEP, INTERMEDIATE AND SHALLOW-SCREENED SETS OF WELLS.)
- RW-4 — GROUNDWATER EXTRACTION WELL LOCATION
- ML-1 — CONTINUOUS MULTICHAMBER TUBING (CMT) WELLS
- PZ-2A — PIEZOMETER LOCATION
- 241 FARRELL ROAD - 16.6 ACRES SITE BOUNDARY AS DEFINED IN APRIL 26, 2012 NYSDEC CORRESPONDENCE (REFER TO INTERIM SITE MANAGEMENT PLAN, JULY 25, 2017)
- WIDEWATERS PROPERTY
- 370 — TOPOGRAPHIC CONTOUR
- CHAINLINK FENCE
- E — E — E — SUBGRADE SYSTEM PIPING FOR THE GROUNDWATER EXTRACTION TREATMENT SYSTEM
- ST — ST — ST — STORM SEWER LINE
- UNKNOWN MANHOLE
- WETLAND AREA DELINEATED IN MAY 2017
- PEM — PALUSTRINE EMERGENT
- PFO — PALUSTRINE FORESTED
- TRENCH OUTLINE
- WETLAND CONSTRUCTION MAT TEMPORARY ACCESS ROAD LOCATION
- ⊕ 212 — INJECTION POINT

10-FT ASSUMED ROI,>= 100% TARGET SLURRY DELIVERED
8-FT ASSUMED ROI, 50-99% TARGET SLURRY DELIVERED
5-FT ASSUMED ROI, 25-49% TARGET SLURRY DELIVERED
3-FT ASSUMED ROI,< 25% TARGET SLURRY DELIVERED

NOTE
1. ABANDONED / DECOMMISSIONED WELL LOCATIONS ARE SHOWN IN GRAY. LOCATIONS WERE NOT SURVEYED AND ARE APPROXIMATE.

0' 20' 40'
APPROXIMATE SCALE

REFERENCE:
SITE LAYOUT BASED ON SURVEY INFORMATION PROVIDED BY CNY LAND SURVEYING DRAWING, FARRELL ROAD TOPOGRAPHIC SURVEY AND MONITORING WELL LOCATIONS, DATED APRIL 2, 2016.



SITE KEY
NOT TO SCALE

AECOM

Figure: 3

INJECTION POINT LOCATION MAP

LOCKHEED MARTIN CORPORATION
FORMER G.E. FARRELL ROAD SITE
TOWN OF GEDDES, ONONDAGA COUNTY, NEW YORK
Project No.: 60564181 Date: OCTOBER 10, 2018

Project Management Initials: Designer: Checked: Approved: ANSI D 22" x 34"

MW-32S 7/31/2018
79.6
ND <10
64.3
ND <2
121

PMW-10S 8/01/2018
1,609.7
ND <10
23.5
ND <2
33.9

PMW-12S 7/31/2018
173.8
ND <10
16.3
ND <2
35.4

PMW-9S 8/01/2018
1,740.4
ND <10
21.3
ND <2
33.9

WIDEWATERS PROPERTY

MW-32S
MW-32D
MW-32I

WOOD PLANK CRANE MATS

PRB#3B
PRB#3A

PMW-12D
PMW-12I
PMW-12S

PMW-13I
PMW-13D
PMW-13S

PMW-10S
PMW-10D
PMW-10I

ML-3

PMW-11S
PMW-11I
PMW-11D

PRB#2A
PRB#2B

PMW-9S
PMW-9D
PMW-9I

MW-18
MW-17

WETLAND A
PFO

PZ-2B
PZ-3B
PZ-4B
PZ-5B

ML-2

PRB#1

PMW-6I
PMW-6S
PMW-6D
MW-28

PMW-4I
PMW-4S
PMW-4D
PMW-5I
PMW-5S
PMW-5D

PZ-1B
PZ-1A
PZ-2A
PZ-3A
PZ-4A
PZ-5A

RW-4
RW-5
RW-6
RW-7
RW-8
RW-9
RW-10
RW-11

TP-1
TP-2
TP-3

MW-26S
MW-26D
MW-30
MW-29

PMW-1D
PMW-2D
PMW-1S
PMW-1I
PMW-2I
PMW-2S
PMW-3I
PMW-3D
PMW-3S

MW-16

GRAVEL

PMW-7

MW-9

RW-1
PMW-8
MW-25

ASPHALT
PAVEMENT

GARAGE
(~8,000 SQ. FT.)

PMW-14
PMW-24
PMW-15

RW-2
EFFLUENT
DISCHARGE
MW-22
MW-21
MW-1

MW-3D
MW-3S

EDGE OF PAVEMENT

RW-3
MW-23

SHED

CONCRETE
ML-1
CONC

UR

FIRE
SUPPRESSION
POST (TYP.)

MW-20

CHAINLINK FENCE

LEGEND

- MW-2 — MONITORING WELL LOCATION (PMW-1 THROUGH PMW-6, PMW-9 THROUGH PMW-13, PMW24 AND MW-32 ARE DEEP, INTERMEDIATE AND SHALLOW-SCREENED SETS OF WELLS.)
- RW-4 — GROUNDWATER EXTRACTION WELL LOCATION
- ML-1 — CONTINUOUS MULTICHAMBER TUBING (CMT) WELLS
- PZ-2A — PIEZOMETER LOCATION
- 241 FARRELL ROAD - 16.6 ACRES SITE BOUNDARY AS DEFINED IN APRIL 26, 2012 NYSDEC CORRESPONDENCE (REFER TO INTERIM SITE MANAGEMENT PLAN, JULY 25, 2017)
- WIDEWATERS PROPERTY
- 370 — TOPOGRAPHIC CONTOUR
- CHAINLINK FENCE
- SUBGRADE SYSTEM PIPING FOR THE GROUNDWATER EXTRACTION TREATMENT SYSTEM
- ST — STORM SEWER LINE
- UNKNOWN MANHOLE
- WETLAND AREA DELINEATED IN MAY 2017
- PEM — PALUSTRINE EMERGENT
- PFO — PALUSTRINE FORESTED
- TRENCH OUTLINE
- WETLAND CONSTRUCTION MAT ACCESS TEMPORARY ACCESS ROAD LOCATION
- PERMEABLE REACTIVE BARRIER

PMW-9S 8/01/2018	
1,740.4	SAMPLE ID
ND <10	SAMPLE DATE
21.3	TOTAL VOCs
ND <2	HEXAVALENT CHROMIUM (µg/L) (METHOD 7199)
33.9	SULFATE (mg/L) (METHOD 9056A)
	POTASSIUM - DISSOLVED (mg/L) (METHOD 6010C)
	SODIUM - DISSOLVED (mg/L) (METHOD 6010C)

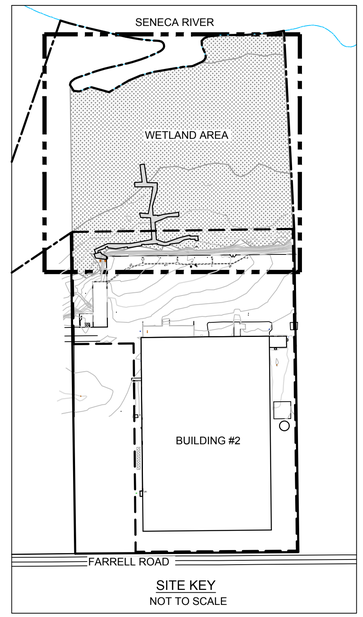
NOTE

1. ABANDONED / DECOMMISSIONED WELL LOCATIONS ARE SHOWN IN GRAY. LOCATIONS WERE NOT SURVEYED AND ARE APPROXIMATE.

0' 40' 80'

APPROXIMATE SCALE

REFERENCE:
SITE LAYOUT BASED ON SURVEY INFORMATION PROVIDED BY CNY LAND SURVEYING DRAWING, FARRELL ROAD TOPOGRAPHIC SURVEY AND MONITORING WELL LOCATIONS, DATED APRIL 2, 2016.



SITE KEY
NOT TO SCALE

AECOM

Figure: 4

BASELINE GROUNDWATER ANALYTICAL DATA
SHALLOW ISCO MONITORING WELLS

LOCKHEED MARTIN CORPORATION
FORMER G.E. FARRELL ROAD SITE
TOWN OF GEDDES, ONONDAGA COUNTY, NEW YORK
Project No.: 60564181 Date: OCTOBER 10, 2018

Last saved by: HEATHER.PRESSING(2018-10-18) Last Plotted: 2018-10-18
Filename: C:\CIVIL 3D PROJECTS\LMC- FARRELL ROAD\BASELINE FIGURES\FULL SCALE ISCO IMPLEMENTATION_10-11-2018.DWG

Project Management Initials: Designer: Checked: Approved: ANSI D 22" x 34"

Last saved by: HEATHER.PRESSING(2018-10-18) Last Plotted: 2018-10-18
Filename: C:\CIVIL 3D PROJECTS\LMC- FARRELL ROAD\BASELINE FIGURES\FULL SCALE ISCO IMPLEMENTATION_10-11-2018.DWG

MW-32I 7/31/2018
58.7
ND <10
85.9
42
119

PMW-10I 8/01/2018
1,703.0
ND <10
24.7
ND <2
32.8

PMW-12I 7/31/2018
694.3
ND <10
20.7
ND <2
33.2

PMW-9I 8/01/2018
1,482.6
ND <10
24.3
ND <2
33.8

WIDEWATERS PROPERTY

MW-32S
MW-32D
MW-32I

WOOD PLANK CRANE MATS

PRB#3B
PRB#3A

PMW-12D
PMW-12I
PMW-12S

PMW-13I
PMW-13D
PMW-13S

PMW-10S
PMW-10D
PMW-10I

ML-3

PMW-11S
PMW-11I
PMW-11D

PRB#2A
PRB#2B

PMW-9S
PMW-9D
PMW-9I

MW-18

WETLAND A
PFO

PZ-2B
PZ-3B
PZ-4B
PZ-5B

ML-2

PRB#1

PMW-6I
PMW-6S
PMW-6D
MW-28

PMW-4I
PMW-4D
PMW-4S
PMW-5I
PMW-5S
PMW-5D

PZ-1B
PZ-1A
RW-4
PZ-2A
RW-5
PZ-3A
MW-26S
MW-26D
TP-1
RW-6
TP-2
PZ-4A
RW-7
PZ-5A

GRAVEL

RW-8
RW-9
MW-30
RW-10
TP-3
MW-29
RW-11
MW-16

PMW-1D
PMW-2D
PMW-1S
PMW-1I
PMW-2I
PMW-2S
PMW-3I
PMW-3D
PMW-3S

PMW-7

MW-9

ASPHALT
PAVEMENT

RW-1
PMW-8
MW-25

GARAGE
(~8,000 SQ. FT.)

PMW-14
PMW-24
PMW-15

ASPHALT
PAVEMENT

RW-2
EFFLUENT
DISCHARGE
MW-22
MW-21
MW-1
RW-3
MW-23
SHED

MW-3D
MW-3S

EDGE OF PAVEMENT

CONCRETE
ML-1
CONC
CONC
CONC

FIRE
SUPPRESSION
POST (TYP.)

UR

MW-20

CHAINLINK FENCE

LEGEND

- MW-2 — MONITORING WELL LOCATION (PMW-1 THROUGH PMW-6, PMW-9 THROUGH PMW-13, PMW24 AND MW-32 ARE DEEP, INTERMEDIATE AND SHALLOW-SCREENED SETS OF WELLS.)
- RW-4 — GROUNDWATER EXTRACTION WELL LOCATION
- ML-1 — CONTINUOUS MULTICHAMBER TUBING (CMT) WELLS
- PZ-2A — PIEZOMETER LOCATION
- 241 FARRELL ROAD - 16.6 ACRES SITE BOUNDARY AS DEFINED IN APRIL 26, 2012 NYSDEC CORRESPONDENCE (REFER TO INTERIM SITE MANAGEMENT PLAN, JULY 25, 2017)
- WIDEWATERS PROPERTY
- 370 — TOPOGRAPHIC CONTOUR
- CHAINLINK FENCE
- SUBGRADE SYSTEM PIPING FOR THE GROUNDWATER EXTRACTION TREATMENT SYSTEM
- ST — STORM SEWER LINE
- UNKNOWN MANHOLE
- WETLAND AREA DELINEATED IN MAY 2017
- PEM — PALUSTRINE EMERGENT
- PFO — PALUSTRINE FORESTED
- TRENCH OUTLINE
- WETLAND CONSTRUCTION MAT TEMPORARY ACCESS ROAD LOCATION
- PERMEABLE REACTIVE BARRIER

PMW-9I
8/01/2018
1,482.6
ND <10
24.3
ND <2
33.8

- SAMPLE ID
- SAMPLE DATE
- TOTAL VOCs
- HEXAVALENT CHROMIUM (µg/L) (METHOD 7199)
- SULFATE (mg/L) (METHOD 9056A)
- POTASSIUM - DISSOLVED (mg/L) (METHOD 6010C)
- SODIUM - DISSOLVED (mg/L) (METHOD 6010C)

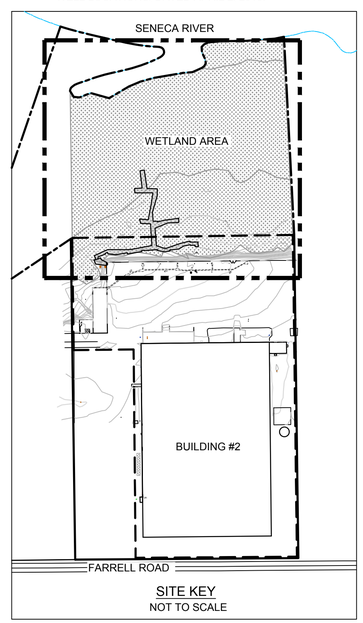
NOTE

1. ABANDONED / DECOMMISSIONED WELL LOCATIONS ARE SHOWN IN GRAY. LOCATIONS WERE NOT SURVEYED AND ARE APPROXIMATE.

0' 40' 80'

APPROXIMATE SCALE

REFERENCE:
SITE LAYOUT BASED ON SURVEY INFORMATION PROVIDED BY CNY LAND SURVEYING DRAWING, FARRELL ROAD TOPOGRAPHIC SURVEY AND MONITORING WELL LOCATIONS, DATED APRIL 2, 2016.



SITE KEY
NOT TO SCALE

AECOM

Figure: 5

BASELINE GROUNDWATER ANALYTICAL DATA
INTERMEDIATE ISCO MONITORING WELLS

LOCKHEED MARTIN CORPORATION
FORMER G.E. FARRELL ROAD SITE
TOWN OF GEDDES, ONONDAGA COUNTY, NEW YORK
Project No.: 60564181 Date: OCTOBER 10, 2018

Project Management Initials: Designer: Checked: Approved: ANSI D 22" x 34"

MW-32D 7/31/2018
17.2
ND <10
47
ND <2
121

PMW-10D 8/01/2018
1453.0
ND <10
23.5
ND <2
33.9

PMW-13D 7/31/2018
12.9
ND <10
10.2
ND <2
22.1

PMW-12D 7/31/2018
1,428
ND <10
16.3
ND <2
35.4

PMW-9D 8/01/2018
1,884.2
ND <10
21.3
ND <2
33.9

WIDEWATERS PROPERTY

MW-32S
MW-32D
MW-32I
WOOD PLANK CRANE MATS
PRB#3B
PRB#3A
PMW-12D
PMW-12I
PMW-12S
PMW-13I
PMW-13D
PMW-13S
PMW-10S
PMW-10D
PMW-10I
ML-3
PMW-11S
PMW-11I
PMW-11D
PRB#2A
PRB#2B
PMW-9S
PMW-9D
PMW-9I
MW-18
MW-17
WETLAND A
PFO
PZ-2B
PZ-3B
PZ-4B
PZ-5B
ML-2
PRB#1
PMW-6I
PMW-6S
MW-28
PMW-6D
PMW-4I
PMW-4S
PMW-4D
PMW-5I
PMW-5S
PMW-5D
PZ-1B
PZ-1A
RW-4
PZ-2A
RW-5
PZ-3A
TP-1
RW-6
PZ-4A
RW-7
PZ-5A
GRAVEL
MW-26S
MW-26D
MW-30
TP-2
RW-8
RW-9
RW-10
TP-3
MW-29
RW-11
PMW-1D
PMW-2D
PMW-1S
PMW-3I
PMW-3D
PMW-1I
PMW-2I
PMW-3S
PMW-2S
MW-16
PMW-7
MW-9
RW-1
ASPHALT PAVEMENT
ASPHALT PAVEMENT
PMW-8
MW-25
GARAGE (~8,000 SQ. FT.)
PMW-14
PMW-24
PMW-15
RW-2
EFFLUENT DISCHARGE
MW-22
MW-3D
MW-3S
MW-21
MW-1
EDGE OF PAVEMENT
CONC
CONCRETE
ML-1
RW-3
MW-23
SHED
UR
FIRE SUPPRESSION POST (TYP.)
CONC
MW-20
FENCE

LEGEND

- MW-2 — MONITORING WELL LOCATION (PMW-1 THROUGH PMW-6, PMW-9 THROUGH PMW-13, PMW24 AND MW-32 ARE DEEP, INTERMEDIATE AND SHALLOW-SCREENED SETS OF WELLS.)
- RW-4 — GROUNDWATER EXTRACTION WELL LOCATION
- ML-1 — CONTINUOUS MULTICHAMBER TUBING (CMT) WELLS
- PZ-2A — PIEZOMETER LOCATION
- 241 FARRELL ROAD - 16.6 ACRES SITE BOUNDARY AS DEFINED IN APRIL 26, 2012 NYSDEC CORRESPONDENCE (REFER TO INTERIM SITE MANAGEMENT PLAN, JULY 25, 2017)
- WIDEWATERS PROPERTY
- 370 — TOPOGRAPHIC CONTOUR
- CHAINLINK FENCE
- SUBGRADE SYSTEM PIPING FOR THE GROUNDWATER EXTRACTION TREATMENT SYSTEM
- ST — STORM SEWER LINE
- UNKNOWN MANHOLE
- WETLAND AREA DELINEATED IN MAY 2017
- PEM — PALUSTRINE EMERGENT
- PFO — PALUSTRINE FORESTED
- TRENCH OUTLINE
- WETLAND CONSTRUCTION MAT TEMPORARY ACCESS ROAD LOCATION
- PERMEABLE REACTIVE BARRIER

PMW-9D 8/01/2018	
1,884.2	TOTAL VOCs
ND <10	HEXAVALENT CHROMIUM (µg/L) (METHOD 7199)
21.3	SULFATE (mg/L) (METHOD 9056A)
ND <2	POTASSIUM - DISSOLVED (mg/L) (METHOD 6010C)
33.9	SODIUM - DISSOLVED (mg/L) (METHOD 6010C)

PMW-9D 8/01/2018 — SAMPLE ID; SAMPLE DATE

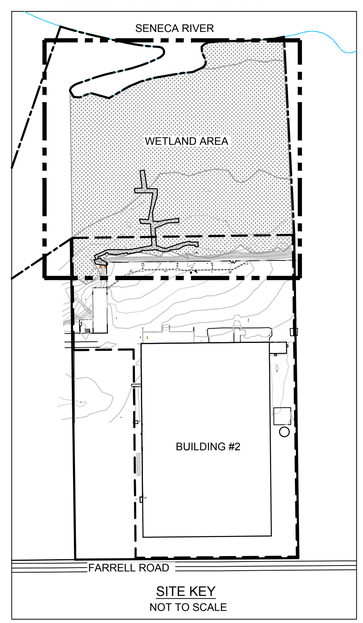
NOTE

1. ABANDONED / DECOMMISSIONED WELL LOCATIONS ARE SHOWN IN GRAY. LOCATIONS WERE NOT SURVEYED AND ARE APPROXIMATE.

0' 40' 80'

APPROXIMATE SCALE

REFERENCE:
SITE LAYOUT BASED ON SURVEY INFORMATION PROVIDED BY CNY LAND SURVEYING DRAWING, FARRELL ROAD TOPOGRAPHIC SURVEY AND MONITORING WELL LOCATIONS, DATED APRIL 2, 2016.



SITE KEY
NOT TO SCALE

AECOM

Figure: 6

BASELINE GROUNDWATER ANALYTICAL DATA
DEEP ISCO MONITORING WELLS

LOCKHEED MARTIN CORPORATION
FORMER G.E. FARRELL ROAD SITE
TOWN OF GEDDES, ONONDAGA COUNTY, NEW YORK
Project No.: 60564181 Date: OCTOBER 10, 2018

Last saved by: HEATHER.PRESSING(2018-10-18) Last Plotted: 2018-10-18
Filename: C:\CIVIL 3D PROJECTS\LMC- FARRELL ROAD\BASELINE FIGURES\FULL SCALE ISCO IMPLEMENTATION_10-11-2018.DWG

Attachment A

ISOTEC Injection Summary Table

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
16-Aug-18	PRB-1	101	15'-16'	4:40	4:42	2	40	20.00	375	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
16-Aug-18	PRB-1	101	16'-17'	4:43	4:45	2	40	20.00	375	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
16-Aug-18	PRB-1	101	17'-18'	4:45	4:46	1	40	40.00	375	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
16-Aug-18	PRB-1	101	18'-19'	4:46	4:48	2	40	20.00	375	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
16-Aug-18	PRB-1	101	19'-20'	4:48	4:50	2	40	20.00	375	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
16-Aug-18	PRB-1	101	20'-21'	5:03	5:05	2	40	20.00	375	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
16-Aug-18	PRB-1	101	21'-22'	5:05	5:07	2	40	20.00	400	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
16-Aug-18	PRB-1	101	22'-23'	5:07	5:08	1	40	40.00	375	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
16-Aug-18	PRB-1	101	23'-24'	5:08	5:10	2	40	20.00	400	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
16-Aug-18	PRB-1	101	24'-25'	5:10	5:12	2	40	20.00	400	Top-down, original dosage. Minor surfacing 4' north.	76.90	18.37	32.91
5-Sep-18	PRB-1	102	20'-18'	4:17	4:22	5	30	6.00	120-100	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
5-Sep-18	PRB-1	102	22'-20'	4:11	4:14	3	40	13.33	120-100	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-1	102	24'-22'	4:07	4:11	4	40	10.00	160-140	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-1	102	26'-24'	3:59	4:03	4	50	12.50	180-160	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-1	102	28'-26'	3:56	3:59	3	50	16.67	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-1	102	30'-28'	3:52	3:56	4	50	12.50	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
28-Aug-18	PRB-1	103	18'-16'	8:47	8:49	2	10	5	300-280	1.5 rod. Bottom Up. Double concentration. Surfacing 1 ft away.	41.80	16.15	18.10
28-Aug-18	PRB-1	103	20'-18'	8:42	8:42	2	0	0	200-180	1.5 rod. Bottom Up. Double concentration. Surfacing 1 ft away.	0.00	0.00	0.00
28-Aug-18	PRB-1	103	22'-20'	8:37	8:39	2	40	20	220-200	1.5 rod. Bottom Up. Double concentration.	167.20	64.58	72.41
28-Aug-18	PRB-1	103	24'-22'	8:29	8:31	2	40	20	380-360	1.5 rod. Bottom Up. Double concentration.	167.20	64.58	72.41
28-Aug-18	PRB-1	103	26'-24'	8:26	8:28	2	40	20	380-360	1.5 rod. Bottom Up. Double concentration.	167.20	64.58	72.41
28-Aug-18	PRB-1	103	28'-26'	8:24	8:26	2	40	20	400-380	1.5 rod. Bottom Up. Double concentration.	167.20	64.58	72.41

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
23-Aug-18	PRB-1	104	18'-20'	4:29	4:31	2	40	20.00	300	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
23-Aug-18	PRB-1	104	20'-22'	4:13	4:16	3	40	13.33	300-325	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
23-Aug-18	PRB-1	104	22'-24'	3:56	3:59	3	40	13.33	350-325	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
23-Aug-18	PRB-1	104	24'26'	3:51	3:53	2	40	20.00	350	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
23-Aug-18	PRB-1	104	26'-28'	3:45	3:48	3	40	13.33	350	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
17-Aug-18	PRB-1	105	18'-19'	5:08	5:11	3	50	16.67	10	Top-down, original dosage.	101.21	28.50	41.29
17-Aug-18	PRB-1	105	19'-20'	5:11	5:13	2	40	20.00	10	Top-down, original dosage.	80.97	22.80	33.03
17-Aug-18	PRB-1	105	20'-21'	5:14	5:16	2	40	20.00	10	Top-down, original dosage.	80.97	22.80	33.03
17-Aug-18	PRB-1	105	21'-22'	5:17	5:19	2	40	20.00	10	Top-down, original dosage.	80.97	22.80	33.03
17-Aug-18	PRB-1	105	22'-23'	5:20	5:22	2	40	20.00	10	Top-down, original dosage.	80.97	22.80	33.03
17-Aug-18	PRB-1	105	23'-24'	5:22	5:24	2	40	20.00	10	Surfaced 5 ft north of 101, 25 ft away from 105.	80.97	22.80	33.03
17-Aug-18	PRB-1	105	24'-25'	5:25	5:28	3	40	13.33	10	Surfaced 5 ft north of 101, 25 ft away from 105.	80.97	22.80	33.03
28-Aug-18	PRB-1	106	22'-24'	4:39	4:41	2	0	0	120-80	1.5 rod. Bottom Up. Double concentration. Surfacing 1 ft away.	0.00	0.00	0.00
28-Aug-18	PRB-1	106	24'26'	4:37	4:39	2	31	15.5	400-380	1.5 rod. Bottom Up. Double concentration.	129.58	50.05	56.12
28-Aug-18	PRB-1	106	26'-28'	4:34	4:36	2	32	16	380-360	1.5 rod. Bottom Up. Double concentration.	133.76	51.67	57.93
29-Aug-18	PRB-1	107	17'-15'	11:33	11:36	3	40	13.33	320-300	1.5 rod. Bottom Up. Double concentration.	167.20	53.79	72.41
29-Aug-18	PRB-1	107	19-17'	11:30	11:33	3	30	10.00	300-320	1.5 rod. Bottom Up. Double concentration.	125.40	40.34	54.31
29-Aug-18	PRB-1	107	21'-19'	11:26	11:28	2	40	20.00	320-300	1.5 rod. Bottom Up. Double concentration.	167.20	53.79	72.41
29-Aug-18	PRB-1	107	23'-21'	11:21	11:24	3	40	13.33	340-320	1.5 rod. Bottom Up. Double concentration.	167.20	53.79	72.41
29-Aug-18	PRB-1	107	25'-23'	11:10	11:13	3	50	16.67	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-1	107	27'-25'	11:05	11:07	2	50	25.00	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	67.24	90.52
16-Aug-18	PRB-1	108	15'-16'	3:34	3:35	1	40	40.00	375	Top-down, original dosage.	76.90	18.37	32.91

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
16-Aug-18	PRB-1	108	16'-17'	3:35	3:37	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	108	17'-18'	3:37	3:39	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	108	18'-19'	3:39	3:41	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	108	19'-20'	3:42	3:44	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	108	20'-21'	3:44	3:46	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	108	21'-22'	3:44	3:46	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	108	22'-23'	3:52	3:54	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	108	23'-24'	3:54	3:56	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	108	24'-25'	3:56	3:58	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
29-Aug-18	PRB-1	109	18'-16'	0:00	0:00	0	0	0.00		Did not try due to surfacing	0.00	0.00	0.00
29-Aug-18	PRB-1	109	20'-18'	3:22	3:22	0	0	0.00	200-160	Surfacing around the rod, stopped	0.00	0.00	0.00
29-Aug-18	PRB-1	109	22'-20'	3:17	3:17	0	0	0.00	260-240	Surfacing around the rod, stopped	0.00	0.00	0.00
29-Aug-18	PRB-1	109	24'-22'	3:12	3:15	3	40	13.33	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	53.79	72.41
29-Aug-18	PRB-1	109	26'-24'	3:07	3:10	3	50	16.67	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-1	109	28'-26'	3:02	3:05	3	50	16.67	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
6-Sep-18	PRB-1	110	20'-18'	8:50	8:52	2	30	15.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
6-Sep-18	PRB-1	110	22'-20'	8:47	8:49	2	30	15.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
6-Sep-18	PRB-1	110	24'-22'	8:44	8:46	2	40	20.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
6-Sep-18	PRB-1	110	26'-24'	8:40	8:42	2	40	20.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
6-Sep-18	PRB-1	110	28'-26'	8:35	8:37	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-1	110	30'-28'	8:32	8:34	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
23-Aug-18	PRB-1	111	16'-18'	2:32	2:34	2	45	22.50	300	1.5 rod. Bottom Up. Double concentration.	188.10	51.30	78.01

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
23-Aug-18	PRB-1	111	18'-20'	2:30	2:32	2	45	22.50	300	1.5 rod. Bottom Up. Double concentration.	188.10	51.30	78.01
23-Aug-18	PRB-1	111	20'-22'	2:22	2:24	2	50	25.00	300	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	86.68
23-Aug-18	PRB-1	111	22'-24'	2:14	2:16	2	60	30.00	300	1.5 rod. Bottom Up. Double concentration.	250.80	68.40	104.01
23-Aug-18	PRB-1	111	24'26'	2:11	2:14	3	60	20.00	350-300	1.5 rod. Bottom Up. Double concentration.	250.80	68.40	104.01
23-Aug-18	PRB-1	111	26'-28'	2:09	2:11	2	60	30.00	400-350	1.5 rod. Bottom Up. Double concentration.	250.80	68.40	104.01
21-Aug-18	PRB-1	112	15'-16'	4:03	4:06	3	20	6.67	0	Double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	112	16'-17'	4:07	4:10	3	20	6.67	0	Double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	112	17'-18'	4:20	4:25	5	20	4.00	25	Double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	112	18'-19'	4:45	4:29	4	20	5.00	25	Double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	112	19'-20'	4:29	4:33	4	20	5.00	50	Double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	112	20'-21'	4:33	4:37	4	20	5.00	25	Double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	112	21'-22'	4:37	4:40	3	20	6.67	25	Double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	112	22'-23'	4:40	4:45	5	20	4.00	25	Double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	112	23'-24'	4:45	4:48	3	20	6.67	100	Double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	112	24'-25'	4:48	4:54	6	20	3.33	50	Double concentration.	83.60	22.80	34.60
29-Aug-18	PRB-1	113	17'-15'	9:35	9:38	3	0	0.00	20-0	Surfacing from tree roots 2' away, stopped injecting.	0.00	0.00	0.00
29-Aug-18	PRB-1	113	19-17'	9:31	9:33	2	10	0.00	260-240	Surfacing from tree roots 2' away, stopped injecting.	41.80	13.45	18.10
29-Aug-18	PRB-1	113	21'-19'	9:26	9:29	3	40	13.33	300-280	1.5 rod. Bottom Up. Double concentration.	167.20	53.79	72.41
29-Aug-18	PRB-1	113	23'-21'	9:13	9:16	3	40	13.33	320-300	1.5 rod. Bottom Up. Double concentration.	167.20	53.79	72.41
29-Aug-18	PRB-1	113	25'-23'	9:08	9:11	3	50	16.67	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-1	113	27'-25'	9:02	9:06	4	50	12.50	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	67.24	90.52
5-Sep-18	PRB-1	114	20'-18'	3:01	3:04	3	30	10.00	40-20	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
5-Sep-18	PRB-1	114	22'-20'	2:58	3:01	3	30	10.00	180-160	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
5-Sep-18	PRB-1	114	24'-22'	2:54	2:58	4	40	10.00	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-1	114	26'-24'	2:50	2:54	4	40	10.00	240-220	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-1	114	28'-26'	2:47	2:50	3	50	16.67	280-260	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-1	114	30'-28'	2:45	2:47	2	50	25.00	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-1	115	20'-18'	1:29	1:32	3	30	10.00	140-110	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
5-Sep-18	PRB-1	115	22'-20'	1:27	1:29	2	30	15.00	170-140	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
5-Sep-18	PRB-1	115	24'-22'	1:25	1:27	2	40	20.00	210-170	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-1	115	26'-24'	1:21	1:25	4	40	10.00	250-210	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-1	115	28'-26'	10:14	10:16	2	10	5.00	280-260	1.5 rod. Bottom Up. Double concentration. Surfacing up rods and 2' away.	41.80	8.10	16.66
5-Sep-18	PRB-1	115	28'-26'	1:17	1:21	4	50	12.50	230-170	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-1	115	30'-28'	1:15	1:17	2	50	25.00	280-230	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
16-Aug-18	PRB-1	116								Attempted injection location using top-down method, surfaced through annulus. Could not inject.	0.00	0.00	0.00
17-Aug-18	PRB-1	116	24'-25'	11:37	11:39	2	40	20.00	375	Attempted injection location using bottom-up method, surfaced about 9 feet away. Stopped injections.	76.86	18.37	32.97
28-Aug-18	PRB-1	117	20'-18'	10:59	11:01	2	10	5	100-80	1.5 rod. Bottom Up. Double concentration. Surfacing 1 ft away.	41.80	16.15	18.10
28-Aug-18	PRB-1	117	22'-20'	10:55	10:57	2	0	0	100-80	1.5 rod. Bottom Up. Double concentration. Surfacing 1 ft away.	0.00	0.00	0.00
28-Aug-18	PRB-1	117	24'-22'	10:49	10:51	2	10	5	360-340	1.5 rod. Bottom Up. Double concentration. Surfacing around rod.	41.80	16.15	18.10
28-Aug-18	PRB-1	117	26'-24'	10:40	10:42	2	50	25	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	80.73	90.52
28-Aug-18	PRB-1	117	28'-26'	10:37	10:39	2	50	25	400-380	1.5 rod. Bottom Up. Double concentration.	209.00	80.73	90.52
7-Sep-18	PRB-1	117	19'-17'	3:37	3:40	3	40	13.33	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-1	117	21'-19'	3:33	3:37	4	40	10.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
7-Sep-18	PRB-1	117	23'-21'	3:30	3:33	3	50	16.67	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
7-Sep-18	PRB-1	117	25'-23'	3:25	3:28	3	50	16.67	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
7-Sep-18	PRB-1	117	27'-25'	3:22	3:25	3	50	16.67	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
7-Sep-18	PRB-1	117	29'-27'	3:19	3:22	3	50	16.67	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
16-Aug-18	PRB-1	118								Attempted injection location using top-down method, surfaced through annulus. Could not inject.	0.00	0.00	0.00
17-Aug-18	PRB-1	118	24'-25'	11:00	11:00					Attempted injection location using bottom-up method, surfaced through annulus. Could not inject.	0.00	0.00	0.00
6-Sep-18	PRB-1	118	19'-17'	1:45	1:47	2	30	15.00	180-160	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
6-Sep-18	PRB-1	118	21'-19'	1:42	1:44	2	30	15.00	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
6-Sep-18	PRB-1	118	23'-21'	1:39	1:41	2	40	20.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
6-Sep-18	PRB-1	118	25'-23'	1:37	1:39	2	40	20.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
6-Sep-18	PRB-1	118	27'-25'	1:35	1:37	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-1	118	29'-27'	1:33	1:35	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
23-Aug-18	PRB-1	119	23'-24'	11:26	11:28	2	40	20.00	350	Double concentration. Stopped injections due to surfacing around base of tree 3 feet away.	167.20	45.60	69.34
23-Aug-18	PRB-1	119	24'-25'	11:21	11:23	2	40	20.00	325	Double concentration.	167.20	45.60	69.34
23-Aug-18	PRB-1	119	25'-26'	11:19	11:21	2	60	30.00	300	Double concentration.	250.80	68.40	104.01
21-Aug-18	PRB-1	120	15'-16'	2:33	2:37	4	20	5.00	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	120	16'-17'	2:39	2:42	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	120	17'-18'	2:42	2:45	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	120	18'-19'	2:45	2:50	5	20	4.00	100	Alternate side, double concentration. Minor surfacing skipped 19.5 interval.	83.60	22.80	34.60

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
21-Aug-18	PRB-1	120	20'-21'	2:52	2:56	4	20	5.00	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	120	21'-22'	2:57	3:03	6	30	5.00	25	Alternate side, double concentration. Extra volume.	125.40	34.20	51.89
21-Aug-18	PRB-1	120	22'-23'	3:03	3:09	6	30	5.00	25	Alternate side, double concentration. Extra volume.	125.40	34.20	51.89
21-Aug-18	PRB-1	120	23'-24'	3:10	3:12	2	10	5.00	35	Alternate side, double concentration. Surfaced again 3-4 ft away, stopped injections.	41.80	11.40	17.30
23-Aug-18	PRB-1	121	17'-18'	9:48	9:50	3	10	3.33	300-200	Surfaced up the rod.	41.80	11.40	17.34
23-Aug-18	PRB-1	121	20'-21'	9:50	9:51	3	10	3.33	300-200		41.80	11.40	17.34
23-Aug-18	PRB-1	121	22'-23'	9:51	9:51	1	0	0.00	0-25	Slowed pump down, surfacing continued.	0.00	0.00	0.00
23-Aug-18	PRB-1	121	24'-25'	9:52	9:52	1	0	0.00	330-25	Stopped injections due to surfacing	0.00	0.00	0.00
7-Sep-18	PRB-1	121	19'-17'	2:20	2:23	3	40	13.33	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-1	121	21'-19'	2:17	2:19	2	40	20.00	240-220	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-1	121	23'-21'	2:15	2:17	2	50	25.00	300-260	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
7-Sep-18	PRB-1	121	25'-23'	1:45	1:47	2	50	25.00	180-140	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
7-Sep-18	PRB-1	121	27'-25'	12:31	12:34	3	50	16.67	160-140	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
7-Sep-18	PRB-1	121	29'-27'	12:28	12:31	3	50	16.67	180-160	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
6-Sep-18	PRB-1	122	20'-18'	9:40	9:42	2	30	15.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
6-Sep-18	PRB-1	122	22'-20'	9:36	9:38	2	30	15.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
6-Sep-18	PRB-1	122	24'-22'	9:34	9:36	2	40	20.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
6-Sep-18	PRB-1	122	26'-24'	9:31	9:33	2	40	20.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
6-Sep-18	PRB-1	122	28'-26'	9:23	9:25	2	60	30.00	420-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
6-Sep-18	PRB-1	122	30'-28'	9:18	9:20	2	40	20.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-1	123	22'-20'	11:05	11:07	2	0	0.00	220-200	1.5 rod. Bottom Up. Open Bore hole, Double concentration. Surfacing from tree roots 2' away.	0.00	0.00	0.00

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
5-Sep-18	PRB-1	123	24'-22'	11:02	11:04	2	40	20.00	260-240	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-1	123	26'-24'	10:55	10:57	2	40	20.00	260-240	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-1	123	28'-26'	10:53	10:55	2	50	25.00	280-260	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-1	123	30'-28'	10:51	10:53	2	50	25.00	280-240	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
21-Aug-18	PRB-1	124	15'-16'	1:16	1:19	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	124	16'-17'	1:19	1:22	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	124	17'-18'	1:22	1:26	4	20	5.00	50	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	124	18'-19'	1:26	1:30	4	20	5.00	50	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	124	19'-20'	1:30	1:34	4	20	5.00	50	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	124	20'-21'	1:34	1:37	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	124	21'-22'	1:37	1:40	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	124	22'-23'	1:40	1:43	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	124	23'-24'	1:43	1:46	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	124	24'-25'	1:46	1:50	4	20	5.00	50	Alternate side, double concentration.	83.60	22.80	34.60
23-Aug-18	PRB-1	125	17-19'	12:22	12:25	3	40	13.33	300-275	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
23-Aug-18	PRB-1	125	19'-21	12:17	12:20	2	50	25.00	300-275	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	86.68
23-Aug-18	PRB-1	125	21'-23'	12:13	12:17	4	50	12.50	325-300	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	86.68
23-Aug-18	PRB-1	125	23'-25'	12:09	12:13	4	50	12.50	300	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	86.68
23-Aug-18	PRB-1	125	25'-27'	12:04	12:09	5	50	10.00	300	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	86.68
6-Sep-18	PRB-1	126	19'-17'	2:35	2:37	2	30	15.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98
6-Sep-18	PRB-1	126	21'-19'	2:33	2:35	2	30	15.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	24.31	49.98

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
6-Sep-18	PRB-1	126	23'-21'	2:31	2:33	2	40	20.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
6-Sep-18	PRB-1	126	25'-23'	2:23	2:25	2	40	20.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	32.41	66.64
6-Sep-18	PRB-1	126	27'-25'	2:16	2:18	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-1	126	29'-27'	2:14	2:16	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
28-Aug-18	PRB-1	127	18'-16'	2:50	2:52	2	0	0	80-60	1.5 rod. Bottom Up. Double concentration. Surfacing around rod.	0.00	0.00	0.00
28-Aug-18	PRB-1	127	20'-18'	2:42	2:44	2	0	0	80-60	1.5 rod. Bottom Up. Double concentration. Surfacing around rod.	0.00	0.00	0.00
28-Aug-18	PRB-1	127	22'-20'	2:37	2:39	2	50	25	300-280	1.5 rod. Bottom Up. Double concentration.	209.00	80.73	90.52
28-Aug-18	PRB-1	127	24'-22'	2:31	2:33	2	50	25	340-320	1.5 rod. Bottom Up. Double concentration.	209.00	80.73	90.52
28-Aug-18	PRB-1	127	26'-24'	2:24	2:26	2	60	30	340-320	1.5 rod. Bottom Up. Double concentration.	250.80	96.87	108.62
28-Aug-18	PRB-1	127	28'-26'	2:19	2:21	2	60	30	340-320	1.5 rod. Bottom Up. Double concentration.	250.80	96.87	108.62
21-Aug-18	PRB-1	128	15'-16'	11:25	11:25	0	0		0	Injection tip clogged tried moving rods and down to unclog, point surfaced from annulus could not inject.	0.00	0.00	0.00
7-Sep-18	PRB-1	128	19'-17'	4:47	4:50	3	40	13.33	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-1	128	21'-19'	4:41	4:44	3	40	13.33	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-1	128	23'-21'	4:38	4:41	3	50	16.67	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
7-Sep-18	PRB-1	128	25'-23'	4:35	4:38	3	50	16.67	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration. Minor Surfacing 2 ft away.	249.16	54.62	97.47
7-Sep-18	PRB-1	128	27'-25'	4:30	4:33	3	50	16.67	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration. Minor Surfacing 2 ft away.	249.16	54.62	97.47
7-Sep-18	PRB-1	128	29'-27'	4:25	4:28	3	50	16.67	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
17-Aug-18	PRB-1	129	15'-16'	10:00	10:00					Attempted injection location using top-down method, surfaced through annulus. Could not inject.	0.00	0.00	0.00
7-Sep-18	PRB-1	129	25'-23'	12:04	12:04	0	0	0.00	0	Stopped injections at this location due to surfacing up rod	0.00	0.00	0.00
7-Sep-18	PRB-1	129	27'-25'	11:50	11:53	3	50	16.67	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
7-Sep-18	PRB-1	129	29'-27'	11:48	11:50	2	50	25.00	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
28-Aug-18	PRB-1	130	18'-20'	12:11	12:13	2	40	20	220-200	1.5 rod. Bottom Up. Double concentration.	167.20	64.58	72.41
28-Aug-18	PRB-1	130	20'-22'	12:07	12:09	2	50	25	220-200	1.5 rod. Bottom Up. Double concentration.	209.00	80.73	90.52
28-Aug-18	PRB-1	130	22'-24'	11:59	12:01	2	40	20	360-340	1.5 rod. Bottom Up. Double concentration.	167.20	64.58	72.41
28-Aug-18	PRB-1	130	24'26'	11:56	11:58	2	50	25	400-380	1.5 rod. Bottom Up. Double concentration.	209.00	80.73	90.52
28-Aug-18	PRB-1	130	26'-28'	11:54	11:56	2	50	25	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	80.73	90.52
16-Aug-18	PRB-1	131	15'-16'	11:57	11:59	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	131	16'-17'	11:59	12:00	1	40	40.00	400	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	131	17'-18'	12:00	12:02	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	131	18'-19'	12:02	12:04	2	40	20.00	375	Top-down, original dosage. Mounding from PMW-5.	76.90	18.37	32.91
16-Aug-18	PRB-1	131	19'-20'	12:08	12:10	2	40	20.00	375	Top-down, original dosage. Mounding from PMW-5.	76.90	18.37	32.91
16-Aug-18	PRB-1	131	20'-21'	12:10	12:12	2	40	20.00	375	Top-down, original dosage. Mounding from PMW-5.	76.90	18.37	32.91
16-Aug-18	PRB-1	131	21'-22'	12:12	12:14	2	40	20.00	375	Top-down, original dosage. Mounding from PMW-5.	76.90	18.37	32.91
16-Aug-18	PRB-1	131	22'-23'	12:14	12:16	2	40	20.00	400	Top-down, original dosage. Mounding from PMW-5.	76.90	18.37	32.91
16-Aug-18	PRB-1	131	23'-24'	12:16	12:18	2	40	20.00	375	Top-down, original dosage. Mounding from PMW-5.	76.90	18.37	32.91
16-Aug-18	PRB-1	131	24'-25'	12:18	12:20	2	40	20.00	400	Top-down, original dosage. Mounding from PMW-5.	76.90	18.37	32.91
28-Aug-18	PRB-1	132	15'-17'	10:15	10:17	2	30	15	160-140	1.5 rod. Bottom Up. Double concentration.	125.40	48.44	54.31
28-Aug-18	PRB-1	132	17'-19'	10:12	10:14	2	30	15	140-120	1.5 rod. Bottom Up. Double concentration.	125.40	48.44	54.31
28-Aug-18	PRB-1	132	19'-21'	10:08	10:10	2	40	20	140-100	1.5 rod. Bottom Up. Double concentration.	167.20	64.58	72.41
28-Aug-18	PRB-1	132	21'-23'	9:58	10:00	2	40	20	240-220	1.5 rod. Bottom Up. Double concentration.	167.20	64.58	72.41
28-Aug-18	PRB-1	132	23'-25'	9:53	9:55	2	50	25	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	80.73	90.52

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
28-Aug-18	PRB-1	132	25'-27'	9:48	9:50	2	50	25	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	80.73	90.52
17-Aug-18	PRB-1	133	15'-16'	9:30	9:30					Attempted injection location using top-down method, surfaced through annulus. Could not inject.	0.00	0.00	0.00
23-Aug-18	PRB-1	133	19'-21'	10:34	10:34	1	0	0.00	200	Resealed annulus, surfaced again	0.00	0.00	0.00
23-Aug-18	PRB-1	133	22'-24'	10:28	10:32	4	30	7.50	300	surfaced up rod	125.40	34.20	52.01
23-Aug-18	PRB-1	133	24'-26'	10:22	10:24	3	50	16.67	300	Alternate side, double concentration.	209.00	57.00	86.68
23-Aug-18	PRB-1	133	26'-28'	10:19	10:21	3	70	23.33	300	Alternate side, double concentration.	292.60	79.80	121.35
23-Aug-18	PRB-1	134	15'-17'	9:27	9:27	1	20	40.00	275	1.5 rod. Bottom Up. Double concentration. Stopped injections due to surfacing 2 feet away	83.60	22.80	34.67
23-Aug-18	PRB-1	134	17'-19'	9:25	9:26	1	40	40.00	300-275	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
23-Aug-18	PRB-1	134	19'-21'	9:04	9:06	2	40	20.00	350	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
23-Aug-18	PRB-1	134	21'-23'	9:03	9:04	1	40	40.00	350	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
23-Aug-18	PRB-1	134	23'-25'	8:54	8:59	2	40	20.00	350	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	69.34
21-Aug-18	PRB-1	135	15'-16'	8:38	8:42	4	20	5.00	0	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	135	16'-17'	8:42	8:46	4	20	5.00	0	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	135	17'-18'	8:46	8:51	5	20	4.00	0	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	135	18'-19'	8:51	8:54	3	20	6.67	0	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	135	19'-20'	8:54	8:58	4	20	5.00	0	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	135	20'-21'	8:58	9:01	3	20	6.67	0	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	135	21'-22'	9:01	9:05	4	20	5.00	0	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	135	22'-23'	9:46	9:50	4	20	5.00	75	Alternate side, double concentration.	83.60	22.80	34.60
21-Aug-18	PRB-1	135	23'-24'	9:50	9:54	4	20	5.00	75	Alternate side, double concentration.	83.60	22.80	34.60

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
21-Aug-18	PRB-1	135	24'-25'	9:54	10:00	6	20	3.33	75	Alternate side, double concentration.	83.60	22.80	34.60
16-Aug-18	PRB-1	136	15'-16'	10:38	10:40	2	40	20.00	350	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	136	16'-17'	10:40	10:42	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	136	17'-18'	10:42	10:43	1	40	40.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	136	18'-19'	10:43	10:44	1	40	40.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	136	19'-20'	10:44	10:46	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	136	20'-21'	10:46	10:48	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	136	21'-22'	10:48	11:00	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	136	22'-23'	11:20	11:22	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	136	23'-24'	11:22	11:24	2	40	20.00	400	Top-down, original dosage.	76.90	18.37	32.91
16-Aug-18	PRB-1	136	24'-25'	11:24	11:26	2	40	20.00	375	Top-down, original dosage.	76.90	18.37	32.91
17-Aug-18	PRB-2	201	15'-16'	1:10	1:12	2	40	20.00	375	Attempted injection location using top-down method, surfaced through annulus. Could not inject.	76.86	18.37	32.97
17-Aug-18	PRB-2	201	17'-18'	1:12	1:12					Attempted injection location using top-down method, surfaced through annulus. Could not inject.	0.00	0.00	0.00
24-Aug-18	PRB-2	202	15.5'-17.5'	9:12	9:14	2	20	10.00	200-180	1.5 rod. Bottom Up. Double concentration.	83.60	28.67	34.61
24-Aug-18	PRB-2	202	17.5'-19.5'	9:06	9:08	2	20	10.00	200-180	1.5 rod. Bottom Up. Double concentration.	83.60	28.67	34.61
24-Aug-18	PRB-2	202	19.5'-21.5'	8:59	9:01	2	40	20.00	260-220	1.5 rod. Bottom Up. Double concentration.	167.20	57.33	69.21
24-Aug-18	PRB-2	202	21.5'-23.5'	8:50	8:52	2	40	20.00	280-220	1.5 rod. Bottom Up. Double concentration.	167.20	57.33	69.21
24-Aug-18	PRB-2	202	23.5'-25.5'	8:40	8:42	2	40	20.00	360-320	1.5 rod. Bottom Up. Double concentration.	167.20	57.33	69.21
24-Aug-18	PRB-2	202	25.5'-27.5'	8:38	8:40	2	40	20.00	300-280	1.5 rod. Bottom Up. Double concentration.	167.20	57.33	69.21
27-Aug-18	PRB-2	203	20'-18'	2:32	2:34	2	30	15.00	120-100	Minor surfacing 2 foot behind point	125.40	46.98	54.31
27-Aug-18	PRB-2	203	22'-20'	2:28	2:32	4	40	10.00	340-320	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
27-Aug-18	PRB-2	203	24'-22'	2:16	2:20	4	40	10.00	360-340	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	203	26'-24'	2:14	2:16	2	40	20.00	380-360	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	203	28'-26'	2:11	2:14	3	50	16.67	400-380	1.5 rod. Bottom Up. Double concentration.	209.00	78.29	90.52
20-Aug-18	PRB-2	204	20'-21'	4:55	5:00	5	20	4.00	0	Double concentration. Surfaced 1 ft away, at the end of the interval.	76.54	21.25	32.13
20-Aug-18	PRB-2	204	21'-22'	5:00	5:02	2	10	5.00	0	Double concentration. Surfaced 1 ft away, stopped injections.	38.27	10.63	16.06
7-Sep-18	PRB-2	204	19'-17'	11:03	11:06	3	30	10.00	280-260	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	149.50	32.77	58.48
7-Sep-18	PRB-2	204	21'-19'	11:00	11:02	2	40	20.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-2	204	23'-21'	10:57	10:59	2	40	20.00	320-280	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-2	204	25'-23'	10:55	10:57	2	40	20.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-2	204	27'-25'	10:47	10:50	3	50	16.67	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
7-Sep-18	PRB-2	204	29'-27'	10:45	10:47	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
24-Aug-18	PRB-2	205	19.5'-21.5'	10:09	10:10	1	0	0.00	100-80	1.5 rod. Bottom Up. Double concentration. Surfacing around the rods.	0.00	0.00	0.00
24-Aug-18	PRB-2	205	21.5'-23.5'	10:03	10:05	2	5	2.50	400-380	1.5 rod. Bottom Up. Double concentration. Surfacing around the rods.	20.90	7.17	8.65
24-Aug-18	PRB-2	205	23.5'-25.5'	10:00	10:02	2	40	20.00	380-360	1.5 rod. Bottom Up. Double concentration.	167.20	57.33	69.21
24-Aug-18	PRB-2	205	25.5'-27.5'	9:58	10:00	2	40	20.00	400-380	1.5 rod. Bottom Up. Double concentration.	167.20	57.33	69.21
17-Aug-18	PRB-2	206	24'-25'	1:45	1:45					Attempted injection location using bottom-up method, surfaced through annulus. Could not inject.	0.00	0.00	0.00
22-Aug-18	PRB-2	206	15'-16'	2:52	2:55	3	20	6.67	0	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	206	16'-17'	2:56	3:00	4	20	5.00	75	Alternate side, double concentration surfaced 4 ft away.	83.60	22.80	34.59
22-Aug-18	PRB-2	206	18'-19'	3:01	3:03	2	10	5.00	75	Alternate side, double concentration surfaced 4 ft away.	41.80	11.40	17.29
22-Aug-18	PRB-2	206	20'-21'	3:03	3:03	0	0		75	Surfaced 4 ft away, stopped injections.	0.00	0.00	0.00
27-Aug-18	PRB-2	207	18"-16"	3:32	3:34	2	30	15.00	200-180	1.5 rod. Bottom Up. Double concentration.	125.40	46.98	54.31

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
27-Aug-18	PRB-2	207	20'-18'	3:28	3:32	4	40	10.00	200-180	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	207	22'-20'							skipped this interval due to back pressure	0.00	0.00	0.00
27-Aug-18	PRB-2	207	24'-22'	3:17	3:20	3	40	13.33	340-320	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	207	26'-24'	3:14	3:17	3	40	13.33	360-340	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	207	28'-26'	3:11	3:14	3	50	16.67	340-320	1.5 rod. Bottom Up. Double concentration.	209.00	78.29	90.52
17-Aug-18	PRB-2	208	24'-25'	2:45	2:45	2	40	20.00	75	Attempted injection location using bottom-up method, surfaced through annulus. Could not inject.	76.86	18.37	32.97
30-Aug-18	PRB-2	208	18'-16'	11:32	11:32	0	0	0.00	100-80	Surfacing 1' away from location	0.00	0.00	0.00
30-Aug-18	PRB-2	208	20'-18'	11:28	11:32	4	30	7.50	140-120	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	125.40	34.20	54.31
30-Aug-18	PRB-2	208	22'-20'	11:22	11:25	3	40	13.33	120-100	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	45.60	72.41
30-Aug-18	PRB-2	208	24'-22'	11:15	11:18	3	40	13.33	300-280	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	167.20	45.60	72.41
30-Aug-18	PRB-2	208	26'-24'	11:07	11:10	3	50	16.67	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-2	208	28'-26'	11:04	11:07	3	50	16.67	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
27-Aug-18	PRB-2	209	16'-18'	12:23	12:25	2	30	15.00	140-100	1.5 rod. Bottom Up. Double concentration.	125.40	46.98	54.31
27-Aug-18	PRB-2	209	18'-20'	12:16	12:21	5	50	10.00	100-60	1.5 rod. Bottom Up. Double concentration. Surfacing around rod.	209.00	78.29	90.52
27-Aug-18	PRB-2	209	20'-22'	12:12	12:14	2	0	0.00	260-240	1.5 rod. Bottom Up. Double concentration. Surfacing around rod.	0.00	0.00	0.00
27-Aug-18	PRB-2	209	22'-24'	12:00	12:02	2	50	25.00	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	78.29	90.52
27-Aug-18	PRB-2	209	24'-26'	11:57	11:59	2	50	25.00	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	78.29	90.52
27-Aug-18	PRB-2	209	26'-28'	11:53	11:55	2	50	25.00	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	78.29	90.52
17-Aug-18	PRB-2	210	15'-16'	3:23	3:28	2	40	20.00	50	Surfaced through 208. Repacked 208 and resumed injections.	76.86	18.37	32.97
17-Aug-18	PRB-2	210	16'-17'	3:38	3:30	2	40	20.00	0		76.86	18.37	32.97
17-Aug-18	PRB-2	210	17'-18'	3:30	3:32	2	40	20.00	0	Stopped for thunder.	76.86	18.37	32.97

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
17-Aug-18	PRB-2	210	18'-19'	4:20	4:23	3	40	13.33	0	Surfaced near 208. Could not inject. Skipped an interval and tried again at deeper depth.	76.86	18.37	32.97
17-Aug-18	PRB-2	210	20'-21'	4:30	4:30				0	Surfaced near 208. Could not inject.	0.00	0.00	0.00
30-Aug-18	PRB-2	211	17'-15'	4:52	4:54	2	20	10.00	100-80	1.5 rod. Bottom Up. Double concentration.	83.60	22.80	36.21
30-Aug-18	PRB-2	211	19"-17'	4:50	4:52	2	20	10.00	300-280	1.5 rod. Bottom Up. Double concentration.	83.60	22.80	36.21
30-Aug-18	PRB-2	211	21"-19'	4:49	4:50	1	20	20.00	360-340	1.5 rod. Bottom Up. Double concentration.	83.60	22.80	36.21
30-Aug-18	PRB-2	211	23"-21"	4:47	4:49	2	20	10.00	340-320	1.5 rod. Bottom Up. Double concentration.	83.60	22.80	36.21
30-Aug-18	PRB-2	211	25"-23"	4:45	4:47	2	20	10.00	360-340	1.5 rod. Bottom Up. Double concentration.	83.60	22.80	36.21
22-Aug-18	PRB-2	212	15'-16'	11:52	11:55	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	212	16'-17'	11:55	11:58	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	212	17'-18'	11:58	12:01	3	20	6.67	50	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	212	18'-19'	12:01	12:04	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	212	19'-20'	12:04	12:07	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	212	20'-21'	12:07	12:10	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	212	21'-22'	12:12	12:18	6	20	3.33	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	212	22'-23'	12:19	12:22	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	212	23'-24'	12:23	12:27	4	20	5.00	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	212	24'-25'	12:27	12:31	4	20	5.00	25	Alternate side, double concentration.	83.60	22.80	34.59
27-Aug-18	PRB-2	213	18'-20'	11:22	11:24	2	0	0.00	260-240	1.5 rod. Bottom Up. Double concentration. Surfacing around rod.	0.00	0.00	0.00
27-Aug-18	PRB-2	213	20'-22'	11:19	11:21	2	40	20.00	340-320	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	213	22'-24'	11:14	11:16	2	40	20.00	360-340	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	213	24'-26'	11:10	11:12	2	40	20.00	360-340	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
27-Aug-18	PRB-2	213	26'-28'	11:06	11:08	2	50	25.00	400-380	1.5 rod. Bottom Up. Double concentration.	209.00	78.29	90.52
24-Aug-18	PRB-2	214	20'-22'	2:30	2:31	1	0	0.00	100-60	1.5 rod. Bottom Up. Double concentration. Surfacing 3' away from hole.	0.00	0.00	0.00
24-Aug-18	PRB-2	214	22'-24'	2:25	2:27	2	10	5.00	400-380	1.5 rod. Bottom Up. Double concentration. Surfacing 3' away from hole.	41.80	14.33	17.30
24-Aug-18	PRB-2	214	24'-26'	2:18	2:20	2	60	30.00	400-380	1.5 rod. Bottom Up. Double concentration.	250.80	86.00	103.82
24-Aug-18	PRB-2	214	26'-28'	2:13	2:15	2	60	30.00	400-380	1.5 rod. Bottom Up. Double concentration.	250.80	86.00	103.82
22-Aug-18	PRB-2	215	16'-17'	4:35	4:39	4	20	5.00	25	Double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	215	20'-21'	4:42	4:42	0	0		60	Double concentration, could not inject.	0.00	0.00	0.00
22-Aug-18	PRB-2	215	22'-23'	4:45	4:45	0	0		100	Double concentration, could not inject.	0.00	0.00	0.00
7-Sep-18	PRB-2	215	19'-17'	10:06	10:09	3	30	10.00	180-160	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	149.50	32.77	58.48
7-Sep-18	PRB-2	215	21'-19'	10:03	10:06	3	40	13.33	180-160	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-2	215	23'-21'	10:01	10:03	2	40	20.00	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-2	215	25'-23'	9:57	10:01	4	40	10.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-2	215	27'-25'	9:48	9:51	3	50	16.67	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
7-Sep-18	PRB-2	215	29'-27'	9:45	9:48	3	50	16.67	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
30-Aug-18	PRB-2	216	18'-16'	0:00	0:00	0	0	0.00	0	Did not try due to surfacing	0.00	0.00	0.00
30-Aug-18	PRB-2	216	20'-18'	0:00	0:00	0	0	0.00	0	Did not try due to surfacing	0.00	0.00	0.00
30-Aug-18	PRB-2	216	22'-20'	0:00	0:00	0	0	0.00	0	Did not try due to surfacing	0.00	0.00	0.00
30-Aug-18	PRB-2	216	24'-22'	0:00	0:00	0	0	0.00	0	Did not try due to surfacing	0.00	0.00	0.00
30-Aug-18	PRB-2	216	26'-24'	2:30	2:30	0	0	0.00	420-400	Surfacing 1' away from location	0.00	0.00	0.00
30-Aug-18	PRB-2	216	26'-28'	2:25	2:30	5	25	5.00	420-400	Surfacing 1' away from location	104.50	28.50	45.26
30-Aug-18	PRB-2	217	17'-15'	0:00	0:00	0	0	0.00	0	Did not try due to surfacing	0.00	0.00	0.00

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
30-Aug-18	PRB-2	217	19-17'	0:00	0:00	0	0	0.00	0	Did not try due to surfacing	0.00	0.00	0.00
30-Aug-18	PRB-2	217	21'-19'	1:58	1:58	2	10	5.00	420-400	Surfacing 2' from location	41.80	11.40	18.10
30-Aug-18	PRB-2	217	23'-21'	1:55	1:55	0	0	0.00	120-80	Surfacing 2' from location	0.00	0.00	0.00
30-Aug-18	PRB-2	217	25'-23'	1:52	1:52	0	0	0.00	320-300	Surfacing 2' from location	0.00	0.00	0.00
24-Aug-18	PRB-2	218	20'-22'	3:07	3:09	2	60	30.00	300-280	1.5 rod. Bottom Up. Double concentration. Surfacing around rod.	250.80	86.00	103.82
24-Aug-18	PRB-2	218	22'-24'	3:03	3:05	2	30	15.00	300-280	1.5 rod. Bottom Up. Double concentration.	125.40	43.00	51.91
24-Aug-18	PRB-2	218	24'-26'	3:01	3:03	2	30	15.00	280-260	1.5 rod. Bottom Up. Double concentration.	125.40	43.00	51.91
24-Aug-18	PRB-2	218	26'-28'	2:56	2:58	2	50	25.00	220-200	1.5 rod. Bottom Up. Double concentration.	209.00	71.67	86.52
24-Aug-18	PRB-2	219	15.5'-16.5'	1:32	1:33	1	0	0.00	40-20	1.5 rod. Bottom Up. Double concentration. Surfacing 6' away from hole.	0.00	0.00	0.00
24-Aug-18	PRB-2	219	16.5'-18.5'	1:25	1:27	2	50	25.00	120-100	1.5 rod. Bottom Up. Double concentration. Surfacing 6' away from hole.	209.00	71.67	86.52
24-Aug-18	PRB-2	219	18.5'-20.5'	1:18	1:20	2	50	25.00	180-160	1.5 rod. Bottom Up. Double concentration.	209.00	71.67	86.52
24-Aug-18	PRB-2	219	20.5'-22.5'	12:24	12:26	2	50	25.00	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	71.67	86.52
24-Aug-18	PRB-2	219	22.5'-24.5'	12:20	12:22	2	50	25.00	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	71.67	86.52
24-Aug-18	PRB-2	219	24.5'-26.5'	12:17	12:19	2	50	25.00	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	71.67	86.52
24-Aug-18	PRB-2	219	26.5'-28.5'	12:13	12:15	2	50	25.00	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	71.67	86.52
22-Aug-18	PRB-2	220	20'-21'	9:40	9:44	4	20	5.00	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	220	21'-22'	9:44	9:47	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	220	22'-23'	9:47	9:50	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	220	23'-24'	9:50	9:53	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	220	24'-25'	9:53	9:56	3	20	6.67	50	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	220	25'-26'	9:56	9:59	3	20	6.67	50	Alternate side, double concentration.	83.60	22.80	34.59

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
22-Aug-18	PRB-2	220	26'-27'	9:59	10:02	3	20	6.67	50	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	220	27'-28'	10:02	10:05	3	20	6.67	25	Alternate side, double concentration.	83.60	22.80	34.59
22-Aug-18	PRB-2	220	28'-29'	10:05	10:08	3	20	6.67	75	Alternate side, double concentration.	83.60	22.80	34.59
5-Sep-18	PRB-2	221	24'-22'	8:51	8:53	2	0	0.00	260-240	1.5 rod. Bottom Up. Double concentration. Surfacing up rods.	0.00	0.00	0.00
5-Sep-18	PRB-2	221	26'-24'	8:49	8:51	2	40	20.00	280-260	1.5 rod. Bottom Up. Double concentration.	167.20	32.41	66.64
5-Sep-18	PRB-2	221	28'-26'	8:47	8:49	2	50	25.00	280-260	1.5 rod. Bottom Up. Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-2	221	30'-28'	8:45	8:47	2	50	25.00	300-280	1.5 rod. Bottom Up. Double concentration.	209.00	40.52	83.30
27-Aug-18	PRB-2	222	20'-18'	10:17	10:19	2	30	15.00	280-240	1.5 rod. Bottom Up. Double concentration.	125.40	46.98	54.31
27-Aug-18	PRB-2	222	22'-20'	10:13	10:15	2	40	20.00	320-300	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	222	24'-22'	10:09	10:11	2	40	20.00	360-340	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	222	26'-24'	10:06	10:08	2	40	20.00	360-340	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	222	28'-26'	10:01	10:03	2	50	25.00	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	78.29	90.52
20-Aug-18	PRB-2	223	15'-16'	3:59	4:02	3	20	6.67	0	Double concentration.	76.54	21.25	32.13
20-Aug-18	PRB-2	223	16'-17'	4:02	4:06	4	20	5.00	0	Double concentration. Surfaced 3 ft away.	76.54	21.25	32.13
20-Aug-18	PRB-2	223	20'-21'				0		0	Attempted interval, surfaced 3 ft away stopped injections.	0.00	0.00	0.00
24-Aug-18	PRB-2	224	15.5'-17.5'	11:29	11:31	2	25	12.50	240-220	1.5 rod. Bottom Up. Double concentration.	104.50	35.83	43.26
24-Aug-18	PRB-2	224	16.5'-18.5'	11:25	11:27	2	25	12.50	240-220	1.5 rod. Bottom Up. Double concentration.	104.50	35.83	43.26
24-Aug-18	PRB-2	224	18.5'-20.5'	11:18	11:20	2	50	25.00	260-240	1.5 rod. Bottom Up. Double concentration.	209.00	71.67	86.52
24-Aug-18	PRB-2	224	20.5'-22.5'	11:12	11:14	2	50	25.00	300-260	1.5 rod. Bottom Up. Double concentration.	209.00	71.67	86.52
24-Aug-18	PRB-2	224	22.5'-24.5'	11:04	11:06	2	50	25.00	400-380	1.5 rod. Bottom Up. Double concentration.	209.00	71.67	86.52
24-Aug-18	PRB-2	224	24.5'-26.5'	10:57	10:59	2	55	27.50	380-360	1.5 rod. Bottom Up. Double concentration.	229.90	78.83	95.17
24-Aug-18	PRB-2	224	26.5'-28.5'	10:50	10:52	2	60	30.00	400-380	1.5 rod. Bottom Up. Double concentration.	250.80	86.00	103.82

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
30-Aug-18	PRB-2	225	17'-15'	0:00	0:00	0	0	0.00	380-340	Did not try due to surfacing	0.00	0.00	0.00
30-Aug-18	PRB-2	225	19-17'	9:41	9:43	2	30	15.00	260-240	Surfacing 6' away towards 227	125.40	34.20	54.31
30-Aug-18	PRB-2	225	21'-19'	9:38	9:41	3	40	13.33	280-260	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	72.41
30-Aug-18	PRB-2	225	23'-21'	9:30	9:33	3	40	13.33	300-280	1.5 rod. Bottom Up. Double concentration.	167.20	45.60	72.41
30-Aug-18	PRB-2	225	25'-23'	9:27	9:30	3	50	16.67	340-320	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-2	225	27'-25'	9:25	9:27	2	50	25.00	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	90.52
27-Aug-18	PRB-2	226	23'-21'	4:23	4:23	0	0		340-320	Surfacing 4 feet away, stopped injections.	0.00	0.00	0.00
27-Aug-18	PRB-2	226	25'-23'	4:18	4:20	2	40	20.00	380-360	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	226	27'-25'	4:14	4:18	4	50	12.50	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	78.29	90.52
27-Aug-18	PRB-2	227	18'-20'	9:15	9:17	2	30	15.00	220-180	1.5 rod. Bottom Up. Double concentration.	125.40	46.98	54.31
27-Aug-18	PRB-2	227	20'-22'	9:12	9:14	2	40	20.00	340-300	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	227	22'-24'	9:05	9:07	2	40	20.00	320-300	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	227	24'-26'	9:00	9:02	2	40	20.00	360-340	1.5 rod. Bottom Up. Double concentration.	167.20	62.64	72.41
27-Aug-18	PRB-2	227	26'-28'	8:57	8:59	2	50	25.00	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	78.29	90.52
22-Aug-18	PRB-2	228	15'-16'	8:36	8:38	2	10	5.00	0	Alternate side, double concentration. Surfaced 4 ft away	41.80	11.40	17.29
22-Aug-18	PRB-2	228	17'-18'	8:39	8:41	3	10	3.33	0	Alternate side, double concentration. Surfaced 4 ft away	41.80	11.40	17.29
22-Aug-18	PRB-2	228	21'-22'	8:41	8:41	0	0		0	Alternate side, double concentration. Surfaced 4 ft away	0.00	0.00	0.00
7-Sep-18	PRB-2	228	19'-17'	9:13	9:15	2	30	15.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	149.50	32.77	58.48
7-Sep-18	PRB-2	228	21'-19'	9:11	9:13	2	30	15.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	149.50	32.77	58.48
7-Sep-18	PRB-2	228	23'-21'	9:09	9:11	2	40	20.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-2	228	25'-23'	9:07	9:09	2	40	20.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	199.33	43.70	77.98
7-Sep-18	PRB-2	228	27'-25'	9:02	9:04	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
7-Sep-18	PRB-2	228	29'-27'	9:00	9:02	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	249.16	54.62	97.47
20-Aug-18	PRB-2	229	19'-20'	1:50	1:54	4	20	5.00	0	Double concentration.	76.54	21.25	32.13
20-Aug-18	PRB-2	229	20'-21'	1:54	2:02	8	50	6.25	0	Double concentration.	191.36	53.14	80.31
20-Aug-18	PRB-2	229	21'-22'	2:02	2:04	2	20	10.00	0	Double concentration.	76.54	21.25	32.13
20-Aug-18	PRB-2	229	22'-23'	2:04	2:08	4	20	5.00	0	Double concentration.	76.54	21.25	32.13
20-Aug-18	PRB-2	229	23'-24'	2:08	2:12	4	20	5.00	0	Double concentration.	76.54	21.25	32.13
20-Aug-18	PRB-2	229	24'-25'	2:12	2:16	4	20	5.00	0	Double concentration.	76.54	21.25	32.13
20-Aug-18	PRB-2	229	25'-26'	2:16	2:21	5	20	4.00	0	Double concentration.	76.54	21.25	32.13
20-Aug-18	PRB-2	229	26'-27'	2:21	2:25	4	20	5.00	0	Double concentration.	76.54	21.25	32.13
20-Aug-18	PRB-2	229	27'-28'	2:25	5:48	3	20	6.67	0	Double concentration.	76.54	21.25	32.13
20-Aug-18	PRB-2	229	28'-29'	2:28	2:30	2	10	5.00	0	Double concentration, surfaced 1 ft away.	38.27	10.63	16.06
20-Aug-18	PRB-2	229	29'-30'	2:31	2:32	1	5	5.00	0	Double concentration, surfaced 1 ft away.	19.14	5.31	8.03
20-Aug-18	PRB-3	301	15'-16'	9:26	9:32	8	40	5.00	0	Attempted injection location using top-down method, surfaced 2 ft away. Skipped 2 intervals.	80.89	22.80	33.10
20-Aug-18	PRB-3	301	18'-19'	9:36	9:38	2	10	5.00	0	Surfaced 2 ft away. Stopped injections.	20.22	5.70	8.27
5-Sep-18	PRB-3	301	28'-26'	9:21	9:23	2	10	5.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration. Surfacing 4' away.	41.80	8.10	16.66
5-Sep-18	PRB-3	301	30'-28'	9:13	9:15	2	60	30.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
6-Sep-18	PRB-3	302	20'-18'	3:29	3:31	2	50	25.00	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	302	22'-20'	3:25	3:27	2	50	25.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	302	24'-22'	3:23	3:25	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	302	26'-24'	3:18	3:20	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration. Minor Surfacing 2 ft away.	209.00	40.52	83.30

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
6-Sep-18	PRB-3	302	28'-26'	3:11	3:13	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration. Minor Surfacing 2 ft away.	209.00	40.52	83.30
6-Sep-18	PRB-3	302	30'-28'	3:09	3:11	2	50	25.00	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
31-Aug-18	PRB-3	303	20'-18'	11:43	11:45	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	303	22'-20'	11:40	11:42	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	303	24'-22'	11:38	11:40	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	303	26'-24'	11:36	11:38	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	303	28'-26'	11:34	11:36	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	303	30'-28'	11:32	11:34	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	305	19'-17'	12:15	12:17	2	55	27.50	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	305	21'-19'	12:12	12:15	3	55	18.33	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	305	23'-21'	12:11	12:12	1	55	55.00	400-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	305	25'-23'	12:01	12:03	2	55	27.50	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	305	27'-25'	11:59	12:01	2	55	27.50	400-380	1.5 rod. Bottom Up. Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	305	27'-25'	1:45	1:52	7	50	7.14	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	305	29'-27'	11:58	11:59	1	55	55.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	62.70	99.57
6-Sep-18	PRB-3	306	20'-18'	4:17	4:22	2	50	25.00	300-280	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	306	22'-20'	4:11	4:14	2	50	25.00	300-280	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	306	24'-22'	4:07	4:11	2	50	25.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	306	26'-24'	3:59	4:03	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	306	28'-26'	3:56	3:59	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	306	30'-28'	3:52	3:56	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-3	307	20'-18'	10:07	10:09	2	60	30.00	300-240	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
5-Sep-18	PRB-3	307	22'-20'	10:03	10:05	2	60	30.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
5-Sep-18	PRB-3	307	24'-22'	9:55	9:57	2	60	30.00	300-280	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
5-Sep-18	PRB-3	307	26'-24'	9:52	9:54	2	60	30.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
5-Sep-18	PRB-3	307	28'-26'	9:49	9:51	2	60	30.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
5-Sep-18	PRB-3	307	30'-28'	9:46	9:48	2	60	30.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
30-Aug-18	PRB-3	308	20'-18'	3:00	3:02	2	50	25.00	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	308	22'-20'	2:55	2:58	3	50	16.67	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	308	24'-22'	2:53	2:55	2	50	25.00	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	308	26'-24'	2:51	2:53	2	50	25.00	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	308	28'-26'	2:48	2:51	3	50	16.67	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	308	30'-28'	2:45	2:48	3	50	16.67	440-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
6-Sep-18	PRB-3	309	20'-18'	12:11	12:13	2	50	25.00	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	309	22'-20'	12:08	12:10	2	50	25.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	309	24'-22'	12:05	12:07	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	309	26'-24'	11:30	11:32	2	50	25.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	309	28'-26'	11:27	11:29	2	50	25.00	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	309	30'-28'	11:25	11:27	2	50	25.00	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
31-Aug-18	PRB-3	310	20'-18'	8:53	8:56	3	50	16.67	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	310	22'-20'	8:49	8:51	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	310	24'-22'	8:42	8:44	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	310	26'-24'	8:40	8:42	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	310	28'-26'	8:36	8:38	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
31-Aug-18	PRB-3	310	30'-28'	8:34	8:36	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
29-Aug-18	PRB-3	311	18'-16'	10:27	10:29	2	50	25.00	240-220	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	311	20'-18'	10:25	10:27	2	50	25.00	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	311	22'-20'	10:23	10:25	2	50	25.00	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	311	24'-22'	10:06	10:08	2	50	25.00	220-200	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	311	26'-24'	10;02	10:04	2	50	25.00	220-200	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	311	28'-26'	10:00	10;02	2	50	25.00	200-180	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
31-Aug-18	PRB-3	312	20'-18'	1:15	1:17	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	312	22'-20'	1:12	1:14	2	50	25.00	400-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	312	24'-22'	1:05	1:07	2	50	25.00	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	312	26'-24'	1:03	1:05	2	50	25.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	312	28'-26'	1:00	1:02	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	312	30'-28'	12:58	1:00	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	313	20'-18'	4:01	4:03	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	313	22'-20'	3:57	3:59	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	313	24'-22'	3:53	3:55	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	313	26'-24'	3:46	3:48	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	313	28'-26'	3:39	3:42	3	50	16.67	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	313	30'-28'	3:37	3:39	2	50	25.00	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
29-Aug-18	PRB-3	314	18'-16'	2:29	2:31	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	314	20'-18'	2:27	2:29	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	314	22'-20'	2:15	2:17	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
29-Aug-18	PRB-3	314	24'-22'	2:12	2:14	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	314	26'-24'	2:09	2:11	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	314	28'-26'	2:07	2:09	2	50	25.00	380-360	1.5 rod. Bottom Up. Double concentration.	209.00	67.24	90.52
31-Aug-18	PRB-3	315	20'-18'	2:05	2:07	2	50	25.00	300-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	315	22'-20'	2:00	2:02	2	50	25.00	280-260	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	315	24'-22'	1:57	1:59	2	50	25.00	280-260	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	315	26'-24'	1:55	1:57	2	50	25.00	300-280	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	315	28'-26'	1:50	1:52	2	50	25.00	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	315	30'-28'	1:48	1:50	2	50	25.00	300-240	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
28-Aug-18	PRB-3	316		3:00	3:02					Could not inject. Rods silted up during injection attempt.			
28-Aug-18	PRB-3	316		4:00	4:02					Could not inject. Rods silted up during injection attempt.			
30-Aug-18	PRB-3	316	18'-16'	8:46	8:49	3	50	16.67	300-280	Surfacing from tree roots 2' away, stopped injections.	209.00	57.00	90.52
30-Aug-18	PRB-3	316	20'-18'	8:43	8:46	3	50	0.00	300-280	Surfacing from tree roots 2' away, stopped injections.	209.00	57.00	90.52
30-Aug-18	PRB-3	316	22'-20'	8:35	8:38	3	50	16.67	380-340	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	316	24'-22'	8:33	8:35	2	50	25.00	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	316	26'-24'	8:30	8:33	3	50	16.67	360-340	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	90.52
30-Aug-18	PRB-3	316	28'-26'	8:28	8:30	2	50	25.00	320-300	1.5 rod. Bottom Up. Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	317	20'-18'	9:49	9:51	2	50	25.00	300-280	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	317	22'-20'	9:44	9:47	3	50	16.67	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	317	24'-22'	9:42	9:45	3	50	16.67	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	317	26'-24'	9:31	9:33	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	317	28'-26'	9:27	9:29	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
31-Aug-18	PRB-3	317	30'-28'	9:25	9:27	2	50	25.00	380-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
5-Sep-18	PRB-3	318	20'-18'	2:13	2:17	4	50	12.50	220-200	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-3	318	22'-20'	2:09	2:13	4	50	12.50	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-3	318	24'-22'	2:07	2:09	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-3	318	26'-24'	2:04	2:07	3	50	16.67	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-3	318	28'-26'	1:48	1:51	3	50	16.67	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
5-Sep-18	PRB-3	318	30'-28'	1:46	1:48	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
20-Aug-18	PRB-3	319	20'-21'	11:42	23:47	5	40	8.00	0	Attempted injection location using top-down method, surfaced through annulus. Surfaced at end of interval.	78.80	22.80	33.10
20-Aug-18	PRB-3	319	21'-22'						0	Surfaced through annulus. Stopped injections.	0.00	0.00	0.00
30-Aug-18	PRB-3	320	20'-18'	10:20	10:22	2	55	27.50	300-280	1.5 rod. Bottom Up. Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	320	22'-20'	10:18	10:20	2	55	27.50	300-280	1.5 rod. Bottom Up. Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	320	24'-22'	10:15	10:18	3	55	18.33	340-320	1.5 rod. Bottom Up. Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	320	26'-24'	10:07	10:09	2	55	27.50	360-340	1.5 rod. Bottom Up. Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	320	28'-26'	10:05	10:07	2	55	27.50	300-280	1.5 rod. Bottom Up. Double concentration.	229.90	62.70	99.57
30-Aug-18	PRB-3	320	30'-28'	10:03	10:05	2	55	27.50	300-280	1.5 rod. Bottom Up. Double concentration.	229.90	62.70	99.57
6-Sep-18	PRB-3	321	20'-18'	10:50	10:52	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	321	22'-20'	10:47	10:49	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	321	24'-22'	10:27	10:29	2	50	25.00	320-280	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	321	26'-24'	10:23	10:25	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	321	28'-26'	10:20	10:22	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30
6-Sep-18	PRB-3	321	30'-28'	10:18	10:20	2	50	25.00	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	40.52	83.30

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
5-Sep-18	PRB-3	322	20'-18'	11:51	11:45	2	60	30.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
5-Sep-18	PRB-3	322	22'-20'	11:47	11:42	2	60	30.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
5-Sep-18	PRB-3	322	24'-22'	11:45	11:40	2	60	30.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
5-Sep-18	PRB-3	322	26'-24'	11:29	11:38	2	60	30.00	220-200	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
5-Sep-18	PRB-3	322	28'-26'	11:24	11:36	2	60	30.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
5-Sep-18	PRB-3	322	30'-28'	11:22	11:34	2	60	30.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	48.62	99.95
29-Aug-18	PRB-3	323	17'-15'	12:28	12:30	2	60	30.00	340-320	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	80.69	108.62
29-Aug-18	PRB-3	323	18'-16'	12:20	12:23	3	60	20.00	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	250.80	80.69	108.62
29-Aug-18	PRB-3	323	20'-18'	12:17	12:20	3	50	16.67	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	323	22'-20'	12:13	12:15	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	323	24'-22'	12:10	12:13	3	50	16.67	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	323	26'-24'	12:08	12:10	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
29-Aug-18	PRB-3	323	28'-26'	12:06	12:08	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	67.24	90.52
31-Aug-18	PRB-3	324	20'-18'	10:42	10:44	2	50	25.00	320-300	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	324	22'-20'	10:39	10:41	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	324	24'-22'	10:37	10:39	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	324	26'-24'	10:34	10:36	2	50	25.00	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	324	28'-26'	10:28	10:30	2	50	25.00	300-280	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
31-Aug-18	PRB-3	324	30'-28'	10:26	10:28	2	50	25.00	360-340	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	209.00	57.00	90.52
29-Aug-18	PRB-3	325	18'-16'	3:59	4:02	3	55	18.33	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	73.96	99.57
29-Aug-18	PRB-3	325	20'-18'	3:55	3:58	3	55	18.33	380-360	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	73.96	99.57
29-Aug-18	PRB-3	325	22'-20'	3:53	3:55	2	55	27.50	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	73.96	99.57

Date	Area	Location	Depth (ft bgs)	Start Time	Stop Time	Minutes	Gallons	Flow Rate (gpm)	Pump Pressure (psi)	Notes	KP (lbs.)	SP (lbs.)	HL (lbs.)
29-Aug-18	PRB-3	325	24'-22'	3:51	3:53	2	55	27.50	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	73.96	99.57
29-Aug-18	PRB-3	325	26'-24'	3:47	3:50	3	55	18.33	420-400	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	73.96	99.57
29-Aug-18	PRB-3	325	28'-26'	3:45	3:47	2	55	27.50	400-380	1.5 rod. Bottom Up. Open Bore hole, Double concentration.	229.90	73.96	99.57

Total Volume Injected - PRB 1 (gallons)	8,403		Total Mass Injected - PRB 1 (lbs.)	31,552	8,243	13,007
Total Volume Injected - PRB 2 (gallons)	4,930		Total Mass Injected - PRB 2 (lbs.)	20,556	6,254	8,577
Total Volume Injected - PRB 3 (gallons)	7,090		Total Mass Injected - PRB 3 (lbs.)	29,440	7,543	12,416
Total Volume Injected (gallons)	20,423		Total Mass Injected (lbs.)	81,548	22,040	34,000

Notes:

ft bgs = Feet below ground surface
gpm = Gallons per minute
psi = pounds per square inch
lbs. = Pounds

KP = Potassium persulfate
SP = Sodium persulfate
HL = Hydrated lime

Alternate Side Injections

Attachment B

Laboratory Analytical Data

August 14, 2018 Service Request No:R1807203

Carey Letts
AECOM
5015 Campuswood Drive
Suite 104
East Syracuse, NY 13057

Laboratory Results for: 241 Farrell Road

Dear Carey,

Enclosed are the results of the sample(s) submitted to our laboratory July 31, 2018
For your reference, these analyses have been assigned our service request number **R1807203.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: AECOM
Project: 241 Farrell Road
Sample Matrix: Water

Service Request: R1807203
Date Received: 07/31/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Nine water samples were received for analysis at ALS Environmental on 07/31/2018. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Metals:

Method 6010C, 08/10/2018: The control limits for matrix spike recovery of one or more of the spiked analytes are not applicable and have been flagged with a "#". The concentration of the analyte(s) in the parent sample is more than 4x the spike concentration. No further corrective action was required.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by _____ Date 08/14/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: MW-32S-07312018			Lab ID: R1807203-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	64.3		0.2	2.0	mg/L	9056A
Sodium, Dissolved	121000		200	1000	ug/L	6010C

CLIENT ID: MW-32I-07312018			Lab ID: R1807203-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	85.9		0.2	2.0	mg/L	9056A
Potassium, Dissolved	4200		200	2000	ug/L	6010C
Sodium, Dissolved	119000		200	1000	ug/L	6010C

CLIENT ID: MW-32D-07312018			Lab ID: R1807203-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	47.0		0.2	2.0	mg/L	9056A
Potassium, Dissolved	7300		200	2000	ug/L	6010C
Sodium, Dissolved	123000		200	1000	ug/L	6010C

CLIENT ID: PMW-12S-07312018			Lab ID: R1807203-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	16.3		0.2	2.0	mg/L	9056A
Sodium, Dissolved	35400		200	1000	ug/L	6010C

CLIENT ID: PMW-12I-07312018			Lab ID: R1807203-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	20.7		0.2	2.0	mg/L	9056A
Sodium, Dissolved	33200		200	1000	ug/L	6010C

CLIENT ID: PMW-12D-07312018			Lab ID: R1807203-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	21.4		0.2	2.0	mg/L	9056A
Sodium, Dissolved	34100		200	1000	ug/L	6010C

CLIENT ID: PMW-13D-07312018			Lab ID: R1807203-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	10.2		0.2	2.0	mg/L	9056A
Sodium, Dissolved	22100		200	1000	ug/L	6010C

CLIENT ID: MW-29-07312018			Lab ID: R1807203-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Chromium, Hexavalent	0.067		0.002	0.010	mg/L	7199
Chromium, Hexavalent	0.078		0.002	0.010	mg/L	7199
Sulfate, Dissolved	1040		8	80	mg/L	9056A
Potassium, Dissolved	2540000		20000	200000	ug/L	6010C
Sodium, Dissolved	96500		200	1000	ug/L	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: PMW-11D-07312018			Lab ID: R1807203-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	48.3		0.2	2.0	mg/L	9056A
Potassium, Dissolved	2200		200	2000	ug/L	6010C
Sodium, Dissolved	83200		200	1000	ug/L	6010C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: AECOM **Service Request:**R1807203

Project: 241 Farrell Road/60564181

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1807203-001	MW-32S-07312018	7/31/2018	0910
R1807203-002	MW-32I-07312018	7/31/2018	1003
R1807203-003	MW-32D-07312018	7/31/2018	0937
R1807203-004	PMW-12S-07312018	7/31/2018	1032
R1807203-005	PMW-12I-07312018	7/31/2018	1057
R1807203-006	PMW-12D-07312018	7/31/2018	1125
R1807203-007	PMW-13D-07312018	7/31/2018	1240
R1807203-008	MW-29-07312018	7/31/2018	1430
R1807203-009	PMW-11D-07312018	7/31/2018	1441

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM : 52543

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: 241 Farrell Road	Project Number: 60564181
Project Manager: Carey Letts	Report CC:
Company/Address: 5015 Campusward Drive, Suite 104, East Syracuse, NY 13057	
Phone #: (315) 928-4331	Email: Carey.Letts@aecom.com
Sampler's Signature: Josh Cesario	Sampler's Printed Name: Joshua Cesario

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 0 0

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
MW-32S-07312018		7/31/18	9:10	AQ	2						X	X	
MW-32I-07312018			10:03		2						X	X	
~~MW-32D~~ MW-32D-07312018			9:37		2						X	X	
PMW-12S-07312018			10:32		2						X	X	
PMW-12I-07312018			10:57		2						X	X	
PMW-12D-07312018			11:25		2						X	X	
PMW-13D-07312018			12:40		2						X	X	
MW-29-07312018			14:30		6						X	X	MS / MSD
PMW-11D-07312018			14:41		2						X	X	

SPECIAL INSTRUCTIONS/COMMENTS

Metals

Metals Total : Cr+6 7199, SO4

Metals Dissolved : K, Na

See QAPP ☐

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

____ 1 day ____ 2 day ____ 3 day

____ 4 day ____ 5 day

____ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE _____

REPORT REQUIREMENTS

____ I. Results Only

____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION

PO #

BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Josh Cesario	Signature: Gary Bohan	Signature: Gary Bohan	Signature: Samuel Ward	Signature:	Signature:
Printed Name: Josh Cesario	Printed Name: Gary Bohan	Printed Name: Gary Bohan	Printed Name: Samuel Ward	Printed Name:	
Firm: AECOM	Firm: ALS	Firm: ALS	Firm: ALS	Firm:	
Date/Time: 7/31/18 15:00	Date/Time: 7/31/18 1500	Date/Time: 7/31/18 1750	Date/Time: 7/31/18/1750	Date/Time:	

R1807203 5

AECOM
241 Farrell Road

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preservation Check Form

R1807203 5
AECOM
241 Farrell Road

Project/Client AECOM Folder Number

Cooler received on 7/31/18 by: DM

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)
2	**Custody papers** properly completed (ink, signed)?	(Y) N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N
4	Circle: ~~Wet Ice~~ **Dry Ice Gel packs** present?	(Y) N

5a	**Perchlorate** samples have required headspace?	Y N ~~NA~~
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y (N) NA
6	Where did the bottles originate?	ALS/ROC CLIENT
7	Soil VOA received as: Bulk Encore 5035set	~~NA~~

8. Temperature Readings Date: 7/31/18 Time: 1529 ID: (IR#7) IR#9 From: Temp Blank ~~Sample Bottle~~

Observed Temp (°C)	0.5 c	6.0 c					
Correction Factor (°C)	+0.0	+0.0					
Corrected Temp (°C)	0.5°	6.0°					
Temp from:Type of bottle							
Within 0-6°C?	(Y) N	(Y) N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by DM on 7/31/18 at 1529
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 8/1/18 Time: 1257 by: DM

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: OX1118-7440

Explain all Discrepancies/ Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: DM

PC Secondary Review: [signature] 8/2/18

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.

J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.

* Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.

H Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.

Spike was diluted out.

\+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Approved	New Jersey ID # NY004	
DoD ELAP #65817	New York ID # 10145	Pennsylvania ID# 68-786
Florida ID # E87674	North Carolina #676	Rhode Island ID # 158
		Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: AECOM **Service Request:** R1807203
Project: 241 Farrell Road/60564181

Sample Name: MW-32S-07312018 **Date Collected:** 07/31/18
Lab Code: R1807203-001 **Date Received:** 07/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: MW-32I-07312018 **Date Collected:** 07/31/18
Lab Code: R1807203-002 **Date Received:** 07/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: MW-32D-07312018 **Date Collected:** 07/31/18
Lab Code: R1807203-003 **Date Received:** 07/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: PMW-12S-07312018 **Date Collected:** 07/31/18
Lab Code: R1807203-004 **Date Received:** 07/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Client: AECOM **Service Request:** R1807203
Project: 241 Farrell Road/60564181

Sample Name: PMW-12I-07312018 **Date Collected:** 07/31/18
Lab Code: R1807203-005 **Date Received:** 07/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: PMW-12D-07312018 **Date Collected:** 07/31/18
Lab Code: R1807203-006 **Date Received:** 07/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: PMW-13D-07312018 **Date Collected:** 07/31/18
Lab Code: R1807203-007 **Date Received:** 07/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: MW-29-07312018 **Date Collected:** 07/31/18
Lab Code: R1807203-008 **Date Received:** 07/31/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181		

Sample Name:	PMW-11D-07312018	**Date Collected:**	07/31/18
Lab Code:	R1807203-009	**Date Received:**	07/31/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Metals

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 09:10
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	MW-32S-07312018	**Basis:**	NA
Lab Code:	R1807203-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 15:44	08/07/18	
Sodium, Dissolved	6010C	**121000**	ug/L	1000	1	08/09/18 15:44	08/07/18	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 10:03
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	MW-32I-07312018	**Basis:**	NA
Lab Code:	R1807203-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	**4200**	ug/L	2000	1	08/09/18 15:48	08/07/18	
Sodium, Dissolved	6010C	**119000**	ug/L	1000	1	08/09/18 15:48	08/07/18	

Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 09:37
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	MW-32D-07312018	**Basis:**	NA
Lab Code:	R1807203-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	**7300**	ug/L	2000	1	08/09/18 15:51	08/07/18	
Sodium, Dissolved	6010C	**123000**	ug/L	1000	1	08/09/18 15:51	08/07/18	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 10:32
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-12S-07312018	**Basis:**	NA
Lab Code:	R1807203-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 15:54	08/07/18	
Sodium, Dissolved	6010C	**35400**	ug/L	1000	1	08/09/18 15:54	08/07/18	

Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 10:57
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-12I-07312018	**Basis:**	NA
Lab Code:	R1807203-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 15:57	08/07/18	
Sodium, Dissolved	6010C	**33200**	ug/L	1000	1	08/09/18 15:57	08/07/18	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 11:25
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-12D-07312018	**Basis:**	NA
Lab Code:	R1807203-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 16:01	08/07/18	
Sodium, Dissolved	6010C	**34100**	ug/L	1000	1	08/09/18 16:01	08/07/18	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 12:40
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-13D-07312018	**Basis:**	NA
Lab Code:	R1807203-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 16:04	08/07/18	
Sodium, Dissolved	6010C	**22100**	ug/L	1000	1	08/09/18 16:04	08/07/18	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 14:30
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	MW-29-07312018	**Basis:**	NA
Lab Code:	R1807203-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	**2540000**	ug/L	200000	100	08/10/18 15:39	08/07/18	
Sodium, Dissolved	6010C	**96500**	ug/L	1000	1	08/09/18 16:14	08/07/18	

Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 14:41
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-11D-07312018	**Basis:**	NA
Lab Code:	R1807203-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	**2200**	ug/L	2000	1	08/09/18 16:30	08/07/18	
Sodium, Dissolved	6010C	**83200**	ug/L	1000	1	08/09/18 16:30	08/07/18	

General Chemistry

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Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 09:10
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	MW-32S-07312018	**Basis:**	NA
Lab Code:	R1807203-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 21:41	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 21:32	
Sulfate, Dissolved	9056A	**64.3**	mg/L	2.0	10	08/08/18 19:05	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 10:03
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	MW-32I-07312018	**Basis:**	NA
Lab Code:	R1807203-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 19:38	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 19:31	
Sulfate, Dissolved	9056A	**85.9**	mg/L	2.0	10	08/08/18 19:23	

Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 09:37
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	MW-32D-07312018	**Basis:**	NA
Lab Code:	R1807203-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 22:11	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 22:03	
Sulfate, Dissolved	9056A	**47.0**	mg/L	2.0	10	08/08/18 19:29	

Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 10:32
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-12S-07312018	**Basis:**	NA
Lab Code:	R1807203-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 21:47	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 21:56	
Sulfate, Dissolved	9056A	**16.3**	mg/L	2.0	10	08/08/18 19:35	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 10:57
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-12I-07312018	**Basis:**	NA
Lab Code:	R1807203-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 21:17	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 21:25	
Sulfate, Dissolved	9056A	**20.7**	mg/L	2.0	10	08/08/18 19:40	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 11:25
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-12D-07312018	**Basis:**	NA
Lab Code:	R1807203-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 21:10	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 21:02	
Sulfate, Dissolved	9056A	**21.4**	mg/L	2.0	10	08/08/18 19:46	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 12:40
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-13D-07312018	**Basis:**	NA
Lab Code:	R1807203-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 19:54	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 19:45	
Sulfate, Dissolved	9056A	**10.2**	mg/L	2.0	10	08/08/18 19:52	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 14:30
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	MW-29-07312018	**Basis:**	NA
Lab Code:	R1807203-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	**0.067**	mg/L	0.010	1	07/31/18 20:09	
Chromium, Hexavalent	7199	**0.078**	mg/L	0.010	1	07/31/18 20:00	
Sulfate, Dissolved	9056A	**1040**	mg/L	80	400	08/10/18 11:40	

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	07/31/18 14:41
Sample Matrix:	Water	**Date Received:**	07/31/18 17:50
Sample Name:	PMW-11D-07312018	**Basis:**	NA
Lab Code:	R1807203-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 22:44	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	07/31/18 22:35	
Sulfate, Dissolved	9056A	**48.3**	mg/L	2.0	10	08/08/18 20:16	

QC Summary Forms

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Metals

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Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1807203-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 15:35	08/07/18	
Sodium, Dissolved	6010C	1000 U	ug/L	1000	1	08/09/18 15:35	08/07/18	

Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1807203-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 15:38	08/07/18	
Sodium, Dissolved	6010C	1000 U	ug/L	1000	1	08/09/18 15:38	08/07/18	

Client: AECOM
Project: 241 Farrell Road/60564181
Sample Matrix: Water

Service Request:R1807203
Date Collected:07/31/18
Date Received:07/31/18
Date Analyzed:08/09/18 - 08/10/18

Duplicate Matrix Spike Summary
Inorganic Parameters

Sample Name: MW-29-07312018
Lab Code: R1807203-008

Units:ug/L
Basis:NA

			Matrix Spike R1807203-008MS			Duplicate Matrix Spike R1807203-008DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Potassium, Dissolved	6010C	2540000	2560000	20000	124 #	2680000	20000	702 #	75-125	4	20
Sodium, Dissolved	6010C	96500	115000	20000	91 #	116000	20000	96 #	75-125	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: AECOM
Project: 241 Farrell Road/60564181
Sample Matrix: Water

Service Request: R1807203
Date Analyzed: 08/09/18

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

Lab Control Sample
R1807203-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Potassium, Dissolved	6010C	19500	20000	98	80-120
Sodium, Dissolved	6010C	19800	20000	99	80-120

General Chemistry

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Analytical Report

Client:	AECOM	**Service Request:**	R1807203
Project:	241 Farrell Road/60564181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1807203-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	07/31/18 12:44	
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	07/31/18 12:44	
Sulfate, Dissolved	9056A	0.20	U	mg/L	0.20	1	08/08/18 18:07	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: AECOM
Project: 241 Farrell Road/60564181
Sample Matrix: Water

Service Request:R1807203
Date Collected:07/31/18
Date Received:07/31/18
Date Analyzed:07/31/18 - 08/10/18

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: MW-29-07312018
Lab Code: R1807203-008

Units:mg/L
Basis:NA

			Matrix Spike R1807203-008MS			Duplicate Matrix Spike R1807203-008DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chromium, Hexavalent	7199	0.067	0.245	0.200	89	0.284	0.200	103	10-170	4	20
Chromium, Hexavalent	7199	0.078	0.272	0.200	97	0.284	0.200	103	10-170	4	20
Sulfate, Dissolved	9056A	1040	1910	800	109	1890	800	107	80-120	<1	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: AECOM
Project: 241 Farrell Road/60564181
Sample Matrix: Water

Service Request: R1807203
Date Analyzed: 07/31/18 - 08/08/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1807203-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chromium, Hexavalent	7199	0.208	0.200	104	85-115
Chromium, Hexavalent	7199	0.199	0.200	99	85-115
Sulfate, Dissolved	9056A	2.05	2.00	102	80-120

August 20, 2018 Service Request No:R1807250

Carey Letts
AECOM
5015 Campuswood Drive
Suite 104
East Syracuse, NY 13057

Laboratory Results for: 241 Farrell Road

Dear Carey,

Enclosed are the results of the sample(s) submitted to our laboratory August 01, 2018
For your reference, these analyses have been assigned our service request number **R1807250.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
For
Janice Jaeger
Project Manager

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Narrative Documents

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ALS Environmental

Client: AECOM
Project: 241 Farrell Road
Sample Matrix: Water

Service Request: R1807250
Date Received: 08/01/2018 - 08/02/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Twelve water samples were received for analysis at ALS Environmental on 08/01/2018 - 08/02/2018. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

Method 7199: The analysis of one or more samples was initially attempted within holding time but was not useable due to an analytical system or QC failure. Efforts were made to reanalyze the sample(s) as soon as possible after the analytical system was back in control. However, the reanalysis of the sample(s) was performed past the recommended holding time. Both results are reported. The data is flagged to indicate the holding time violation.

Method 7199, 08/03/2018: The Continuing Calibration Verification (CCV) and Laboratory Control Sample (LCS) exceeded control limits for: Hexavalent Chromium. All detected concentrations for the analyte(s) in samples associated with this CCV and LCS should be considered as estimated.

Approved by _____ Date 08/17/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: PMW-9S-08012018			Lab ID: R1807250-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	21.3		0.2	2.0	mg/L	9056A
Sodium, Dissolved	33900		200	1000	ug/L	6010C

CLIENT ID: PMW-9I-08012018			Lab ID: R1807250-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	24.3		0.2	2.0	mg/L	9056A
Sodium, Dissolved	33800		200	1000	ug/L	6010C

CLIENT ID: PMW-9D-08012018			Lab ID: R1807250-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	29.5		0.8	8.0	mg/L	9056A
Sodium, Dissolved	31900		200	1000	ug/L	6010C

CLIENT ID: PMW-10S-08012018			Lab ID: R1807250-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	23.5		0.2	2.0	mg/L	9056A
Sodium, Dissolved	33900		200	1000	ug/L	6010C

CLIENT ID: PMW-10I-08012018			Lab ID: R1807250-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	24.7		0.2	2.0	mg/L	9056A
Sodium, Dissolved	32800		200	1000	ug/L	6010C

CLIENT ID: PMW-10D-08012018			Lab ID: R1807250-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	22.7		0.2	2.0	mg/L	9056A
Sodium, Dissolved	34800		200	1000	ug/L	6010C

CLIENT ID: PMW-6D-08012018			Lab ID: R1807250-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	23.7		0.2	2.0	mg/L	9056A
Sodium, Dissolved	30600		200	1000	ug/L	6010C

CLIENT ID: DUP-1-08012018			Lab ID: R1807250-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	23.6		0.2	2.0	mg/L	9056A
Sodium, Dissolved	30900		200	1000	ug/L	6010C

CLIENT ID: PMW-5D-08012018			Lab ID: R1807250-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	26.1		0.2	2.0	mg/L	9056A
Sodium, Dissolved	28400		200	1000	ug/L	6010C

CLIENT ID: PMW-4D-08022018			Lab ID: R1807250-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Chromium, Hexavalent	0.011		0.002	0.010	mg/L	7199

SAMPLE DETECTION SUMMARY

CLIENT ID: PMW-4D-08022018			Lab ID: R1807250-010			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	396		0.8	8.0	mg/L	9056A
Chromium, Hexavalent	0.010		0.002	0.010	mg/L	7199
Potassium, Dissolved	39100		200	2000	ug/L	6010C
Sodium, Dissolved	113000		200	1000	ug/L	6010C

CLIENT ID: MW-30-08022018			Lab ID: R1807250-011			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Chromium, Hexavalent	0.060		0.002	0.010	mg/L	7199
Chromium, Hexavalent	0.063		0.002	0.010	mg/L	7199
Sulfate, Dissolved	681		4	40	mg/L	9056A
Chromium, Hexavalent	0.060		0.002	0.010	mg/L	7199
Chromium, Hexavalent	0.063		0.002	0.010	mg/L	7199
Potassium, Dissolved	643000		2000	20000	ug/L	6010C
Sodium, Dissolved	317000		2000	10000	ug/L	6010C

CLIENT ID: MW-31-08022018			Lab ID: R1807250-012			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Sulfate, Dissolved	2470		8	80	mg/L	9056A
Potassium, Dissolved	2400		200	2000	ug/L	6010C
Sodium, Dissolved	734000		2000	10000	ug/L	6010C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: AECOM **Service Request:**R1807250

Project: 241 Farrell Road/60564181

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1807250-001	PMW-9S-08012018	8/1/2018	1037
R1807250-002	PMW-9I-08012018	8/1/2018	1056
R1807250-003	PMW-9D-08012018	8/1/2018	1136
R1807250-004	PMW-10S-08012018	8/1/2018	0903
R1807250-005	PMW-10I-08012018	8/1/2018	0924
R1807250-006	PMW-10D-08012018	8/1/2018	1005
R1807250-007	PMW-6D-08012018	8/1/2018	1411
R1807250-008	DUP-1-08012018	8/1/2018	
R1807250-009	PMW-5D-08012018	8/1/2018	1435
R1807250-010	PMW-4D-08022018	8/2/2018	0952
R1807250-011	MW-30-08022018	8/2/2018	1137
R1807250-012	MW-31-08022018	8/2/2018	1301

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 52538

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: 241 Farrell Road	Project Number: 60564181
Project Manager: Carey Letts	Report CC:
Company/Address: 5015 Campuswood Drive, Suite 104, East Syracuse, NY 13057	
Phone #: (315) 928-4331	Email: Carey.letts@aecom.com
Sampler's Signature:	Sampler's Printed Name: Josh Cesario

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)
PMW-9S-08012018		8/1/18	10:37	AQ	2	X	X
PMW-9I-08012018			10:56		2		
PMW-9D-08012018			11:36		2		
PMW-10S-08012018			9:03		2		
PMW-10I-08012018			9:24		2		
PMW-10D-08012018			10:05		2		
PMW-6D-08012018			14:11		2		
DUP-1-08012018			—		2		
PMW-5D-08012018			14:35		2		

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

GC/MS VOAs ○ 8260 ○ 624 ○ CLP; GC/MS SVOAs ○ 8270 ○ 625; GC VOAs ○ 8021 ○ 601/602; PESTICIDES ○ 8081 ○ 608; PCBs ○ 8082 ○ 608

REMARKS/ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

Metals

Metals Total: Cr+6 7199, SO4

Metals Dissolved: K, Na

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day _____ 5 day

_____ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE _____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

_____ IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION

PO #

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	Signature: Gary Bohan	Signature: Gary Bohan	Signature:	Signature:	
Printed Name: Josh Cesario	Printed Name: Gary Bohan	Printed Name: Gary Bohan	Printed Name: Jarrel Ward	Printed Name:	
Firm: AECOM	Firm: ALS	Firm: ALS	Firm: ALS	Firm:	
Date/Time: 8/1/18 15:05	Date/Time: 8/1/18 1505	Date/Time: 8/1/18 1705	Date/Time: 8/1/18 1705	Date/Time:	Date/Time:

R1807250 5
AECOM
241 Farrell Road

Distribution: White - Lab Copy; Yellow - Return to Originator

Cooler Receipt and Preservation Check Form

R1807250 **5**
AECOM
241 Farrell Road

Project/Client AECOM Folder Number

Cooler received on 8/1/18 by: [illegible]

COURIER: (ALS) UPS FEDEX VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	Y (N)
2	**Custody papers** properly completed (ink, signed)?	(Y) N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N
4	Circle: **Wet Ice** **Dry Ice** **Gel packs** present?	(Y) N

5a	**Perchlorate** samples have required headspace?	Y N (NA)
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	(Y) N NA
6	Where did the bottles originate?	(ALS/ROC) CLIENT
7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 8/1/18 Time: 1717 ID: (IR#7) IR#9 From: (Temp Blank) Sample Bottle

Observed Temp (°C)	3.7						
Correction Factor (°C)	+1.0						
Corrected Temp (°C)	4.7						
Temp from:Type of bottle	cnt tube						
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by [illegible] on 8/1/18 at 1729
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 8/2/18 Time: 1504 by: [illegible]

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? ~~YES~~ NO
10. Did all bottle labels and tags agree with custody papers? ~~YES~~ NO
11. Were correct containers used for the tests indicated? ~~YES~~ NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO N/A
13. Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized Tedlar® Bags Inflated ~~N/A~~

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**						

Bottle lot numbers: 060118-ZAAC

Explain all Discrepancies/ Other Comments:

Headspace: see COC.
* = # of vials w/ headspace

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: [illegible]
PC Secondary Review: [illegible] 8/2/18

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Approved	New Jersey ID # NY004	
DoD ELAP #65817	New York ID # 10145	Pennsylvania ID# 68-786
Florida ID # E87674	North Carolina #676	Rhode Island ID # 158
		Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: AECOM **Service Request:** R1807250
Project: 241 Farrell Road/60564181

Sample Name: PMW-9S-08012018 **Date Collected:** 08/1/18
Lab Code: R1807250-001 **Date Received:** 08/1/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: PMW-9I-08012018 **Date Collected:** 08/1/18
Lab Code: R1807250-002 **Date Received:** 08/1/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: PMW-9D-08012018 **Date Collected:** 08/1/18
Lab Code: R1807250-003 **Date Received:** 08/1/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: PMW-10S-08012018 **Date Collected:** 08/1/18
Lab Code: R1807250-004 **Date Received:** 08/1/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Client: AECOM **Service Request:** R1807250
Project: 241 Farrell Road/60564181

Sample Name: PMW-10I-08012018 **Date Collected:** 08/1/18
Lab Code: R1807250-005 **Date Received:** 08/1/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: PMW-10D-08012018 **Date Collected:** 08/1/18
Lab Code: R1807250-006 **Date Received:** 08/1/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: PMW-6D-08012018 **Date Collected:** 08/1/18
Lab Code: R1807250-007 **Date Received:** 08/1/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: DUP-1-08012018 **Date Collected:** 08/1/18
Lab Code: R1807250-008 **Date Received:** 08/1/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Client: AECOM **Service Request:** R1807250
Project: 241 Farrell Road/60564181

Sample Name: PMW-5D-08012018 **Date Collected:** 08/1/18
Lab Code: R1807250-009 **Date Received:** 08/1/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: PMW-4D-08022018 **Date Collected:** 08/2/18
Lab Code: R1807250-010 **Date Received:** 08/2/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: MW-30-08022018 **Date Collected:** 08/2/18
Lab Code: R1807250-011 **Date Received:** 08/2/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

Sample Name: MW-31-08022018 **Date Collected:** 08/2/18
Lab Code: R1807250-012 **Date Received:** 08/2/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7199		CWOODS
9056A		AMOSES

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Metals

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 10:37
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-9S-08012018	**Basis:**	NA
Lab Code:	R1807250-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 20:17	08/07/18	
Sodium, Dissolved	6010C	**33900**	ug/L	1000	1	08/09/18 20:17	08/07/18	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 10:56
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-9I-08012018	**Basis:**	NA
Lab Code:	R1807250-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 20:21	08/07/18	
Sodium, Dissolved	6010C	**33800**	ug/L	1000	1	08/09/18 20:21	08/07/18	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 11:36
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-9D-08012018	**Basis:**	NA
Lab Code:	R1807250-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 20:24	08/07/18	
Sodium, Dissolved	6010C	**31900**	ug/L	1000	1	08/09/18 20:24	08/07/18	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 09:03
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-10S-08012018	**Basis:**	NA
Lab Code:	R1807250-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 20:27	08/07/18	
Sodium, Dissolved	6010C	**33900**	ug/L	1000	1	08/09/18 20:27	08/07/18	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 09:24
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-10I-08012018	**Basis:**	NA
Lab Code:	R1807250-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 20:30	08/07/18	
Sodium, Dissolved	6010C	**32800**	ug/L	1000	1	08/09/18 20:30	08/07/18	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 10:05
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-10D-08012018	**Basis:**	NA
Lab Code:	R1807250-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 20:34	08/07/18	
Sodium, Dissolved	6010C	**34800**	ug/L	1000	1	08/09/18 20:34	08/07/18	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 14:11
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-6D-08012018	**Basis:**	NA
Lab Code:	R1807250-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 20:37	08/07/18	
Sodium, Dissolved	6010C	**30600**	ug/L	1000	1	08/09/18 20:37	08/07/18	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	DUP-1-08012018	**Basis:**	NA
Lab Code:	R1807250-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 20:47	08/07/18	
Sodium, Dissolved	6010C	**30900**	ug/L	1000	1	08/09/18 20:47	08/07/18	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 14:35
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-5D-08012018	**Basis:**	NA
Lab Code:	R1807250-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000 U	ug/L	2000	1	08/09/18 20:50	08/07/18	
Sodium, Dissolved	6010C	**28400**	ug/L	1000	1	08/09/18 20:50	08/07/18	

Analytical Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/02/18 09:52
Sample Matrix:	Water	**Date Received:**	08/02/18 16:55
Sample Name:	PMW-4D-08022018	**Basis:**	NA
Lab Code:	R1807250-010		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	**39100**	ug/L	2000	1	08/09/18 20:53	08/07/18	
Sodium, Dissolved	6010C	**113000**	ug/L	1000	1	08/09/18 20:53	08/07/18	

Analytical Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/02/18 11:37
Sample Matrix:	Water	**Date Received:**	08/02/18 16:55
Sample Name:	MW-30-08022018	**Basis:**	NA
Lab Code:	R1807250-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	**643000**	ug/L	20000	10	08/10/18 14:40	08/07/18	
Sodium, Dissolved	6010C	**317000**	ug/L	10000	10	08/10/18 14:40	08/07/18	

Analytical Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/02/18 13:01
Sample Matrix:	Water	**Date Received:**	08/02/18 16:55
Sample Name:	MW-31-08022018	**Basis:**	NA
Lab Code:	R1807250-012		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	**2400**	ug/L	2000	1	08/09/18 21:00	08/07/18	
Sodium, Dissolved	6010C	**734000**	ug/L	10000	10	08/10/18 14:43	08/07/18	

General Chemistry

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Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 10:37
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-9S-08012018	**Basis:**	NA
Lab Code:	R1807250-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 09:48	
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 09:40	
Sulfate, Dissolved	9056A	**21.3**		mg/L	2.0	10	08/08/18 20:51	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 10:56
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-9I-08012018	**Basis:**	NA
Lab Code:	R1807250-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 10:03	
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 09:55	
Sulfate, Dissolved	9056A	**24.3**		mg/L	2.0	10	08/08/18 20:56	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 11:36
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-9D-08012018	**Basis:**	NA
Lab Code:	R1807250-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 10:28	
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 10:36	
Sulfate, Dissolved	9056A	**29.5**		mg/L	8.0	40	08/08/18 21:02	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 09:03
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-10S-08012018	**Basis:**	NA
Lab Code:	R1807250-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 09:02	
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 08:54	
Sulfate, Dissolved	9056A	**23.5**		mg/L	2.0	10	08/08/18 21:20	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 09:24
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-10I-08012018	**Basis:**	NA
Lab Code:	R1807250-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 09:18	
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 09:09	
Sulfate, Dissolved	9056A	**24.7**		mg/L	2.0	10	08/08/18 21:26	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 10:05
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-10D-08012018	**Basis:**	NA
Lab Code:	R1807250-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 09:25	
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 09:33	
Sulfate, Dissolved	9056A	**22.7**		mg/L	2.0	10	08/08/18 21:43	

Analytical Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 14:11
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-6D-08012018	**Basis:**	NA
Lab Code:	R1807250-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/02/18 10:51	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/02/18 10:43	
Sulfate, Dissolved	9056A	**23.7**	mg/L	2.0	10	08/08/18 21:49	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	DUP-1-08012018	**Basis:**	NA
Lab Code:	R1807250-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/02/18 12:00	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/02/18 12:08	
Sulfate, Dissolved	9056A	**23.6**	mg/L	2.0	10	08/08/18 21:55	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18 14:35
Sample Matrix:	Water	**Date Received:**	08/01/18 17:05
Sample Name:	PMW-5D-08012018	**Basis:**	NA
Lab Code:	R1807250-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/02/18 10:58	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/02/18 11:06	
Sulfate, Dissolved	9056A	**26.1**	mg/L	2.0	10	08/10/18 11:57	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/02/18 09:52
Sample Matrix:	Water	**Date Received:**	08/02/18 16:55
Sample Name:	PMW-4D-08022018	**Basis:**	NA
Lab Code:	R1807250-010		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/03/18 09:52	
Chromium, Hexavalent	7199	**0.011**	mg/L	0.010	1	08/03/18 09:44	
Chromium, Hexavalent	7199	**0.010**	mg/L	0.010	1	08/06/18 19:22	*
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/06/18 19:13	*
Sulfate, Dissolved	9056A	**396**	mg/L	8.0	40	08/08/18 22:07	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/02/18 11:37
Sample Matrix:	Water	**Date Received:**	08/02/18 16:55
Sample Name:	MW-30-08022018	**Basis:**	NA
Lab Code:	R1807250-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	**0.060**	mg/L	0.010	1	08/03/18 10:08	
Chromium, Hexavalent	7199	**0.063**	mg/L	0.010	1	08/03/18 09:59	
Chromium, Hexavalent	7199	**0.060**	mg/L	0.010	1	08/06/18 19:37	*
Chromium, Hexavalent	7199	**0.063**	mg/L	0.010	1	08/06/18 19:28	*
Sulfate, Dissolved	9056A	**681**	mg/L	40	200	08/08/18 22:13	

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/02/18 13:01
Sample Matrix:	Water	**Date Received:**	08/02/18 16:55
Sample Name:	MW-31-08022018	**Basis:**	NA
Lab Code:	R1807250-012		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed		Q
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/03/18 10:23		
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/03/18 10:15		
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/06/18 19:52	*	
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/06/18 19:44	*	
Sulfate, Dissolved	9056A	**2470**		mg/L	80	400	08/10/18 12:03		

QC Summary Forms

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Metals

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Analytical Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1807250-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000	U	ug/L	2000	1	08/09/18 20:08	08/07/18	
Sodium, Dissolved	6010C	1000	U	ug/L	1000	1	08/09/18 20:08	08/07/18	

Analytical Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1807250-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Potassium, Dissolved	6010C	2000	U	ug/L	2000	1	08/09/18 20:11	08/07/18	
Sodium, Dissolved	6010C	1000	U	ug/L	1000	1	08/09/18 20:11	08/07/18	

Client: AECOM
Project: 241 Farrell Road/60564181
Sample Matrix: Water

Service Request: R1807250
Date Analyzed: 08/09/18

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

Lab Control Sample
R1807250-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Potassium, Dissolved	6010C	19500	20000	98	80-120
Sodium, Dissolved	6010C	19900	20000	99	80-120

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Analytical Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1807250-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 08:45	
Chromium, Hexavalent	7199	0.010	U	mg/L	0.010	1	08/02/18 08:45	
Sulfate, Dissolved	9056A	0.20	U	mg/L	0.20	1	08/08/18 20:27	

Analytical Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1807250-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/03/18 09:36	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/03/18 09:36	

Analytical Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1807250-MB3		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/06/18 18:50	
Chromium, Hexavalent	7199	0.010 U	mg/L	0.010	1	08/06/18 18:50	

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QA/QC Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18
Sample Matrix:	Water	**Date Received:**	08/01/18
		Date Analyzed:	08/8/18

Duplicate Matrix Spike Summary
Sulfate, Dissolved

Sample Name:	PMW-9D-08012018	**Units:**	mg/L
Lab Code:	R1807250-003	**Basis:**	NA
Analysis Method:	9056A		

		Matrix Spike R1807250-003MS			Duplicate Matrix Spike R1807250-003DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Sulfate, Dissolved	29.5	108	80.0	98	106	80.0	95	80-120	2	15

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/01/18
Sample Matrix:	Water	**Date Received:**	08/01/18
		Date Analyzed:	08/2/18

Duplicate Matrix Spike Summary
Chromium, Hexavalent

Sample Name:	PMW-5D-08012018	**Units:**	mg/L
Lab Code:	R1807250-009	**Basis:**	NA
Analysis Method:	7199		

		Matrix Spike R1807250-009MS			Duplicate Matrix Spike R1807250-009DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chromium, Hexavalent	0.010 U	0.208	0.200	104	0.204	0.200	102	10-170	2	20
Chromium, Hexavalent	0.010 U	0.204	0.200	102	0.204	0.200	102	10-170	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	AECOM	**Service Request:**	R1807250
Project:	241 Farrell Road/60564181	**Date Collected:**	08/02/18
Sample Matrix:	Water	**Date Received:**	08/02/18
		Date Analyzed:	08/3/18

Duplicate Matrix Spike Summary
Chromium, Hexavalent

Sample Name:	MW-30-08022018	**Units:**	mg/L
Lab Code:	R1807250-011	**Basis:**	NA
Analysis Method:	7199		

		Matrix Spike R1807250-011MS			Duplicate Matrix Spike R1807250-011DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chromium, Hexavalent	0.060	0.234	0.200	87	0.241	0.200	89	10-170	1	20
Chromium, Hexavalent	0.063	0.238	0.200	88	0.241	0.200	89	10-170	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: AECOM
Project: 241 Farrell Road/60564181
Sample Matrix: Water

Service Request: R1807250
Date Analyzed: 08/02/18 - 08/08/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1807250-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chromium, Hexavalent	7199	0.204	0.200	102	85-115
Chromium, Hexavalent	7199	0.207	0.200	103	85-115
Sulfate, Dissolved	9056A	2.06	2.00	103	80-120

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QA/QC Report

Client: AECOM
Project: 241 Farrell Road/60564181
Sample Matrix: Water

Service Request: R1807250
Date Analyzed: 08/03/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1807250-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chromium, Hexavalent	7199	0.160	0.200	80 *	85-115
Chromium, Hexavalent	7199	0.161	0.200	80 *	85-115

Client: AECOM
Project: 241 Farrell Road/60564181
Sample Matrix: Water

Service Request: R1807250
Date Analyzed: 08/06/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1807250-LCS3

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chromium, Hexavalent	7199	0.217	0.200	108	85-115
Chromium, Hexavalent	7199	0.204	0.200	102	85-115